Tuning Journal for Higher Education

Preparedness for higher education: What does it mean for today and tomorrow?

Tuning Journal
for Higher Education

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Tuning Journal for Higher Education

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The main goal of the Journal is to promote quality research into the 'Tuning Methodology' for designing, implementing, and assessing context-sensitive degree programmes and to subject the tools developed during Tuning projects and other educational projects to full academic scrutiny and debate among students, teachers, policy makers, administrators, and academics across societies, cultures, professions, and academic disciplines. To this end, the Journal invites applications for thematic issues, conference proceedings or monographs from all stakeholders. Guidelines for the preparation and submission of manuscripts are appended to this Issue and available at the web of the Journal: http://www.tuningjournal.org/

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Preparedness for higher education: What does it mean for today and tomorrow?

Editorial

Mary Gobbi

Editor

E-published: May 2024

> *"The future belongs to those who prepare for it today."* –
>
> Malcolm X, influential African American human rights activist (1925-1965)

In recent editions, we have discussed how the experience of the hidden curriculum and *'life from my side'* may cause perceptual and experience differences between students and their academic teachers. When applying Malcolm X's words, we can see that the extent to which the academic teacher and/or the institution is *'prepared'* not only for today, but for tomorrow, shapes the experience and nature of that very future. Unpacking what this 'preparedness' means for academic teachers and higher education leaders relies upon strategic vision, opportunities for staff development, evidence-based pedagogy, competence-based standards, critical reflection, resources and national infrastructures. Recent papers that explored the impact of COVID-19, demonstrated that the extent to which both institutions and individuals were prepared for a future of blended and technological learning was instrumental in determining the effectiveness and resilience of Higher Education during the pandemic.

However, when viewing the challenges faced by many of our educational colleagues and authors in this edition, we can ask ourselves what does it mean to be prepared for a future that might change suddenly and catastrophically? Did we just miss the signs and winds of change? Are there some events that are too awful to contemplate, or is preparing for such risks a disproportionate use of resource? Whatever one's conclusion, we still need to address the question, what does it mean to 'be prepared' as an academic

teacher, organizational leader or institution? Indeed, *who* determines the competences required for such preparedness?

In this edition, we see examples of various aspects of 'preparedness'. Papers discuss the organizational, strategic, and practical implications of designing, enhancing, or transforming the pedagogic and general competence of teachers and/ or aspects of the student experience. Whether these transitions are at the institutional or local level, we encounter strategies for improvement, methods of evaluation, and debates concerning the nature of the relevant quality culture itself. Furthermore, these strategies are situated within contexts of war, country development, educational reforms, technological advances, moments of innovation and the impact of socio-economic and historical legacies in higher education. So, readers, as you peruse the articles in this edition, you might like to reflect on whether they have resonance and application for *preparedness* in your own context.

Editorial Team
May 2024

Introductions

Preparedness for higher education: What does it mean for today and tomorrow?

Introduction

Mary Gobbi*

Editor

E-published: May 2024

Abstract: This Edition of the Journal comprises nine papers, of which six are concerned with strategic issues and /or the role and education of the academic teaching staff. The papers continue to reflect a varied range of participant countries both in terms of the authors, but perhaps more importantly the study sites (Europe, Czech Republic, Ghana, Kosovo, Malaysia, Mexico, Pakistan, Turkey, Ukraine, and Vietnam). Universities from both the state and private sector are represented, either through individual case studies or via large multi-site studies in subject areas, departments, or institutions.

What we see in this edition is the extent to which transitions towards competence-based education, pace of technology adoption, staff preparedness, and student experience and perceptions impact upon students and teachers. This edition also provides some rich accounts of small-scale qualitative studies, included for their detailed outline of their respective methodologies. So, while the findings may not be generalisable with small samples, the methods used can be replicated to enable other institutions or similar contexts to engage in local based studies. We also need to recognise that not all degree programmes have large student populations, so finding strategies to evaluate and generate ideas for improvement is critical. Some papers have offered detailed reviews of the current evidence in the field related to the topic of interest. In contrast, larger studies demonstrate what can be achieved when transnational studies are examined for the

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* **Mary Gobbi** (mary.gobbi@deusto.es), PhD, is the editor of Tuning Journal for Higher Education since 2019. Emeritus Professor of the University of Southampton (UK), she has been Tuning Nursing co-ordinator since 2003 and is an expert educational developer and evaluator, with extensive national and international experience.

More information about the author is available at the end of this introduction.

underlying processes that can cross boundaries and provide exemplar models of good practice.

Keywords: Staff development; on-line education; higher education strategies; competence; competitiveness.

In our first paper *"Shifting perceptions and channelling commitment in higher education communities: How to grow a Quality Culture outside the lab"* by Anca Greere and Catherine Riley we encounter a European funded project whose aim was to 'enhance and nurture' institutional quality culture through the identification of effective strategies for improvement, and practical step by step approaches to overcome the current gap in this area [see their literature and policy review for further details]. As they note, individual institutions and stakeholders may perceive and/or experience the concept of a quality culture differently. There is a substantive background section that critically appraises related policy, theory, and research in the field of Higher Education (HE) quality- distinguishing between quality culture and quality assurance. The empirical work reported in this paper had its origins in a European funded project SPEAQ "Sharing Practice in Enhancing and Assuring Quality" that involved a partnership between nine European universities, the European Students Union (ESU) and the Quality Assurance Agency for Higher Education in the United Kingdom (QAA). The project engaged three key stake holding groups specifically, students, academics, and quality managers. The authors provide a detailed overview of the initial (2 year) and follow up (2 years later) multi-site project that involved the institutions in micro projects related to quality initiatives. Complex terminology was simplified to facilitate engagement and a range of data collection types and sources were employed. Here we see the impact of large studies that enable the analysis of locally based culture and activity while collating and analysing transversal themes and data. The follow up study provided evidence as to the extent to which the initial project(s) and their impact were short lived, endured, remain localized or became more international. It is unusual to find such robust follow up in studies of this magnitude.

The comprehensiveness of the qualitative data covering several countries and stakeholders is a real strength of this project. A short overview or abstract cannot capture the attention to detail, critical appraisal of each step and the portrayal of different perspectives- readers need to 'dive into' this paper to really do it justice. Grounded in the data, five distinct stages were found to be necessary for the community wide engagement that generates the quality culture. In summary, the stages portrayed in figure 1 are awareness,

engagement, empowerment, ownership, and integration. The transition between stages requires effective communication, reflection, recognition and leadership. Finally, in Figure 3, the authors bring the model together schematically to represent the stages that higher education institutions may wish to follow so as to advance their quality culture. This is an important contribution to the evidence-based underpinning the development of quality culture that *engage* stakeholders ad generate positive outcomes. The Journal would welcome articles from any sites who have applied this methodology to their situation.

We are all keenly aware of the challenging situation in which the Ukraine finds itself currently. Before the Russian invasion in 2022, Ukraine was in the process of adopting educational reforms that would facilitate its compatibility with the European Educational Space and improve the quality of its Higher Education system. In this next article by Oksana Melnyk, Olena Dashkovska, and Vitalii Pogrebnyak, *"The model of integration of higher education of Ukraine into the European Educational Area",* we find strategic proposals to enable such transition during the period 2022-2032. Clearly, such proposals are contingent on unfolding events and, hopefully when peace is achieved, post war reconstruction will have a focus that can build upon the deliberations found in this paper. The authors also propose that readers who are making a similar journey of transformation to their pre-2022 scenario may find the findings and debates helpful. The impact of the conflict has yet to be realised and the authors wisely do not speculate, but rather point out that if the Ukrainian goals are to be achieved with respect to integration within the European Educational Area, key features associated with such transition will remain.

The literature review is particularly helpful in contextualising the impact of the Bologna process, not only within Europe, but in the wider global community. The paper analysed the 2022 strategic directions for the Ukraine HE system, the legislative frameworks, systems, technology adoption, statistical analyses, qualification frameworks, and other relevant policies and practical issues. This included network analysis of the many elements that form part of any HE system at local and national level. From this analysis, they develop a model that clusters actions under the four blocks, target, legal and regulatory, organizational, and monitoring. In conclusion the paper offers some points for reflection concerning post war reconstruction and the ongoing situation. On behalf of the Journal, we wish the authors and the Ukraine a just, fair, and peaceful outcome to the current situation.

Renata Skýpalová, Helena Chládková, Chijioke Esogwa Nwachukwu, Hieu Minh Vu take us to the Czech Republic and Vietnam in their study,

"Service quality as the source of competitive advantage in higher education: The difference between students´ expectations and perceptions". Several hundred students in the two countries responded to the SERVQUAL five-dimensional questionnaire. The five dimensions are tangibles, reliability, responsiveness, assurance, and empathy. This tool was deployed because it assumes that customer (in this case student) satisfaction captures any differences between student expectations and perceptions of the quality of their experience. The aim was to identify areas for improvement with respect to competitive advantage and international students. Traditional ties between the two countries facilitated the study with the added benefit that the Czech Republic lacked research and data in this area. Vietnam already had a record of attracting international students and had received positive evaluations. Both countries, like many others, seek to attract international students providing a quality experience during their studies.

Descriptive statistics and t-tests revealed that Czech respondents were less satisfied with the service quality than their Vietnamese counterparts. In both countries, the quality perception in all dimensions was lower than expectations, the largest gaps being found in the Assurance dimension. Czech students placed the greatest emphasis on the Empathy factor, while their Vietnamese colleagues preferred the Tangibles dimension. The detail of the SERVQUAL tool, enables specific factors to be identified for the institutions concerned. Some differences between Vietnam and the Czech Republic were attributed to the difficulties students experienced in accessing education in Vietnam. For example, where education was prestigious and costly, students may take subjects they don't need, have a sense of gratitude and are more motivated. The authors noted that due to the diverse sample of students, making broader generalisations is not appropriate.

The preceding papers have illustrated aspects of quality and the impact on the student experience, in the next three papers we focus on teacher preparedness and development. First, Fjolla Kaçaniku explores aspects of competence-based education in her paper *"Competence-based teacher education programmes: Transitioning towards a paradigm shift or preserving the traditional?"* The paper explores the evolution of the European Higher Education Area (EHEA) Higher Education frameworks and relates this specifically to the impact upon teacher education in Kosovo, the youngest country in Europe which is seeking European Union integration. This article has some resonance with aspects of the pre-war Strategic aims outlined in our earlier paper from the Ukraine. This qualitative study forms parts of a doctoral thesis and wider study. The paper reports the findings from six purposively selected teacher education programmes covering bachelors and masters programmes from two institutions. Data

sources included curriculum materials, policy documents, and interviews (individual and group) with teaching staff and managers.

For readers who are engaged in university-based teacher education, the paper offers a sound discursive review of competence-based education generally and specifically within the European context. It outlines the historical move from programmes that were subject and content based to those that are competence based. This includes competence in deploying pedagogies that foster student competence in the subject and more generally as citizens, (generic or key skills and competences). The paper comprehensively outlines the qualitative methodology adopted. The data from the participants is rich, generating real insight into the espoused curriculum and the curriculum experienced by the student teachers.

Kacaniku reveals a 'surface convergence' of programmes with the European models, when beneath the surface the programmes are reliant on individual teacher practices. Many of whom continue to *deliver* a subject based content approach. Differences between the bachelors and masters programmes were clear, often associated with European funding initiatives with the latter providing funding and exposure to competence based education in practice. In conclusion, Kacaniku's study uncovers the real tension where it is seen more important to preserve tradition than to actually align in practice with competence-based philosophy and practice. As Kacaniku remarks, Kosovo had a long -standing model of teacher education based on the teacher as expert. Changing the paradigm required a greater understanding of the conceptual understandings of the existing teachers as well as the 'push pull' factors associated with change. The article offers real debate, methodological critique and a deep exploration of these tensions.

Another aspect of staff development is developing competence in the pedagogies associated with technology deployment as outlined in out next paper from Turkey by Kamil Kırkıç, Zehra Sedef Korkmaz, Selçuk Doğan, Ümran Yazıcılar Nalbantoğlu, and Sina Güzin Cengiz *"Faculty development to design effective online courses: Responding to requirements"*. The authors offer a detailed summary of the programme they designed to prepare lecturers for designing and delivering on line courses using an evidence based approach. To test the efficacy of the programme, they enrolled fifty academics from different subject areas into the study. Many of the staff had not received prior learning on teaching on line, particularly designing a programme, and were at an early stage of their academic career. The programme was proven to be effective, with participants acknowledging changes in knowledge, skills and beliefs about online course design and delivery. This included altering their strategies for assessment. The methodology was qualitative and explained

well, showing how trustworthiness, reliability and other qualitative evaluative criteria were fulfilled.

Readers interested in designing on-line faculty development course in this area, will find the detailed account of the programme design and the rationale for doing so helpful. The focus on adult learning pedagogies combined with an evidence-based approach to the design and evaluation of the programme offers 'thick description' and an ability for readers to replicate the design strategy. While clearly limited by the restriction to one institution, the paper shows how such professional development can be initiated, delivered, and evaluated in other contexts.

Our third paper, "*Predictive role of psychological capital and perceived organizational support on innovative work behavior among higher education teachers of Pakistan*" by Maria Wahid and Nadia Ayub who conducted a study with two hundred teachers from private and public universities that analysed the psychological factors that enabled or hindered teachers to innovate in their teaching. The background literature shows the potential relationships between psychological capital (PsychCap), the perceived organizational support (POS) individuals may experience and their academic behaviours. The literature outlines the various elements that comprise these concepts (for example hope and resilience) and the psychological tools used to measure them. The paper provides useful critiques of the literature in this field and their application to higher education teachers.

In the context of Pakistan, the authors were particularly interested in the organizational support dimension suggesting that in developing countries, these aspects are often neglected. Their findings demonstrated that POS was one of the key factors in enabling innovation. Similarly, when the teachers possessed PsychCap they were more likely to show innovative work behaviours. Unfortunately, the paper lacked suggestions as to how these qualities could be encouraged or supported within the academic environment, specifically in context. This required a leap from psychological studies to leadership, management, and change.

We are often interested in pedagogical strategies that have worked, however in this paper from Mexico, "*Entrepreneurial intention development: The contribution of specialized entrepreneurship academic programs*" by Carolina Llorente-Portillo, John Alver Dobson, Niyan Kwame Omari Fraser, and Laura Gómez-Urquijo, the authors report on an initiative concerning entrepreneurship education (EE) that, while it did not statistically demonstrate an improvement between two time points, revealed subtle but important shifts in student attitudes towards entrepreneurial intention and entrepreneurship education.

The background section provided an interesting historic overview of the development of entrepreneurial education internationally and within the case study site in Mexico that has a strong history in this field of education. The literature review indicated that EE had no impact on student intentions and hence the study was developed to explore this and to identify whether any alternative teaching strategies may be helpful. The theory of planned behaviour formed the conceptual framework for the study. Twenty-five students were enrolled a specifically designed programme at a prestigious university in Mexico. The authors acknowledged that the results cannot be generalised on a national scale, but their detailed methodology informs the development of entrepreneurship education within the university network. What was shown, and it applicable, is that the empirical approach revealed issues that can form areas for improvement within the case study site. Hence the process has application elsewhere. The attitudes portrayed showed a connection with planned behavioural control and entrepreneurial intention-constructs that are important for both the student, but also the university environment.

Several papers in recent editions have addressed aspects of the international student market. Pui-Yee Chong, Andrew Jia-Yi Kam, and Siew-Yean Tham analyse the "*Factors influencing international students' perceived value and satisfaction at private universities in Malaysia*". Malaysia has moved from being a 'sending' country to a 'receiving' country, particularly over the past twenty years. As the authors discuss, their paper moves the analysis from student satisfaction to the concept of 'perceived value' whether before or after their programme. Through theoretical analysis and evidence, the authors have developed a theoretical model that brings together the determinant of perceived value and the interrelationship of constructs between perceived value, satisfaction, post-behavioural intention, loyalty, and WoM (word of mouth). The literature review provides good background information and analysis on the key concepts just mentioned. The empirical work sought to consider and test the relationships between service quality (academic and non-academic), external living environment and perceived value.

The sample of second year students comprised 13 of the 25 private universities in the Klang Valley who agreed to participate in the study. Through purposive sampling the authors generated a return of 66% giving 630 returned surveys, where the minimal sample for statistical purposes was 379. The paper provides a detailed and rigorous account of the development of the survey instrument, its pilot testing and operation. For example, substantive literature reviews (primary and secondary reviews) on existing instruments,

and the conduct of a preliminary investigation interviews. This gleaned five major themes generating five constructs and 39 dimensions. With very scant literature conducted in Malaysia, the preliminary interviews conducted in Malaysia enabled contextual data, verification, and generalisability to be explored. This enabled a survey to be generated that was tested on 10 students for comprehension and another 45 students as a pilot. The extensive and specific results are worthy of review, as they offer detailed accounts of the differences and similarities between different groups of international students (e.g. country of origin), comparisons with the international literature and the interrelationships of the different factors/variables. Their findings highlighted the impact of the different constructs on student experience, identifying areas for local and national consideration. As the authors remark, the model tested direct relationships, but not moderating factors and a particular part of the country. While further research is needed, the applicability of their theoretical model in other countries and cultures could be fascinating.

Our final paper, situated in Ghana, *"Global education: The need for innovative approach towards engaging intellectually brilliant students"* by Isaac Atta Senior Ampofo and Isaac Atta Junior Ampofo, looks at the characteristic of 'brilliant' rather than 'clever' students and the pedagogical strategies that students perceive as being important to them. The study discovered that they were able to maintain an active memory, supported by spaced repetition, flexibility in assessment and the capacity to link different forms of knowledge. It was noted that the students often need assistance to enable their cognitive strengths to be applied to real world situations 'in the field' and the importance accorded to field work teachers and experiences. Many topics in the background literature are worthy of consideration, especially the importance of defining and recognising 'brilliant' students; the factors that enable them to flourish or, indeed, hinder their development; and their potential to offer innovative and creative solutions to the socio-economic needs of their country. The authors small case study example (10 students) is not of itself generalisable as they point out. However, the in-depth interviews, matched with a retrospective analysis of 'brilliant' students from education records over the preceding twenty years is fascinating.

While the study was on college /higher school students, there are some interesting points made which are worth considering in Higher Education in countries with developing educational infrastructure and institutions and where the education may not be sufficiently 'dynamic'. The paper could have extended the discussion to consider more deeply the implications for the training of teachers and the transition to higher education of these 'brilliant' students.

About the author

MARY GOBBI (mary.gobbi@deusto.es) is Emeritus Professor (University of Southampton, UK) and Editor of Tuning Journal for Higher Education since 2019. Professor Gobbi (PhD, MA Ed, Dip N, Dip Ned, RN) has been Tuning Nursing co-ordinator since 2003 and is an expert educational developer and evaluator, with extensive national and international experience. These include projects within the European Union (e.g. technologies in healthcare training, on Sectoral Skills Councils for Nursing'; role and training of health care assistants; developing a European MSc in Advanced Rehabilitation Technologies,); South Sudan (developing standardized in service midwifery training)'; Germany and US (Leadership Competences for executive nurse leaders); Republic of Georgia (developing bachelors nurse education); and Canada (comparing EU and Canadian nurse education and advising on masters level standards). Mary has experience with different levels of education for nurses and other health care professionals (from care assistant to post-doctoral level); and with different educational strategies and technologies (from the use of grading in practice, simulation and use of mobile technologies to improve critical care education and resuscitation performance using 'smart technologies'). She has supervised 10 doctoral students to successful completion.

Articles

Shifting perceptions and channelling commitment in higher education communities: How to grow a Quality Culture outside the lab

Anca Greere and Catherine Riley*

Abstract: Drawing on the data collected via a European funded project with eleven higher education partners, the article proposes a five-stage working model which can be adopted in and adapted to different institutional contexts so as to shift perceptions, strengthen engagement and channel commitment with a view to developing the desired quality culture.

The project explored ways in which quality in higher education was viewed and practised by three main stakeholder groups: students, academics and quality managers, referred to as three 'quality circles'. It adopted a reflective approach to issues of quality based on grassroots discussion and cooperation between key, but in

* **Anca Greere** (corresponding author, anca.greere@softwaredesign.ro), PhD, is Professor of English Linguistics and Translation Studies at the Babeș-Bolyai University (Romania). She is an international quality assurance expert with broad ranging experience of collaborating with governments, agencies and institutions to design and successfully implement quality assurance approaches, having worked across multiple national contexts in Europe and beyond.

Catherine Riley (catherine.riley@unitn.it) teaches at the University of Trento Postgraduate School of International Studies where she is head of Foreign Languages. In 2015 she was appointed a member of the University Quality Assurance and Enhancement Committee and since 2018 she has been a member of the Steering Committee of the University's nascent learning and teaching innovation centre, Formid (Formazione e innovazione della Didattica).

More information about the authors is available at the end of this article.

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some cases disengaged, stakeholders in the quality process. The project designed, tried and tested a series of activities which demonstrated lasting impact. The analysis of the project data revealed a patterning, which, if organised sequentially, carries the potential to crystalise into an action model which may be replicated by individual higher education institutions in support of advancing towards the quality culture they might be striving for. This article highlights the building blocks of the model and explains practices which can underpin their successful implementation.

Keywords: quality assurance and enhancement; higher education quality culture; approaches to quality in higher education; empowerment and ownership in higher education; practical insights towards achieving quality cultures; quality actions and actors.

I. Introduction

There have been continued calls for higher education institutions to create and nurture a *Quality Culture* since they were first voiced in the mid-90s (Harvey and Knight 1996, Yorke 2000, Vettori et al. 2007, EUA 2009, Ehlers 2010, Harvey and Williams 2010, Bendermacher et al. 2017, Gover and Loukkola 2018, Verschueren et al. 2023). The discourse has moved a long way since then, when quality assurance was perceived as systemised, standardised, formalised structures and processes which served a purpose of compliance foremost (i.e. quality as accountability). Currently, the quality discourse focuses more on promoting an inclusive institutional environment (Njiro 2016, 79; Tutko 2018, 191; Greere 2023, 166), where autonomy, creativity, innovation and initiative are celebrated in the pursuit of excellence (i.e. quality as enhancement). For this to happen, all stakeholders need to feel a sense of identity which can be manifested individually and collectively, a sense of appreciation and recognition of their ideas, values, skills, expertise etc., and a sense of belonging to a dynamic community of practice, in the broadest sense.

In spite of this apparent consensus as to the need for a quality culture and broad agreement on what the essential contributing components are (e.g. Harvey and Stensaker 2008, EUA 2009, Ehlers 2009, Loukkola and Zhang 2010, 9-11), Bendermacher et al. (2017, 53) found that they could only address "theory development on quality culture" rather than "what intervention practices work for whom in what circumstances", therefore explicitly calling for "research into daily experiences of staff and students in quality management as well as exploring practical suggestions to nurture a quality culture". As a follow-up, the same Bendermacher et al. (2019) provide empirical evidence of the interplay of the various "value orientations" and identify which are fundamental in advancing a quality culture, but still

without providing any "practical suggestions" as such. Alternative studies propose models and frameworks for measuring quality (Tam 2001; Verschueren et al. 2023) or which focus on the more interpersonal dimensions of a quality culture (Njiro 2016, Sattler and Sonntag 2018, Verschueren et al. 2023), while others, still, "investigate […] ways of understanding quality culture" and "how […] [u]niversities frame quality culture" (Nygren-Landgärds et al. 2024), but without focusing on concrete examples or practical guidance from and for institutions intent on promoting and further developing a Quality Culture appropriate to their context.

The current study aims to offer a contribution towards responding to this gap in the scholarship; first by analysing ways in which participants in higher education perceive the components of a quality culture in their various contexts, and then by outlining various types of actions that may be taken to reinforce or, where necessary, to change these perceptions, and thus foster a quality culture. While we accept that "[c]ultural change in an organization is undoubtedly a difficult process and requires specific and long term efforts" (Ehlers 2009, 359), our study shows how even in a relatively short time span, raising awareness, engaging and subsequently empowering all stakeholders will engender ownership of the very quality culture they become committed to. This step-by-step approach will overall intensify the sense of community and advance the quality culture agenda at institutional level.

II. Context: Appeals for quality culture

The first Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) recommended that "institutions should commit themselves explicitly to the development of a culture which recognises the importance of quality and quality assurance in their work" (ENQA 2009, 7, re-emphasised in ESG 2015). In their summary paper "Fifteen Years of Quality in Higher Education" Harvey and Williams (2010, 4) found that quality was yet "…to become a fundamental part of what is done in the sector" and that "[a] genuine culture of quality is necessary", with evident "tension [still existing] between quality as ritual and quality as it is owned by its stakeholders".

Loukkola and Zhang (2010, 9-11) considered it of crucial importance "to distinguish quality culture from quality assurance processes". They noted that quality assurance systems were largely in place in most higher education institutions around Europe, with institutional leadership understanding their crucial role in demonstrating commitment to quality. However, they found that "participation of all stakeholders in the implementation of quality

assurance processes and striving for a stronger quality culture appears to be essential, but still demands attention". Similarly, Vettori (2012, 1) acknowledged the "increasing popularity of the term 'quality culture' over discourse focusing on 'quality assurance'", which he found had still not been embraced by everyone, with "[a]cademics in particular [being] reluctant to engage with management schemes and procedures which they [perceived] overly bureaucratic and demotivating", (also confirmed by other studies: Greere and Riley 2014, Seyfried and Reith 2019, more recently in Nygren-Landgärds et al. 2024). Indeed, much of the discourse in the literature of the 'first 10-12 years' of quality assurance in what was to become the European Higher Education Area (EHEA) spurred the E4[1] to revise the ESG, not only to make them more streamlined but also to instigate a shift in the approach to quality, with the potential to correct the 'misalignment of quality assurance, institutional quality frameworks and quality culture' outlined by Harvey in a paper of the same name (Harvey 2010 cited in Nygren-Landgärds et al. 2024, 17). Indeed, the ESG 2015 identify the development of a Quality Culture as one of the four principles or pillars upon which the Standards and Guidelines are based (ESG 2015, 6) and reference "…[a] quality culture in which all internal stakeholders assume responsibility for quality and engage in quality assurance at all levels of the institution" (ESG 2015, 11) and to which both quality assurance and quality enhancement have the potential to bring an intertwined contribution.

Undoubtedly, as per Loukkola and Zhang (2010), the quality assurance agenda intended as accountability did bear fruit, with higher education institutions across Europe able to report progress in so far as formal systems and processes were, more or less, successfully introduced. Nonetheless, quality is still widely felt to be management driven and it is yet to be perceived as having more inclusive, community value.

It continues to be widely acknowledged that "the quality culture concept does not provide a common goal for every institution" (Vettori 2012, 3), hence it "is not universal but rather unique to each higher education institution and determined by institutional drivers, national directions and international commitments" (Greere 2023, 188). Each institutional community may perceive or relate differently to the concept of a quality culture and what it entails.

What is more, if we take quality in its broadest meaning, to include all stakeholders involved in both formal processes and on the ground actions,

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[1] The E4 Group is formed of: European Association for Quality Assurance in Higher Education (ENQA), European Students Union (ESU), European University Association (EUA) and European Association of Institutions in Higher Education (EURASHE).

different actors may focus on diverse aspects or facets of quality in their day-to-day practices in this evolving quality culture. How quality is perceived at the formal institutional level and by the individual actors is also affected by the national and local cultural context and the value system already existing in the institution (Greere 2023, Nygren-Landgärds et al. 2024).

The EUA (2006) Quality Culture project proposes a definition which highlights the relative and context-sensitive nature of this complex concept. Quality culture is seen to be characterised "by two distinct elements: on the one hand, a cultural/psychological element of shared values, beliefs, expectations and commitment towards quality, and, on the other hand, a structural/managerial element with defined processes that enhance quality and aim at coordinating individual efforts" which "are not to be considered separately" (EUA 2006, 10). Although predicated on the idea that "grassroots initiatives in higher education are often more effective than top-down directives" and that "[t]he sense of ownership and engagement that develops through grassroots involvement is critical to success in higher education" (EUA 2006, 4), the report utilises a discourse which highlights the structural/managerial element over the cultural/psychological. It follows that a quality culture can be "introduced" or "implemented" like any other project, process or initiative (see also discussion in Greere 2023, 174), that it is synonymous with the existence of internal quality management processes, and the reader is presented with concrete recommendations and case studies which are effectively linked to the development of the structural/formal element. However, the report lacks case studies and explicit guidance on how the cultural and psychological (we would add social, cfr Eggins 2014) elements can be addressed and supported with specific actions.

Loukkola and Zhang (2010, 11-12), adopting the EUA's definition, recognise that it is precisely because the quality culture is rooted in shared values, beliefs and expectations, along with a shared commitment towards achieving common goals, which makes it a difficult concept to deal with. Fostering a quality culture requires appropriate investment in time and effort and acknowledgement of the fact that a priority and prerequisite for success is "to combine the top-down leadership and managerial approach with the bottom-up approach, while creating favourable learning environments for academic staff and students to be actively involved […] via their own initiatives and responsibilities" (Loukkola and Zhang, 2010, 23, see also Verschueren et al. 2023, 11-12).

In the on-going debate about how to promote, nurture, develop and drive a quality culture in higher education, various factors, other than financial restraints and time constraints, have been put forward in the literature as being

of utmost importance. However, some seem to stand out more prominently than others. Sursock (2011, 56) refers to the need for the institutional culture to stress democracy and debate and to value the voice of students and staff equally. Loukkola and Zhang (2010, 23) highlight the need for participants and stakeholders in higher education to see the value in the commonly shared goals in order to avoid a "potential reluctance from the institution's community itself". Respondents in the Examining Quality Culture project indicated "the only way to achieve a functional quality culture is by convincing the members of the higher education institution that they have something to gain by analysing the qualitative processes of their day-to-day work" and they reiterate that the biggest challenge for quality culture is, indeed, to combine a top-down approach with a bottom-up approach (also highlighted more recently by Nygren-Landgärds et al. (2024, 52). Bendermacher et al. (2017, 45) emphasise that for all the elements of a quality culture to develop both leadership and communication are fundamental. Indeed, "[quality culture] is created through information and dissemination; […] maintaining open communication and an atmosphere of dialogue are […] central tools for achieving this" (Nygren-Landgärds et al. 2024, 52).

The 2006 EUA definition (as above) is, in our view, effective in so far as it pinpoints the two fundamental components of a quality culture. In fact, the quality culture debate has encompassed this dual framework in the theoretical principles proposed, much of the literature emphasising the need for interaction between these two components. However, the way institutions go about addressing both components, simultaneously in a proportionate/balanced approach, has not been thoroughly investigated, and few studies or projects have proposed case studies, recommendations or models.

A high proportion of the literature to date tends to be dominated by the more manageable, quantitative (and possibly measurable) formal processes which set in the foreground policies and procedures. There are few qualitative studies demonstrating practices, initiatives, approaches and methods which effectively nurture a quality culture in higher education. Even where tools and models are offered, these attempt to identify, frame or measure quality culture rather than provide concrete suggestions on how to take initiative, embed outcomes and expand action, with impact for the wider community.

Hildesheim and Sonntag's Quality Culture Inventory (2019), which sprang from Sattler and Sonntag's model (2018, 317), depicts the elements and actors which contribute to a quality culture, and indicates the way they interconnect, but offers no indication how to foster development. This Quality Culture Inventory "represents a sound, economic tool with which to describe the current state of quality culture within institutions of higher

education [so as to] lay the foundation for discussions about strengths, weaknesses, and potential measures for improving quality" (Sattler and Sonntag 2018, 324). Bendermacher et al.'s path analysis model (2017, 646) provides an in-depth investigation of the interplay between four "organisational value orientations" and outlines core components of quality culture which may result in quality enhancement practices, with evidence of the 'human relation' value orientation as an important contributor (also considered in Cheng 2017). Verschueren et al. (2023, 1) present a 'concept model' which "incorporates both the structural/managerial elements of the educational context as well as individual and interpersonal dynamics", its purpose being to "provide an interactive instrument to map, discuss and advance the existing quality cultures." Currently, the ongoing project is concerned only with "monitoring the quality culture" through qualitative pre-structured interviews, which aim to identify individual quality profiles. The "advancement" they mention comes from the fact that the interview "enhances awareness and ownership in working towards educational quality, marking a key moment for enhancing quality literacy throughout the university" (Verschueren et al. 2023, 22). Nygren-Landgärds et al. (2024), through qualitative content analysis of institutional documents, investigate how quality culture is perceived, formally defined and embedded in eleven Nordic institutions and how this affects the "views on the responsibilities and leadership required for [quality culture] and differing views on the systems, structures and control of [quality culture]". Yet again the model provides more of a snapshot of the situation, rather than a tool to promote quality culture. Van Hung (2021) develops a model based on an "integrated approach" encompassing four different approaches he identifies in the literature. However, all the actions suggested are top-down with the final proposal being "to develop a framework and criteria for assessment of [Quality Culture] that can fully reflect all elements that form the [Quality Culture]*" (Van Hung 2021, 9).

III. Scope and methodology

The current study proposes for consideration a five-stage model which can be adopted in and adapted to different institutional contexts to strengthen engagement and nurture commitment towards the desired quality culture, with its context-appropriate characteristics.

The study draws on data collected under the SPEAQ project, analysed qualitatively and followed longitudinally to observe how well-targeted action can determine lasting quality outcomes.

The European funded project SPEAQ "Sharing Practice in Enhancing and Assuring Quality"[2] proposed a partnership of nine European universities, together with the European Students Union (ESU) and the Quality Assurance Agency for Higher Education in the United Kingdom (QAA), committed to developing tools effective for sharing and enhancing quality practices in higher education. To this aim, the project explored the ways in which quality in higher education is viewed and practised by three main stakeholder groups: students, academics and quality managers, referred to as three 'quality circles'. The project adopted a reflective approach to issues of quality based on grassroots discussion and cooperation between key, but in some cases disengaged, stakeholders in the quality process and was found, by the project evaluator, to have designed, tried and tested concrete activities which support the overall aim of the European Higher Education Area and individual institutions of achieving a quality culture in higher education (SPEAQ website).

The methodology was aligned with ethical requirements for research conducted under European-funded projects and did not require individual approvals at national or institutional levels, other than for the participation in the project. Data was attributed by country and stakeholder group, as relevant, never individualised and fully anonymised. The qualitative analysis focused on evaluating the impact of actions proposed to improve the ways in which quality processes are implemented and experienced within higher education institutions and to facilitate connections and dialogue between the three quality circles.

At the time of the project, multiple stages of data collection were applied across all three stakeholder groups: (1) via a workshop which promoted shared understanding of quality aspects and initiated the dialogues across all three stakeholder groups, (2) via semi-structured interviews and focus groups which moved the discourse towards individual reflection about the roles and responsibilities of the different stakeholders, thus gauging more interest from a wider participant pool for subsequent stages of the project, and (3) via micro-project implementation and feedback which allowed the opportunity for design and development of actions which could contribute positively to the stakeholder experience, either by resolving an existing problematic situation or improving an area of sound practice or scaling a feature of good practice towards other institutional contexts. Feedback surveys accompanied all stages to ensure close monitoring and inter-partner adjustments, as necessary.

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[2] https://speaqproject.files.wordpress.com/2012/02/speaq-flyer.pdf and https://speaqproject.wordpress.com/resources/

In acknowledgement of the fact that the discourse of quality and quality assurance is frequently perceived as impenetrable and overburdening, it was the scope of SPEAQ to facilitate communication by making use of language which could be easily recognisable and would successfully stimulate understanding and dialogue. Consequently, the tools designed all used straight-forward, non-technical questions, which were directly geared on individual experiences, encouraging inward-facing reflection, or would easily relate to experiences close to the individual; hence, answers became readily available.

The workshop took a progressive approach to highlighting quality assurance realities, initially presenting participants with a task to associate quality statements to every-day products or services, which were subsequently transformed into higher education comparisons. The aim was to keep participants within their comfort zones so as to instil confidence in their capacity to offer a personal contribution and encourage their desire/curiosity to become involved in future stages, even when they had not previously felt a pull towards quality assurance process or, worst, expressed overt reluctance towards these.

During the focus groups and interviews, the following open questions were used: "What do you think is good about your course/programme/institution?", "What was the most rewarding experience for you in the past year?", "Is the experience worth sharing/replicating?", "What would you like to improve and how would you do it?". Such questions promoted the opportunity for reflection on an individual level, about individual experiences, with direct self-implications, highlighting quality as a very personal matter, with tangible singular consequences, before it is perceived as systemic. It allowed not only for opinions to be voiced but, more importantly, initiatives to be proposed, i.e. such initiatives which participants felt sufficiently strongly about to want to engage with or even lead on.

SPEAQ identified ten main areas where intervention was desirable, with various degrees of priority in the specific institutional settings (see SPEAQ website, for details, and Greere and Riley 2014, 40, for a discussion). These areas were then translated into specific micro-projects, which allowed the stakeholders who had highlighted a development need to design and implement the micro-project in ways which they believed could render beneficial outcomes. Giving participants free reign meant the onus was on them to shape and deliver quality, to make judgement calls about what could constitute positive experiences into the future, to experiment with quality processes in the contained and safe environment of the SPEAQ methodology and to finally derive feedback and consider lessons learned before institutional proposals could be formulated, if applicable.

The different institutional micro-projects proposed neatly followed the student journey through higher education, demonstrating a student-centeredness which anticipated one of the pillars of the ESG2015. These micro-projects took account of students' needs throughout their academic experience starting from when they are prospective students, through induction and services, to curriculum design, approaches to teaching, learning and assessment and not least feedback, and finally, employability. The underlying principles for all these actions were related to more focused discussion and increased motivation for all stakeholders. These were seen as essential building blocks in moving towards a shared quality culture. With this in mind, each partner institution, in developing their micro-project, would engage the various stakeholders in moving towards a shared quality culture responsive to contextual specificity.

The methodology adopted was piloted over a two-year period and produced positive outcomes in all nine partner institutions. It emerged that whether from institutional contexts operating in a stable, long-standing quality assurance environment or from those in settings where both internal and external quality assurance systems were still developing, participants equally appreciated the opportunity to reflect on their own understanding of quality, to contribute insight on their individual and collective roles, and to shape actions which, in their perception, foster a quality culture. A follow-up study, conducted two years on, provides data on whether the impact was a) momentary or more enduring and b) localised or on the broader institutional context and even beyond.

In what follows we propose to closely examine the data collected during the SPEAQ project and analyse the feedback from the follow-up study in order to detail those actions and initiatives which were found to contribute to a clearer understanding of and engagement with the concept of a quality culture in higher education. In particular, we aim to identify practices which more directly and effectively enhance its community value and which actively involve all members of that community, and to transform findings into a workable model which can offer concrete recommendations for practice.

IV. Findings: Perceptions of quality culture and how these may shift

Previous studies (Loukkola and Zhang, 2010; Vettori, 2012) demonstrated that quality assurance practices are largely implemented across European higher education, that quality assurance is best viewed as a building block of the quality culture concept. However, other building blocks are needed to

construct a solid foundation upon which to build a quality culture which academic communities can recognise and relate to.

Of paramount importance are participatory, inclusive processes where all stakeholders are viewed as actors in the quality cycle, and where there is a natural multi-way flow of opinions, proposals, feedback, i.e. bottom-up, top-down, peer-to-peer, and across stakeholder groups. Indeed, as mentioned above, there has long been widespread agreement that bottom-up initiatives and top-down frameworks and requirements need to converge and that an institutional culture is to be valued as a quality culture when it is in resonance with the expectations of all the members of the higher education environment (as also discussed in Greere and Riley 2014, Njiro 2016 and Greere 2023).

In mapping out initial perceptions about quality assurance and quality in SPEAQ partner institutions, we frequently found converging, symptomatic opinions expressed by quality mangers, teaching staff, administrative staff and students (and these would align with findings in other academic studies, e.g. Newton 2002, Blanco Ramirez 2013, Udam and Heidmets 2013, Cardoso et al. 2018 and Seyfried and Pohlenz 2018).

Stakeholders participated in workshops, focus groups and interviews to express their views on how they perceived quality in their institution, how they related to practices targeted on quality and how they viewed their roles and level of potential involvement in supporting quality in their own institutions. For students, quality was primarily associated with the reputation of their teachers and the activities that these proposed in the classroom which may contribute to competence development and increased employability. Teachers connected quality to the student-teacher ratio in class and to opportunities for staff development. Quality managers related to quality by consideration of the overall educational environment and in comparison to other competitor institutions.

While each stakeholder group had predominantly different perceptions of quality, there were some commonalities between the groups. Largely, participants considered that "*it may well be that the structures and procedures for ensuring quality are in place, and respond well to especially external demands, but that sometimes there was a tendency to neglect what really counts*" [Denmark]. Unanimously, across all stakeholder groups, "what really counts" was related to the capacity of the institution and its actors to have individualised, more personalised higher education experiences, e.g. "*[g]etting to know the students as individuals rather than as numbers makes the learning process more fulfilling*" [Portugal].

All stakeholder groups acknowledged that *"[i]n general, the channels for everybody's voice exist, but much depends on management and leadership*

whether these voices are actually heard" [Finland] and at what levels [Spain]. With some exceptions [Hungary, Portugal, Italy, Romania], most *"… agreed upon the idea of being listened to, [however] how their opinion was reacted upon was a different issue"* [Spain, Portugal, Denmark]. Often (re)actions were felt to occur only in response to critical (frequently negative) situations, rather than as part of a systematic, institutionalised approach, and this, in effect, made stakeholders question the relevance and value of their involvement and their own role in contributing to quality in their own institutions. As a consequence, beyond the formal processes for feedback and complaints (where they exist), roles and responsibilities regarding quality were felt to be quite fuzzy [Austria], with externality being the most common perception: *"participants understand quality as being somehow external to themselves (i.e. as being the responsibility of someone else in another stakeholder group) rather than a personal responsibility or individual practice"* [Portugal (and also in Spain)]. Inadequacies and failings were attributed to the system and there was little awareness or consideration of their own role in the process and what their own contribution could be to generating quality and remedying weaknesses. *"Students seemed to think it was down to the teachers"* [UK (also in Portugal)], while teachers felt that quality is down to motivated students [Finland, Portugal]. Where participants recognised that *"all higher education actors have responsibilities for <u>all</u> quality assurance aspects and that it took a collective effort to maintain and enhance quality",* agreement was reached that *"some aspects were the <u>main</u> responsibility of a particular category of actors and should be clearly attributed accordingly"* [Romania].

Frequently statements invoked over bureaucratisation, quality assurance fatigue and time restrictions as reasons to justify reduced participation and lack of action: *"most teachers, administrative staff and students have no time and energy left to deal with quality professionally and on a daily basis"* [Hungary]; *"the majority of students seem more interested in moaning about their problems rather than taking action"* [UK]; for the *"ordinary teacher"* engaging in *"such work"*, i.e. quality assurance work, the time invested is frequently their own, rather than part of their workload [Denmark]. However, participants were keen to emphasise that quality *"should not become a ritualised process from the top but it should work from within each activity"* [Spain], even in such cultural contexts where actors are commonly driven by external requirements rather than internal goals and expectations [Italy, Romania].

Despite participants not having shown particularly eager to engage with the quality assurance processes for which they acknowledged a top-down direction, they did express great interest in contributing to the development

of the quality culture in their institution, and more specifically in their faculties or departments, predominantly in areas directly impacting their daily experiences. It was highlighted that the optimal solution was to organise more opportunities to discuss quality issues at different levels, *"involving the different higher education stakeholders, in order to improve dialogue within the institution"* [Portugal].

Overall, while quality was believed to be present in all institutions, it was viewed as being dispersed and insufficiently focused. Consistently, it was felt that *"the results of the quality assurance system should be used for quality enhancement and to contribute to the 'institutionalisation' of a quality culture"* otherwise it would continue to be perceived as a mere bureaucratic burden" [Portugal].

On the basis of the activities/initiatives implemented and the data collected, the aim of the current study is to observe any change in the perceptions of the participants regarding quality and the quality culture in their institution or department and in their inclination to engage in and take ownership of quality related processes, as a result of their engagement and contribution to the SPEAQ experience.

It is not in the scope of this article to outline the individual partner micro-projects (see the project website for details and Greere and Riley 2014 for a discussion) or indeed the tangible/intangible outcomes of the micro-projects but rather, from collected SPEAQ data and feedback, to identify the common approaches, perceptions and practices which contributed to the emergence or fostered the development of what we intend as a quality culture. While the official SPEAQ reports provide invaluable data on outcomes and impact (speaqproject.wordpress.com/resources/) it is the feedback collected from participants thanks to interviews, questionnaires and informal (documented) communications which permit us to gain an insight into (changing) perceptions of and feelings towards the institutional quality culture. To this end, the selections below include numerous self-explanatory comments which together paint a picture of the quality culture evolving in the nine project partner institutions and the impact these bottom-up initiatives had, and continue to have, both in the narrow context of the project and the broader institutional context.

IV.1. *Promoting dialogue about quality - Making space for and taking time to talk*

Without doubt, giving space to bring people together to discuss quality and reflect on quality processes -whether formal or informal, assurance and

enhancement- was the most widely appreciated aspect of the SPEAQ project: "*the fact that all stakeholders (i.e. students, professors, [administrative] staff got together to discuss, evaluate, and propose eventual changes*" [Italy]; "*discussions were invaluable to share practices*" [Finland]; "*I understand how the system works much better and realise that I am not on my own or the only one who feels frustrated or angry at times. I don't feel as isolated in relation to my concerns*" [Portugal]. What also emerged is that when stakeholders engaged in discussions regarding quality, whether with peers or among the different groups, if they adopted the same language (or as one partner put it were *SPEAQing*) then understanding, not least of other stakeholders' viewpoints, was greatly enhanced: "*I learnt that quality can be 'translated' into everyday language*" [Hungary]. Thus, ensuring quality is discussed in terms which are both understandable by and relevant to all stakeholders engenders greater engagement, first of all in the dialogue, and subsequently in processes. Why ask students to become involved in 'operationalising quality' [a language which is so technical] when, in fact, all we are asking them is to discuss and contribute to developing good practice?

In some contexts there was genuine surprise among all stakeholder groups at being asked to discuss quality issues, to reflect on practices and to engage with other actors: "*students […] were quite amazed that there could be something like quality culture out there and they could actually make a contribution*"; "*but I do quality every day, I don't need to talk about it*" [teacher]. Evidently, at least in these institutions, there had been no explicit attempt at promoting an inclusive, dialogue/interaction-based approach to quality: "*there are attempts to involve teachers and students, but there is no regular dialogue*" [Hungary]. It was decided that what made dialogue valuable was that "*quality assurance managers found themselves embracing opinions of staff and students in an inclusive rather than exclusive approach*".

Even in those contexts where quality processes and practices have a long-standing, proven history, participants, commented on how useful it had been to share and compare experiences and practices with peers and exchange views with other stakeholder groups: "*being reminded of the importance of integrating [different stakeholder groups] continually is important and has added value to internal discussions*" [Denmark]; "*more opportunities for sharing and discussing together with different actors is needed so that the whole becomes more synergetic and less fragmented and that all actor groups see their place and responsibility in quality enhancement*" [Finland]; "*there is almost no communication between the centre and ordinary academics, and this needs remedying*" [UK].

Indeed, compared with more traditional quality assurance processes which in many contexts were experiencing *"fatigue"* symptoms, in some cases with *"a perverse impact on quality in the classroom"*, the more informal approach to promoting dialogue and exchange, whether in seminars, workshops, focus groups, online forums or in classroom discussions, was seen to foster engagement and could result in constructive, often creative, suggestions: "*one positive aspect was the way students were open and creative in their approach to the issues and prepared to dedicate their time and effort*" [Italy]. In fact, rather than troubleshooting sessions or a dialogue focusing only on negative issues to be addressed, these different moments of collective reflection also sought to identify existing strengths which would provide a solid basis for further development, or rather highlight quality practices already in place and strive to improve them, with the potential of generating lasting impact: "*analysing the positive aspects of […] those identified positive by current students, stressing these positive aspects will allow to strengthen them in the medium/long term*" [Italy, student].

The SPEAQ activities highlighted that reflection and communication are key to raising awareness, understanding who is responsible for quality and what role actors may take, with cross-stakeholder dialogue being perceived as an added value.

IV.2. *Raising awareness to quality issues and roles – Allowing for better understanding*

The greatly appreciated opportunities to discuss issues and to share and compare practices not only served the purpose of making sure all actors' voices were heard, but also to increase awareness of the pervasive, all-encompassing nature of quality. Participants came to be more fully aware of how quality affects all actors in myriad ways, and importantly, in the every-day practices of academic life. At times, this only exacerbated frustrations with external practices which prevented a focus on every day quality: "*very often objective rules established from above are not always commensurate with daily activities and aspirations of students*" [Italy].

Discussions even resulted in some participants becoming aware of what quality assurance mechanisms were actually present in their institution: "*I came to the conclusion that the institution is far more concerned about ensuring quality than I had initially thought*" [Portugal] or even of the existence of a quality assurance manager, hitherto unknown [United Kingdom]. The activity of implementing micro-projects, also contributed to raising awareness on various levels even further: "*[we] set up a forum for the discussion of quality*

issues, […] thus promoting dialogue between representatives of the three quality circles" [Portugal] to raise awareness as to their responsibilities and, consequently, *"improve their sense of empowerment"* [Portugal].

IV.3. *Engaging in quality - Turning talk into action*

The first year workshops, focus groups and interviews were an important step in engaging actors in discussing quality and sharing and comparing practices. All actors were co-decision makers in identifying which actions should be subsequently undertaken in the micro-projects. In some contexts this inclusive approach was a novelty: *"student proposals were not only heard, but moreover, acted upon in an effective manner"* [Italy]. While in other contexts reticence to engage in joint actions was still evident, in particular where hitherto there had been little dialogue or bottom-up actions (*"staff as well as students tend to be wary of action"* [Austria]), the micro-projects were all either co-led or in some cases, student-led: *"this project gave both mentors and mentees the opportunity to see they could change realities by having the courage of getting involved, and by proposing ways of improving ongoing projects"* [Romania]. By the end of the project timeline, however, this joint effort was overwhelmingly seen as worthwhile: *"the most challenging and at the same time most rewarding experience was working with students on quality issues"* [Hungary].

In micro-project proposals with concrete outcomes, the engagement of all stakeholders in the development, implementation and evaluation of actions often greatly exceeded expectations. There was also a positive spill-over effect thanks to this high degree of engagement. Those external to the SPEAQ project implementation team asked to become actively involved in micro-project delivery. In various institutional settings it was also suggested going beyond the scope of the SPEAQ project: *"[students] also volunteered to set up small projects which could be implemented without financial support"* [Romania] and to continue the actions after the conclusion of SPEAQ: *"they would be ready to get involved in a similar activity provided more meetings […] according to a clear timetable were to be set up"* [Romania]. This feeling of working towards enhancing the educational experience of future/other students was almost tangible and became a driving force for implementation.

IV.4. *Empowering for quality – Assuming responsibility and owning action*

Once participants opened up to appreciate that quality is not only about top-down formal processes, that it is also about every day issues and that

there are myriad quality actions that they can take an active role in identifying and implementing, then quality becomes both relevant and personal: "*all participants agreed that quality [was] brought closer to them and by participating in project events quality became a personal issue*" [Hungary]. Embracing this concept of quality as something all actors should engage in, themselves included, had two outcomes. First, empowerment: taking quality into one's own hands and doing something about it. This empowerment regards teachers and administrative staff just as much as students: "*I feel that teachers not only needed to improve their sense of empowerment and involvement in quality processes, but also to feel their voices were heard'* [Portugal]. Second, responsibility: actors are not only identifying strengths and weaknesses and proposing actions to build on the former and address the latter but rather undertaking a (concrete) role in achieving those very same objectives and/or outcomes in a context which first enables such role (i.e. gives power for action) and then recognises this role (i.e. values the effort and appreciates the outcome): "*[academic] staff, administration and students were able to share their responsibilities better, by having different roles assigned to them and to test the flexibility of these roles […] with relatively few 'prescriptive rules'*" [Romania].

In the way the micro-projects were set out, all actors became accountable for achieving the objectives and monitoring their own progress in a transparent way: "*I reflect upon how my actions impact the learners – I am responsible and accountable for what goes on in my classroom*" [Portugal]. Moreover, the reflective and inclusive quality model upon which the micro-projects were based (LANQUA network outcomes[3]), also meant that SPEAQ coordinators and participants alike were invited to monitor the micro-projects and take stock of any partial outcomes or make any necessary adjustments to any processes *in itinere*: "*some mentors … adjust[ed] their interactions with mentees as the programme developed*" as well as evaluate the project at the end: [university administrator] "*it was interesting to see how [the students] asked themselves how to achieve the desired results in light of the current conditions with the rigid structure […] and at the same time how they managed to highlight the need to create new working conditions (educational environment)*" [Italy]; [teacher] "*participating in the [project] has provided me an excellent opportunity for reflection about my pedagogical methods, share practices and learn from other peers*" [Portugal].

In feedback sessions, participants spoke of a growing belief in their own role and ability to instigate change in attitude, and, as a result, were

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[3] https://www.lanqua.eu/ and https://www.lanqua.eu/theme/

more prepared to take on this responsibility. Their individual empowerment also resulted in increased enthusiasm, motivation and commitment, which further instilled a sense of community and sharing of common values and confidence in quality processes. Indeed, the quality question is not so much 'What can be done to improve the educational experience?' but rather 'What can I/we do to improve the educational experience within my own context/institution?' We might thus conclude that the reflective cycle engenders a virtuous cycle.

While this personal sense of empowerment and responsibility regards individual actors who embrace these shared values and work towards collective, common objectives, they are not acting in isolation but are part of the institution's quality system and contribute to its success. This system necessitates leadership at all levels: coordinating action at the grassroots level, providing guidance on policy at the intermediate level and coordinating discussions on policy and promoting quality at the highest level: "*our micro-project consisted of a good strategy to promote spaces for discussion of quality issues and of teaching and learning practices at personal and at departmental level*" [Portugal]. Importantly, actors can take on roles only if the systems are in place to prompt them to do so, where there can be acceptance and timely approval for initiatives built on feelings of empowerment. Where this is insufficiently understood, systems are less able to absorb motivational initiatives generated at grassroots.

In SPEAQ, a few actors did still report on a reluctance in their institutions, in particular those with long-standing external/formal processes, to relinquish power: "*there is a tendency, however, for quality managers and admin staff to take over too much of the processes, as so often happens in big systems and organisations*" [Denmark]. This can hamper action and may become a risk to any aims of expanding engagement beyond the pool of formally-appointed stakeholders. If this more individualised approach is sought, where each stakeholder can see themselves playing an active role in areas of quality, it follows that the power model must be distributed and that responsibility and accountability become linked to a broad range of individuals within the system, rather than on the system, as an abstract whole.

IV.5. *Appreciating efforts for quality – Turning action into institutional direction*

Undoubtedly, micro-scale projects such as the ones conducted under SPEAQ depend to a large extent on the good will and dedication of a

relatively small number of actors (Greere and Riley 2014), be they administrators, academics or students: "*there are some people who really care about the quality culture, and others who don't care at all*" [Italy]. One might even suggest that these stakeholders would probably be engaged in such activities with or without such projects as SPEAQ, creating their own pockets of excellence within the general academic culture. The risk is preaching to the converted and having little if any long term effect on the institution's quality culture: "*invariably, the people who participated in the project were those concerned with issues such as quality, but it would be beneficial if this sort of discussion could include more people in order to spread the notion of quality*" [Portugal].

If SPEAQ's overarching aim was to initiate, foster and spread the quality culture, directing efforts to encourage the engagement of actors who had not previously been involved in quality initiatives, other than those required by the institution, proved paramount. Still, several barriers became apparent, to a higher or lesser degree, depending on context, and generated challenges which needed to be overcome. The time and effort required both initially and throughout these hands-on projects brought about some difficulties: "*there is simply no time to become further involved*" [Austria]; "*one more 'stakeholder' not mentioned on the list TIME'* [Denmark]); "*some student-mentors took this activity more seriously* [...] *others got less involved as time passed*" [Romania]. In many academic contexts, students are focused on progressing academically and academics are focused on research and publication, as such prioritising other activities can be seen as challenging and undesirable, unless an evident link may be made which can demonstrate impact on the main goals they have set for themselves. In addition, even if actors are aware and might even buy into the broader interpretation of quality and even the need for a quality culture, they may not be willing to put themselves and their role into question: [teacher] "*development and change require reflection and self-awareness*" [Finland]. Furthermore, there is also an element of risk: participating actively in this inclusive approach to quality exposes participants to the scrutiny not only of peers but also other stakeholders and the wider educational community.

Despite these barriers, the SPEAQ micro-projects were implemented successfully and it was found that they could generate an attitude towards quality which was worthy of mainstreaming, institutionally, if it was coupled with actions promoting recognition and appreciation. Partners acknowledged the acute need for institutional leadership to be supportive and enabling of such initiatives and to view them as contributing to overarching institutional drivers: "*high level policy makers play the most important role in the overall Quality*

Culture […] they have the power to determine the shape of the discourse on other levels."; *"support from top management would be needed to change the world – despite the enthusiasm of students, a quality manager and a humble teacher."* Put plainly, they are the ones who enable, in terms of resources and political clout, the discourse and action to take place: *"top University Management (rectors, councils, senate, etc.) need to be so committed to the issues that there are adequate resources to pursue the quality culture […] and that there is reciprocity in the dialogue between the actors"* [Finland].

A system able to support individual initiative, to enable ownership, and to recognise and appreciate efforts towards quality would be one more readily amenable to take such initiatives and embed them in mainstream practice, with the contribution of the original participants. Where participants feel recognised and appreciated and given space to disseminate practices for systemic adoption, institutions can benefit from an attitude of engagement and commitment. If successful grassroots, bottom-up initiatives and practices are to have an impact on institutional practices and the quality culture as a whole, they should not only be lauded for their success, but given institutional backing. Such best practices should be continued, perhaps extended to other departments/courses, if not rolled out across the university. This support should not only take the form of resources (time, money, structures, services) but also in institutional policy.

In other words, bottom-up initiatives should have an impact on institutional policy: [departmental administrator] *"we are now waiting for the central offices to embrace (accept) these proposals and for them to create the conditions to implement them and thus meet the students' needs. It is very important they accept that a change is needed"* [Italy]. In those projects where higher level leadership was seen to react to the bottom-up initiatives, then even greater trust was instilled in the system: *"the fact that the Rector's Delegate [for didactics] even saw our project outcomes and asked for them to be communicated and even copied in other parts of the university is awesome"* [Italy]; *"the Dean's office is considering how other departments could learn from our induction and mentoring model"* [Romania].

This reflects a genuine example of what we believe was meant by Loukkola and Zhang, quoted above, when they talk of combining the top-down managerial approach with the bottom-up approach to create a favourable academic environment. An environment we would extend beyond the classroom to include all aspects of the educational experience, or rather institutional community of practice, from communication channels to services, course programmes to teaching practices, dialogue within and without the classroom to assessment methods and criteria.

V. Discussion: Perceptions of quality culture revisited

Given that in many of the partner institutions, the SPEAQ project was the first time the different stakeholders had come together in a systematic way to discuss quality issues in a semi-formal setting, then it is perhaps natural that one of the major outcomes is the degree to which they perceived other stakeholders' roles in the processes: *"academic staff saw a new image of the students and realised that they could be partners for discussion"* [Austria]; *"through the project it has become clear that there is a role for everyone, that all involved in the educational process do have a contribution to make"* [Spain].

Perceptions were also transformed regarding the very nature of the concept of quality and what it might entail. Even those who had previously been formally involved in quality within their institutions came to a new understanding of quality: *"I associated the term with control. I had not considered that quality culture could also involve creativity"* [Austria]; *"in general there is little dialogue between teachers and students and little will to engage (above all in teachers), but thanks to this project, things are changing, thank goodness!"* [Italy] or took a different, more introspective, attitude towards quality: *"it's just confirmed the views on quality I already have (though it's helped me to reflect on them)"* [Denmark, and similarly Finland].

Stakeholders became aware of and were gratified by these changes in perception. The SPEAQ timeline saw an almost tangible shift from an attitude of abstractisation of quality and distancing from quality processes to one of involvement in and commitment for quality: *"this project has shown that quality can be seen differently"* [Hungary], *"quality became tangible and an issue to be addressed step by step by those involved in the issues"* [Austria], from a perception of quality assurance as burdensome and bureaucratic, removed from imminent preoccupation to one of recognition of benefits for direct improvement of daily activities: *"quality viewed as an every-day practice linked to existing priorities and engaging all stakeholder groups"* [Romania]; *"[the project] has certainly made me think about quality in the classroom and quality culture in the institution"* [Portugal]; from a culture of complaints to one of constructive action: *"[the project] has achieved a miracle: transform potential complaints into constructive proposals. It made us all think that we can all contribute to help improve things"* [Italy]. It also fostered alignment between individual objectives and institutional goals: *"the perception that the students now have a sense of belonging, they identify with the [institutional] objectives that we are pursuing"*[Italy] and targeted reflection about good practice, i.e. its

recognition, dissemination and multiplication, in equal share to investment afforded for areas in need of improvement; thus gearing up on positivity rather than negativity and advocating proactiveness rather than reactiveness.

When asked which the most positive aspects of the micro-projects were, participants reported a sense of achievement, ownership and a feeling of belonging to the community. Participants took great satisfaction in knowing that their voice had not only been heard, but that they had collectively been instrumental in and responsible for implementing the proposals and monitoring the outcomes: "*the [participants] were eager to share their views on the project by filling in the questionnaires and providing insightful remarks*" [Romania].

Perhaps the most important indicator of the success of the micro-projects was, irrespective of content, the unanimous call for the actions to continue – in some cases in perpetuity and/or be extended to other departments within the institution: "*there should be a group composed of both teachers and students to carry on the project*" [Italy, student]; "*it is important to create a permanent window for dialogue between teachers and students*" [Austria, teacher]. Stakeholders from all groups volunteered to carry on working on the micro-projects, often underlining that they would enjoy doing so, even if they would not be able to reap the benefits of their efforts as they would be leaving before actions were fully implemented and ingrained in every day quality practices. This is further proof of a change in perception and attitude manifested via an increased commitment, as a direct result of SPEAQ.

To test the durability of the outcomes and see if, indeed, SPEAQ could claim more lasting impact, a follow-up study was organised two years after project completion. Participants interviewed were keen to report back on the on-going success of the initiatives undertaken during SPEAQ. In many instances practices proposed in the micro-projects were continued, built upon in the immediate context, embedded into every day practice, rolled out across the institution, and, in one case, expanded into a project which was awarded funding at a national level. In all cases, the success of the project had engendered two-directional dialogue which might not have been the case before the projects.

The follow-up also revealed an unanticipated expansion of SPEAQ implications towards actions of "championing", with many of the SPEAQ participants, across all stakeholder groups, taking on active roles to further promote dialogue in the institution and assist in getting bottom-up initiatives off the ground. Examples include: one project institutional coordinator became Rector's delegate for Quality Assurance; one coordinator and one

participant became members of their respective Universities' quality assurance boards; a student project coordinator applied for an internship in project management as a result of this project and was subsequently offered a job at Europe's second biggest think tank; one student became involved in quality assurance and enhancement in a more formal capacity within the institution; and one student took on lead/coordination tasks in other institutional project reporting to the European Commission. It was found that SPEAQ had developed "champions for quality", without the project having set this as an explicit aim. Importantly, it was concluded that varying champions across all stakeholder groups stood a better chance of driving impact and generating outcomes with institutional relevance for quality assurance and enhancement practices.

VI. Transferability: Recommendations for higher education institutions

In all partner institutional contexts, initially, consensus was expressed in relation to quality assurance mechanisms falling short in what regards recognition of quality "on the ground" and, more importantly, appropriate engagement of key actors. It was felt that there were still steps to be taken before participants could confidently state that their institutions were addressing the quality culture agenda, as called for by Harvey and Williams (2010, 4) and as defined by the Quality Culture project (EUA 2006, 10). If the structural/managerial component was well developed, the cultural/psychological was not widely perceived, if at all (a need confirmed also by Bendermacher et al. 2019, 656).

The methodology the SPEAQ project adopted was geared to developing a sense of community where, indeed, "shared values, beliefs, expectations and commitment towards quality" (EUA 2006, 10 echoed by Ehlers 2009, 350, Sattler and Sonntag 2018, 314, Tutko 2018, 193 and Verschueren 2023, 3) could be at the forefront of quality-driven actions, where communication and collaboration amongst stakeholders could contribute to a greater sense of understanding, direction and engagement, and, subsequently, determine empowerment and ownership (Gordon 2002, 101-103). In brief, we found that the strengthening of the cultural, psychological and interpersonal elements is underpinned by changes in perception about how quality may be understood, how it may be put in focus, how it may be approached and how it may be developed. This is the difference between practices embedded in a quality culture as opposed to quality processes which are bolted on (Sursock 2011, 12; Njiro 2016, 85).

The shift in mindset from an approach geared on complaints and externality to one highlighting constructive, inclusive actions is, in our view, synonymous with the journey from a rather limited approach to quality assurance to an overarching attitude focusing on quality culture, a journey all the participants in our study embarked upon. This journey started with stakeholders participating in focus group discussions where their curiosity was aroused and their awareness was raised to a different way of perceiving and experiencing quality, through their creative proposals and subsequent participation in the micro-projects, to their assuming responsibility for the outcomes of the micro-projects, and, not least, for due recognition of what they had achieved. This all was characterised and supported by constant dialogue amongst the various stakeholder groups, at every level of the institution, in a two-way communication highway from the bottom to the top and vice versa (a desideratum highlighted also by Njiro 2016 and Nygren-Landgärds et al. 2024).

As part of any awareness raising exercise, the adjustment of the discourse associated with quality assurance must be factored in. It is worth repeating the importance of 'speaqing' the same language, thus ensuring everyone understands the quality discourse, which is essential in this process of shaping perceptions. With quality duly recognised as a context-dependent construct, it is likely that different perspectives on roles and responsibilities will emerge, and these will necessitate clarity, if a shared position is to be achieved (as confirmed also by Van Hung 2021, Greere 2023 and Nygren-Landgärds et al. 2024).

During SPEAQ, "simplifying" and giving clarity to the quality discourse resulted in students and staff, both administrative and academic, relating to quality in more concrete terms, thereby making it their own. Quality presented in relevant terms and couched in understandable language can also help shape perceptions resulting in increased engagement, as already noted, an essential requisite in nurturing an institution's quality culture.

Furthermore, realising that quality need not involve additional burdens or be perceived as alien to stakeholders, given they are already participants in creating and maintaining quality in their own contexts, also engenders greater engagement. Engagement is the definitive result of dialogue, of those social interactions which are the cornerstone of any culture (Ehers 2009). It draws in stakeholders by giving them the opportunity to adopt a reflective, inward-facing approach while outlining their position, their concerns, their challenges, their opportunities for improvement, their quality-related needs with other stakeholders. It also provides the opportunity for reflection on a potential personal contribution, and involvement in areas that are of immediate interest and which they may feel quite strongly about. It allows

not only for opinions to be voiced but more importantly initiatives to be proposed knowing their voice will be heard.

Both these stages, awareness and engagement, were found to be applicable, to a lesser or greater degree, in partner higher education institutions. Nonetheless, it is the following actions (as piloted in SPEAQ) that address what the Quality Culture report (EUA 2006, 29) refers to as "the most prominent challenge [which] is to ensure commitment and ownership of the quality process" and the underpinning actions which can determine their effectiveness.

Empowerment gives stakeholders the opportunity to take their ideas forward (Vettori and Lueger 2010, 50; Greere and Riley 2014; Nygren-Landgärds et al. 2024, 49-52), bestowing responsibilities onto the initiators of various proposals and allowing them to invest in and take lead on their own initiatives, effectively taking quality into their own hands. We have seen that this generates a sense of involvement and ownership (see also Sursock 2011, 21-22, Powell 2011 cited in Njiro 2016, 88 and Bendermacher 2019, 647-648), i.e. identifying with the community practicing quality. This must be coupled with institutional recognition of the actions taken and the results achieved in order to support the quality culture shift. As such, initiatives are then to be evaluated in the larger institutional framework and consideration must be given to whether they are replicable (maybe with adjustments) in other areas of the institution and if there is the potential to integrate them into mainstream practices.

When adopting such an approach, institutions need to consider contextual and cultural elements as they decide: how to promote fruitful dialogue and to share practice within and across stakeholder groups; how best to encourage a change in attitude, if necessary, from merely voicing complaints to offering constructive feedback; what actions can feasibly result in measurable and tangible outcomes that participants can readily relate to etc. Rather than introducing drastic change, institutions might best focus on what is in existence, promoting quality as continuity, encouraging teams/projects where enthusiasm about quality can be generated. This can be successful only if "the leadership [senior management] create conditions that are beneficial to quality culture and that ensure that [stakeholders] can perform to the best of their abilities in a way that is congruent with the values of the organisation" (EUA 2006, 21). However, "achieving [quality culture] goals requires honesty, openness and trust and that difficult topics can and must be discussed in an equal dialogue" (Nygren-Landgärds et al. 2024, 51) otherwise the availability of stakeholders towards collaboration and contribution may be undermined.

As already indicated, this approach is predicated on the understanding that quality already exists: it is an every-day preoccupation for many stakeholders (Elken and Stensaker 2018; Greere 2023). Our approach supports institutions to take stock of and highlight what is already present and to then build on existing and emerging (best) practices. While, at first scrutiny, stakeholders might not perceive the existence of a quality culture, quality in its multifaceted embodiment is identifiable if looked at under a particular lens. Recognition of quality practices, individual contributions to quality enhancement, and an awakening to the ownership of quality, all foster quality culture and can determine a change in perception in a fairly limited time span (the SPEAQ project lasted two years), even if only locally. Moreover, as cultures are dynamic and in continual evolution, a reflective and responsive quality culture will likely engage other stakeholders at all levels creating thus a positive reinforcement loop.

VII. Towards a working model: Nurturing a Quality Culture in five stages

In a project involving nine different higher education institutions in nine different contexts and at nine different stages in the evolution of their own quality culture it might seem a tall order to draw any general conclusions. Still, there are several overarching commonalities uniting all experiences outlined under SPEAQ, with interaction between and among all stakeholder groups underpinning essential action.
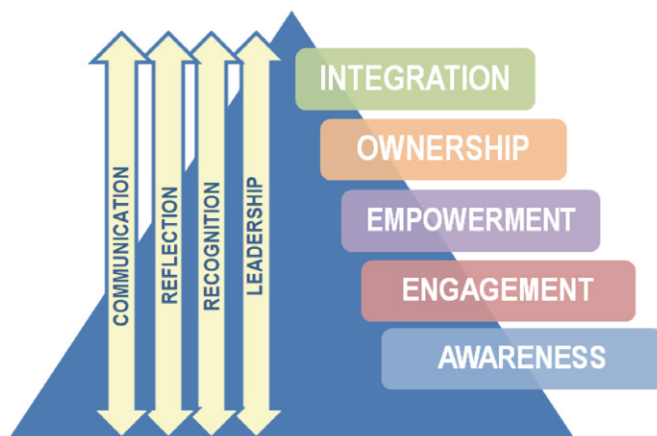
Figure 1

Practices for interaction as enablers for smooth transitioning through the stages

What clearly emerges from the project is the need for an incremental approach, enabled by consistent practices for interaction (Figure 1).

From the data, we identified five distinct stages necessary for the growth of a community-wide quality culture: (1) awareness: raising awareness about 'quality as good, every-day practice'; (2) engagement: engaging in dialogue and collaborating towards action; (3) empowerment: empowering for contribution to focussed initiatives; (4) ownership: disseminating outcomes and endorsing ownership; (5) integration: embedding developments and expanding institutionally.

The movement from one stage to the next will be dependent on the effectiveness demonstrated for practices of communication, reflection, recognition and leadership. The different actors (Figure 2) will need to come together and interact in ways which can maintain communication channels open, can facilitate collective reflection, can recognise efforts made in support of quality and can translate micro-level outcomes into institution-wide mainstream, highlighting the relevance for its community. When this is ensured, the transition from one stage to the next will prove less challenging, and have broader and longer lasting impact.
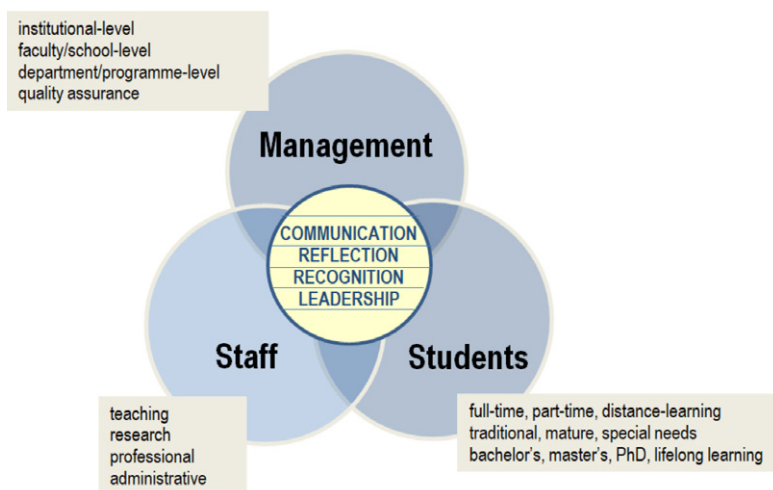
Figure 2

Actors and their multi-dimensional practices for interaction

Stakeholder involvement is key across all of these stages, with different participant profiles (management, staff and students) taking priority across the

various stages, as needed. With the emphasis on multi-directional patterns of interaction, this step-by-step approach allows stakeholders to see the value of processes on the ground, to trust their outcomes and to become involved. More specifically, it allows stakeholders to freely decide where their interventions are likely to impact most and how their contributions can unfold.

Promoting dialogue among and between stakeholders raises awareness of the every-day nature of quality, of their own role in quality processes and of the interdependent role of other actors. This awareness is a fundamental step in engaging stakeholders in grassroots initiatives. In initiating such initiatives, empowerment and the sharing of responsibility, when properly orchestrated, lead to positive outcomes, which can be measured via a change in the mindset and perceptions of the participants. Empowered and responsible stakeholders embrace the values and beliefs of the community, own their actions, feel accountable and commit to working together to further identify and achieve common goals. Such engagement in reflective practices contributes to the advancement of a quality culture. Thus, the progressive quality cycle is set in (hopefully perpetual) motion. It remains for the institution to harness this commitment and integrate developments which the community can embrace, sustain and multiply. (Figure 3)
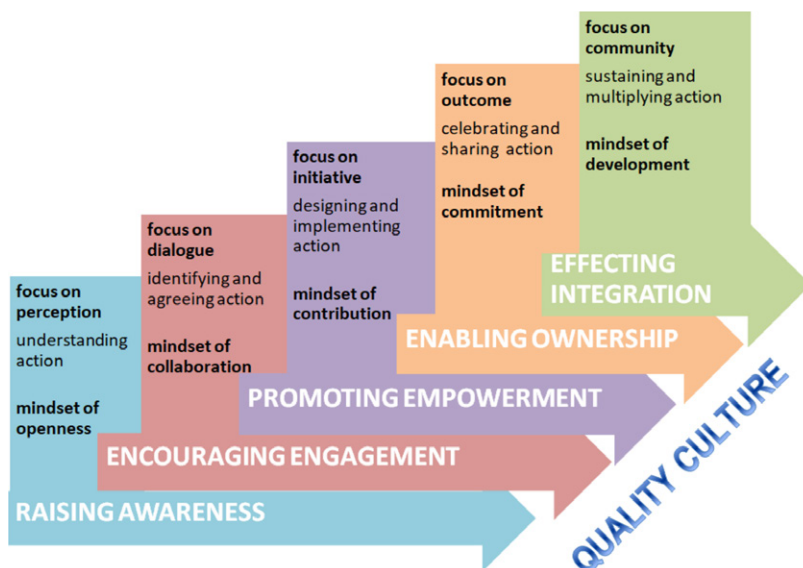
Figure 3

Stages for higher education institutions to advance their quality culture

As SPEAQ has shown, if actors are given the opportunity to collaborate with other stakeholders and allowed to take the initiative, they are not only cooperative and creative, but also committed. Importantly, giving stakeholders the option to instigate small scale projects which are close to their daily activities will make a subsequent difference in the way roles can be successfully discharged, and can have impactful results with minimum financial investment. As SPEAQ has found, stakeholders are eager to broaden their responsibilities, engage with others and invest time and effort in activities they believe can make a positive impact on their own educational experience as well as on the experience of others. It is often that stakeholders require only that trust is placed in their capabilities to drive action and finally that their efforts are recognised and appreciated systemically, without there necessarily being a claim on additional remuneration. This is also because impact is perceived first at individual level, for the benefit of those involved in implementation, and subsequently for a wider audience, institutionally, in alignment with community objectives, which resonate with the quality culture desired.

In sum, when institutions formally and systematically encourage actors to collaboratively interact, the stages of awareness, engagement, empowerment, ownership and integration are set in motion. If the stages are fuelled by effective practices of communication, reflection, recognition and leadership, actors develop a stronger sense of belonging to the institutional community of practice and a more acute sense of professional identity; feelings which have to be maintained or rather sustained if quality cultures are to flourish.

The empirical findings of the SPEAQ project advocate an approach to fostering quality cultures as manifestations of different contexts and different communities, rather than promoting a blueprint for a single perception of 'the' Quality Culture or even a single interpretation of the construct of quality. It is an approach based on discussing quality in action, or quality rooted in daily practice. Quality in existence needs to be discussed, recognised, disseminated and multiplied, with the involvement and commitment of those who are promoting it via routine academic engagements. Contexts differ, whether this be discipline, institution or national; however, the stages in evolution, namely awareness raising, engagement, empowerment, ownership and integration and certain fundamental concepts such as inclusion, dialogue between different stakeholder groups, effective communication between levels of the system, both top-down and bottom up, etc., are applicable to all contexts and can lead to the effective stabilising of institutional approaches, representative of systemic quality.

Development of a quality culture depends both on collective and individual efforts and on top-down structures enabling bottom-up initiatives. To engage actors, institutions and project leaders must adopt a more individual, personalised, human approach to quality, offering both support and recognition. Only in this way will actors feel acknowledged and their efforts appreciated and therefore they will be more likely to continue contributing.

While bottom-up initiatives can have an immediate impact in their own context, it is widely acknowledged that alone they are less effective in driving institutional change, as the SPEAQ follow-up study also shows. Indeed, they may remain mere drops in the ocean, creating just localised ripples, unless they are embraced and incorporated into institutional policy.

VIII. Conclusions

SPEAQ data conclusively highlights that a quality culture exists where there is the constant and unequivocal commitment to recognising, supporting, developing, innovating and creating quality, i.e. a preoccupation for quality that goes beyond the roles and responsibilities attributed within a formal quality assurance structure. At grassroots level, a quality culture is not viewed as implementable; it is not viewed as something that can be introduced in conjunction with the institutional policy or strategy, or formal procedures. Undoubtedly, it has to be sustained by such structural elements. However, in essence, it can be more accurately described as relating to perceptions in the broadest sense, i.e. the embodiment of a professional feeling or attitude that is generated by various practices in the institution which the particular actors are (closely) involved with. With stakeholders becoming actively involved in identifying, generating and disseminating quality they may experience positive changes in perception which are strengthened as institutional actions lead to a substantive shift. The concrete means by which this can be achieved, in terms of actions, were the prime focus of our analysis.

The five stages proposed for the working model derived from SPEAQ activities has the demonstrated potential to allow institutions to take concrete action towards the desired quality culture, even where financial resources may be more limited, by drawing on individual engagement with and collective commitment towards quality. Observations in nine institutional contexts collate towards similar findings and advocate an incremental approach which successfully takes stakeholders through the different stages of relating to quality-driven initiatives. The application of these stages evidences that perceptions of a burdensome quality system can change with

stakeholders understanding their roles better and being given opportunity to take action forward. Quality assurance processes become less of a tick-box administrative exercise as they are found to carry potential for positive impact on areas of daily responsibilities. Furthermore, an emphasis on enhancement of existing good practices, in counterbalance with resolving emerging problems via collectively acceptable solutions, can generate added buy-in. Concrete contributions, especially in areas of direct interest, should be warmly encouraged, supported, and delegated, with confidence, to any of the stakeholders, and the outcomes should be considered for wider institutional embedding. All stakeholders not only assume responsibility for the initiatives but also for monitoring the success of implementation via a reflective quality cycle, where action is not a sporadic exercise but a constant process of which they are an intrinsic and fundamental part.

Ultimately, there is no blueprint for a quality culture, it is context specific, and the form it takes and how it develops will depend on the institution, comprising all its stakeholders. A shared vision, shared values and shared responsibilities will lead to a community-driven quality culture and one which continuously reinforces commitment.

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About the authors

ANCA GREERE (corresponding author; anca.greere@softwaredesign.ro) is an international quality assurance expert with broad ranging experience of collaborating with governments, agencies and institutions to design and successfully implement quality assurance approaches which support a positive educational experience for all stakeholders and contribute to quality cultures across educational sectors. She is Professor of English Linguistics and Translation Studies at the Babeş-Bolyai University, formerly the Director of the European Master's Programme in Translation Studies and Terminology and an active member of the European Master's in Translation Network. Professor Greere also acts as Senior Advisor (External) for the British Accreditation Council, is deputy of the Institutional Accreditation Review Committee of the University Council

of Jamaica and has collaborated intensely with quality assurance agencies in Estonia, Georgia, Lithuania, Romania and Saudi Arabia. Previously, Professor Greere held senior appointments with the Quality Assurance Agency for Higher Education in the United Kingdom and represented the United Kingdom in WG2 of the Bologna Follow-Up Group. She has also worked extensively with the European Commission on implementing projects with relevance for the European Higher Education Area. Most recently, Professor Greere chaired the ENQA Working Group on the Quality Assurance of Micro-credentials, on behalf of the British Accreditation Council.

CATHERINE RILEY (catherine.riley@unitn.it) teaches at the University of Trento Postgraduate School of International Studies where she is head of Foreign Languages. A member of the Language Centre Board since 2005, she was responsible for all English language teaching at Trento for 10 years until 2015 when she was appointed a member of the University Quality Assurance and Enhancement Committee. Since 2018 she has been a member of the Steering Committee of the University's nascent learning and teaching innovation centre, Formid (Formazione e innovazione della Didattica). She is the promotor and facilitator of a Community of Practice for Challenge Based Learning and MicroModules within the European Consortium of Innovative Universities (ECIU), where she is also active in competence development. Since 2017 she has conducted teacher training workshops at Higher Education Institutions around Italy on Course Design and Planning and Assessment. She has taken part in several EU projects, including two projects specifically on Quality Enhancement (Lanqua and Speaq); ColLab, (Collaborative Platform for Teaching Innovation in Higher Education – 2019 - 2022) and is active within the ECIU. She is the author of the volume *About English: An Introduction to the English Language* (Carocci, 2004), now in its 5th reprint and edited the volume *Practices in Intercultural Language Teaching and Learning* (Cambridge Academic, 2017).

The model of integration of higher education of Ukraine into the European Educational Area

Oksana Melnyk, Olena Dashkovska, and Vitalii Pogrebnyak*

Abstract: The integration of Ukrainian higher education into the European educational area is a key condition for its reform and development. It provides for the activation of cooperation between Ukraine and the European Union in the field of higher education, harmonization of higher education systems, deepening of cooperation between higher education institutions of different countries, increasing the quality and importance of higher education in social processes, expanding the autonomy of universities and participation in academic mobility programs.

The model of the European integration of higher education in Ukraine was developed. It can be used by other countries, taking into account the national features of their educational systems. The completeness of the adopted decisions and implemented measures regarding the modernization of the structure of higher education and the National Framework of Qualifications, the introduction of modern standards and educational programs, the principles and mechanisms of their

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* **Oksana Melnyk** (corresponding author, ok_melnyk@ukr.net, oksanam1709@gmail.com), PhD, Senior Researcher, Head of the department of scientific and methodological support of integration into the European educational area at the State scientific institution "Institute of Education Content Modernization", Ukraine.

Olena Dashkovska (dashkovskaya@ukr.net), PhD, Associate Professor, senior researcher at the State scientific institution "Institute of Education Content Modernization", Ukraine.

Vitalii Pogrebnyak (v_pogrebnyak@ukr.net), PhD, Professor, senior researcher of the department of scientific and methodological support of integration into the European educational area at the State scientific institution "Institute of Education Content Modernization", Ukraine.

More information about the author(s) is available at the end of this article.

development and implementation, compliance with European norms of organisation of educational process were studied and evaluated. The process of development the National Agency for Higher Education Quality Assurance as the key element of the quality system was analyzed. It has been established that all measures are carried out according to European practices and are consistent with the goals set by the Strategy for the Development of Higher Education in Ukraine in 2022-2032. These are significant steps towards improving the quality of Ukrainian higher education. It was determined that certain components of European integration are still in the process of implementation. It was emphasized that significant efforts will be required to rebuild Ukraine as a whole, to restore and develop higher education, in particular, in the post-war period in connection with the losses incurred because of the aggression of the Russian Federation.

Keywords: Bologna process; European Higher Education Area; higher education institutions; National Agency for Higher Education Quality Assurance; National Qualifications Framework; standard of higher education.

I. Introduction

In recent years, the Ukrainian system of higher education (the System) has undergone significant positive changes thanks to the European integration orientation of the development of Ukrainian higher education, determined by the Bologna process and the Association Agreement between Ukraine, on the one hand, and the European Union, the European Atomic Energy Community and their member states, on the other parties (the Association Agreement). The problem is to ensure the effective use of the obtained opportunities for the competitive entry of higher education of Ukraine into the European Higher Education Area (the EHEA). This depends on the purposeful normative and legal, organizational and methodical, informative and analytical activity of state management bodies, their subdivisions, higher education institutions (HEIs) and public structures responsible for the development of higher education in Ukraine. The timeliness and completeness of the taken decisions, the effectiveness of the implemented measures, their compliance with international, domestic legislation in the field of higher education and European quality criteria, the elimination of the causes that inhibit certain modernization processes are determinant. It is also important to use effectively processes, mechanisms and norms that contribute to a significant increase in the quality of higher education, such as cooperation between higher education systems and institutions of different countries, participation in European educational and scientific programs, programs for the mobility of participants of the educational process.

The problems and challenges faced by Ukraine as a result of Russia's large-scale military aggression and their impact on the modernization of the System should be assessed separately. It is also necessary to analyze the decisions taken by state management bodies, higher education institutions and implemented measures to ensure the industry's efficiency in the conditions of martial law and recovery in the post-war period.

The study aims at developing a model of the integration of higher education of Ukraine into the EHEA and analysing the current state of the process of European integration of Ukrainian higher education during the implementation of the Law of Ukraine "On Higher Education"(the Law).

The specific objectives of the study are:

- modeling of European integration of Ukrainian higher education;

- development of a structural scheme for ensuring the integration of Ukrainian higher education into the EHEA;

- study of the activities of the governing bodies in the field of higher education, HEIs and public structures responsible for the development of higher education in Ukraine and the implementation of the provisions of the Law;

- assessment of the results of modernization of the structure and content of higher education through the creation of regulatory and legal support and the necessary organisational structures, and a modern quality assurance system, development and implementation of higher education standards and educational programs in pedagogical practice;

- analysis of the adopted decisions and implemented measures in terms of their timeliness and compliance with international and domestic legislation in the field of higher education, as well as European quality criteria to ensure the competitiveness of Ukrainian higher education in the European educational environment;

- assessment of the influence of the martial law on the modernization of Ukrainian higher education, sustainable functioning of the educational sector and its integration into the EHEA.

II. Literature review

European integration of higher education is recognized by many scientists as the driving force of the economic and social development of a state. The

Bologna process has become an important benchmark for improving the quality of higher education in many countries of the world. Its focus on the standardization of higher education, increasing its competitiveness, ensures the formation of the EHEA. Some scientists studied history of the formation of the EHEA and problems of the development of higher education systems of different countries (Bergan, Deca 2018), identified the stages and challenges of the development the EHEA thanks to the implementation of the Bologna process (Bergan 2019), outlined the future scenarios for the EHEA (Harmsen 2015).

The spread of the Bologna process outside Europe has contributed to many studies on the impact of this process on the university activities, cross-border transparency of qualifications, transnational improvement of quality assurance and interregional mobility of students or scholars. In 2019, a special issue "Twenty Years of the Bologna Process - reflecting on its global strategy from the perspective of motivations and external responses" of the European Journal of Higher Education dedicated to 20 years of the Bologna process was published. In addition to the general issues of the European integration of higher education, it examines the Bologna process as an international norm, its foreign policy strategy and effectiveness. The publication contains an analysis of the main characteristics of the Bologna process (Klemenčič 2019), and research, related to some issue of its implementation and impact on the system of higher education in different countries of the world in, such as: the internationalization of higher education in Canada (King 2019), the normative and strategic impact of the Bologna process on the New Zealand University system (Shannon, Doidge, and Holland 2019), the Israeli perceptions towards the Bologna process as well as outline its reactions to it (Zahavi 2019), how the Bologna process infiltrated and its level of impact on the African higher education reforms (Alemu 2019), responses to the Bologna process in Asia (Cabanda, Tan, and Chou 2019).

In the work "Current and Future Prospects for the Bologna process in the Turkish Higher Education System", the author emphasizes that 19 of the 47 countries that are part of the EHEA are not EU countries and the perspectives, structure and goals of the EHEA need to be pursued through a more inclusive and participative approach (Erdoğan 2015).

Trends and problems of the development of higher education in Ukraine in the context of its European integration are also actively studied by Ukrainian scientists. The integration of higher education of Ukraine into the EHEA for the development of human capital thanks to various forms of cooperation between Ukrainian HEIs and European ones, as well as the

problems restraining the modernization of the System and improving its quality (V. Antonyuk 2021), European strategic guidelines for the development of modern of higher education of Ukraine (Parpan 2018), institutional changes directions in vocational education in the context of European integration of Ukraine (Martynenko 2015).

The methodology for creating educational programs is outlined in the methodical recommendations. Analyzing the integration of Ukrainian higher education into the international educational area, the authors emphasized the key role of the National Qualifications Framework (the NQF) in the formation of the modern structure of Ukrainian higher education and the need for its coordination with the EHEA Qualifications Framework as a factor in accelerating integration processes (Zakharchenko, Luhovyi, Rashkevych, and Talanova 2014).

The issues of European integration of Ukrainian higher education are closely related to the need to master digital technologies and skills, the introduction of a competency-based approach to education, the development of STEM education (V. Antoniuk 2021).

It was analyzed and described the comprehensive and complete legal framework for ensuring European integration processes in the educational area, adopted in Ukraine before 2014 as well as the experience of some universities in the organization of international cooperation, participation in European projects and programs (T. Antoniuk 2015).

In the scientific and analytical report of the National Academy of Sciences of Ukraine, the main problems faced by the higher school during the war period are defined and key recommendations to overcome them are offered (Kremen et al. 2024).

The study by scientists from the Borys Grinchenko Kyiv Metropolitan University (Nikolaiev, Rii., Shemelynets 2023) outlines the problems and challenges faced by the System due to the consequences of the COVID-19 pandemic and the war, evaluates the decisions of the governing bodies and universities in response to these challenges, contains information about the current state of the System in wartime conditions.

However, despite the available research on the European integration of higher education in Ukraine, there is still no clear model of this process and an analysis of the current state of European integration of Ukrainian higher education during the implementation of the Law.

In addition, despite certain studies on ensuring the functioning of the field of higher education in wartime conditions and post-war recovery, they did not consider new management decisions and adopted measures, and there is no information about the consequences of their implementation.

III. Research methodology

To achieve the aim of the study, the following analysis was carried out:

- the regulatory and legal framework of Ukraine on the development of higher education and its integration into the EHEA,

- data presented on the websites of the State Statistics Service and the Ministry of Education and Science of Ukraine,

- literary sources on the issues of ensuring the activities of higher education in Ukraine in new conditions,

- certain steps taken on the way to the European integration of Ukrainian higher education, in particular the introduced changes to the NQF for its compliance with the European one (the EQF); a new list of fields of knowledge and specialties for which higher education applicants are trained; new standards of higher education and educational programs implemented in pedagogical practice; changes to the process of accreditation of educational programs in connection with martial law; formation of the higher education quality assurance system; harmonization of the System with international ones, cooperation between HEIs, active participation of Ukrainian HEIs in international educational mobility programs and achievement of high indicators in world academic ratings.

The collected empirical data was processed and systematized using general scientific methods of analysis, synthesis, generalization, and comparison. Mathematical methods were used to process the empirical data. The modeling method was used to develop the model, and graphic methods were used to construct the scheme and diagrams.

The research methodology was based on the analysis of statistical indicators of the HEIs network and student contingent, stable development trends. It was analysed the compliance of decisions made by management bodies and implemented measures with the tasks and goals determined by the provisions of the Law on modernization of the structure, content, and quality improvement of higher education. The elements of the study are the components of the System defined by the Law. According to its Article 16, the System consists of: HEIs of all forms of ownership; levels and degrees (qualifications) of higher education; fields of knowledge and specialties; standards of higher education; educational and scientific programs; licensing conditions for conducting educational activities and licensing conditions for conducting higher education; governing bodies in the field of higher education; participants of the educational process.

The criteria for evaluating the research results were the achievement of the goals defined by the Bologna Declaration, Association Agreement, and Strategy for the Development of Higher Education in Ukraine for 2022–2032 (the Strategy).

IV. Results

IV.1. *Modeling of Ukrainian higher education integration into the EHEA*

IV.1.1. The model of Ukrainian higher education integration into the EHEA

The global challenges of modern times and stimulated by them the internationalization of most spheres of social activity, including educational, competition in the international market of educational services have caused the need to unite the efforts of the governments of European countries, the scientific and educational community to significantly increase the competitiveness of European science and higher education and ensure the growth of their role in social transformations. The creation of the European Union (the EU) and its expansion led to the need to form the joint the EHEA (European Ministers of Education 1999).

The significant steps have been taken in Ukraine on the way to the competitive entry of higher education into the EHEA. This process is facilitated by the adoption of the Strategy, which defines integration into the European educational and research areas as one of the directions of its development. The strategic vision of the development of higher education in Ukraine contains operational goals, tasks and indicators of identified problems. The Strategy emphasizes that European integration aspirations are key problems of the transformation of Ukrainian higher education today. But they are not always supported by a willingness to harmonize structures, to cooperate and share the best practices, as well as to create conditions for studying foreign students and preparing Ukrainian students for the global world (Cabinet of Ministers of Ukraine 2022).

The integration of Ukrainian higher education into the EHEA, which takes place in Ukraine in accordance with European documents on higher education, international agreements, the Law and Strategy, can be presented in the form of a model. It consists of target, legal and regulatory, organizational, monitoring and performance blocks (Fig. 1).

The target block defines the goal of modernization of Ukrainian higher education, which consists in its integration into the EHEA. The specified process requires the harmonization of the System with the European system through the introduction of European approaches and quality criteria, principles of integrity in education and science.

TARGET BLOCK

PURPOSE: integration of Ukrainian higher education into the EHEA

Harmonization of the Ukrainian higher education system with the European one

European approaches

European quality criteria

LEGAL AND REGULATORY BLOCK

international regulations

Ukrainian regulations

Bologna Declaration

Law of Ukraine "On Higher Education"

Strategy

international contracts, agreements

structure of education

standards and educational programs

quality assurance system

ORGANIZATIONAL BLOCK

International educational and scientific activity, recognition of education

ECTS

European-style Diploma Supplement

joint scientific projects, programs, research

academic mobility

publication activity in international scientometric databases

MONITORING BLOCK

internal control

external (state) control

international control

RESULT: integration of Ukrainian higher education into the EHEA

Figure 1

The model of Ukrainian higher education integration into the EHEA

The legal and regulatory block demonstrates that the process of Ukrainian higher education integration into the EU takes place in accordance with the regulatory documents, which consider the specified issue, and which are interconnected (the Association Agreement, Law, Strategy). Ukrainian legislation is also harmonized with international acts (the Bologna Declaration, international contracts, agreements, etc.).

The organisational block shows that the process of European integration is facilitated by the introduction of ECTS, the Diploma Supplement of the European model; joint scientific projects, programs, research; academic mobility; publications in international scientometric databases.

The monitoring block reflects the organisation of control over the process of European integration, which is carried out by a HEI (internal), the state (external – the Ministry of Education and Science of Ukraine, National Agency for Higher Education Quality Assurance, etc.), international organizations and experts (world academic ratings). Such control is carried out regularly. Its results are made public, which makes it possible to identify the dynamics of the process, problems and issues that require more attention or modifying.

Taking into consideration that more and more countries are joining the European integration of education, the model can be used as a basic one, provided that it is adapted to the national characteristics of the country.

A key moment in the transformation of Ukrainian higher education on the way to European integration was the signing by our state of the Bologna Declaration in 2005, which initiated the creation of the EHEA. In his welcoming speech during the XI International Scientific and Practical Conference "European Integration of Higher Education of Ukraine in the Context of the Bologna Process", the former Minister of Education and Science of Ukraine, Serhiy Shkarlet, considering the issue of the formation of the educational policy of Ukraine in the context of the requirements of the XXI century, noted that the restoration of higher education of Ukraine should be in harmony with the values and vision of the development of the EHEA. It should also become a driving force in the post-war reconstruction of the country. He also emphasized that it is the Bologna process that sets clear guidelines and provides the necessary tools to achieve this goal (Ministry of Education and Science of Ukraine 2022).

Joining the Bologna process and concluding the Association Agreement were the first steps taken at the state level in the direction of Ukraine's European integration. The country undertook to adapt its own legislation on higher education to the European one, to reform the System, modernizing all its components, applying European principles and mechanisms. In September 2014, the Law entered into force, and a new stage of reforming the System,

aimed at increasing its competitiveness on the European market of educational services, began. This primarily concerned the modernization of the structure and content of education through the adoption of a system of easily understandable and comparable degrees of higher education; introduction of the structure of higher education, which is based on three cycles (bachelor's degree, master's degree, doctor of philosophy), introduction of new standards that determine the competences of specialists and terms of training at each educational level and programs, the implementation of which forms these competences.

IV.1.2. The structural scheme of Ukrainian higher education integration into the EHEA

The European integration of Ukrainian higher education was presented in the form of a structural scheme, the main components of which can be considered indicators (criteria) of the successful implementation of this process (Fig. 2). The scheme demonstrates that the System is based on the Ukrainian educational legislative framework, which must be brought into line with international agreements, contracts and standards or harmonized with international documents on higher education. Comparative levels and degrees of Ukrainian higher education with three-level system are aimed at its recognition abroad and its entry into the EHEA. Thanks to the development a higher education quality assurance system, doctoral studies, and the introduction of academic integrity, HEIs of Ukraine became more famous in the world, and their participation in joint programs of academic and scientific mobility intensified. The modernization of the management of Ukrainian HEIs in terms of their autonomy and student self-government creates new opportunities for educational institutions to join the EHEA.

The mentioned above process involves the implementation of effective steps in this direction and the development of all components of the structural scheme, which will contribute to the faster integration of Ukraine into the EU.

IV.2. *The analysis of Ukrainian higher education integration into the EHEA*

Since 2014 some elements of the model have been implemented in pedagogical practice (the Bologna Declaration, ECTS, Diploma Supplement, and publishing activity in international scientometric databases). In this study, the other components of the models were monitored. They are structure of education, standards and educational programs, quality assurance system, joint scientific projects, programs, research; academic mobility; internal control, external (state) control, international control.
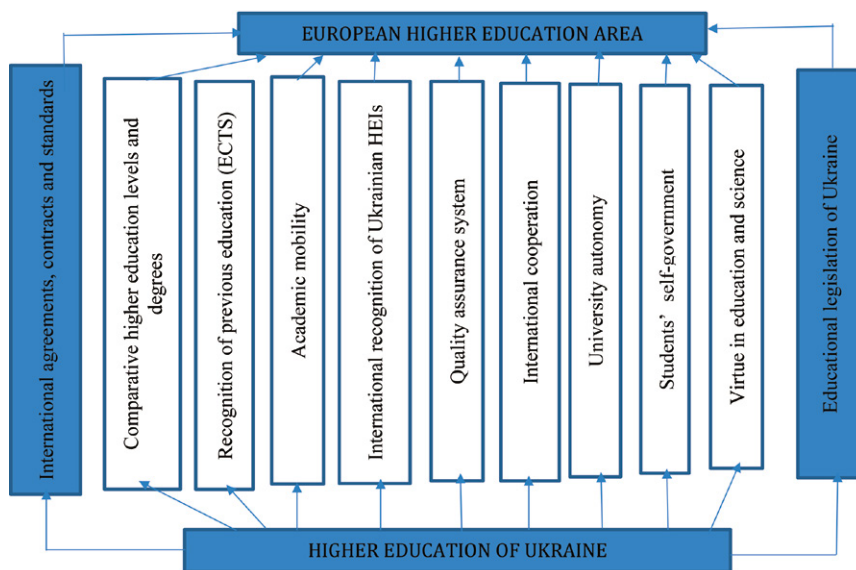
Figure 2

The structural scheme of Ukrainian higher
education integration into the EHEA

The component of the model selected for the study are contained in the goals and objectives defined by the provisions of the Bologna Declaration, the Law of Ukraine "On Higher Education", Association Agreement and Strategy.

IV.2.1. The network of higher education of Ukraine

The analysis of the network of HEIs and students shows that during the first ten years of Ukraine's independence (1991-2001), the number of HEIs (universities, academies, institutes) increased from 149 to 281 (almost twice), and student number increased from 881,000 to 1,266,100 (almost 1.5 times) according to the latest data from the State Statistics Service of Ukraine. Also, at the beginning of the 2020/2021 academic year, there were 515 HEIs in Ukraine, where 1,141,000 students studied (State Statistics Service of Ukraine 2022). According to the Ministry of Education and Science of Ukraine, in 2024 the network of HEIs included approximately 170 state universities, 100 private HEIs and 40 communal institutions (Business Censor 2024).

The conditions of martial law most noticeably affected the transformation of the basic, interconnected components of the System – the contingents of teachers, students and network of HEIs due to the forced relocation of certain educational institutions, participants of educational process, and some of the latter - to other regions of the country. More than 8,000,000 people became internally displaced ones, more than 6,000,000 people were forced to leave the territory of Ukraine. As of the end of 2022, out of 4,180,000 people registered in European countries for temporary protection, 665,000 students and school pupils and 25,000 teachers. It should be noted that the Ministry of Education and Science of Ukraine measures to simplify the procedure for admission to HEIs in 2022, create conditions for access to higher education for residents of temporarily occupied and especially dangerous territories, and organize testing abroad gave Ukrainian HEIs the opportunity to form the necessary contingents of higher education applicants and ensure activities of the Systems in new conditions. In total, more than 214,000 applicants took part in the 2022 admissions campaign, of which 23,000 were tested abroad in 58 cities in 32 countries (Nikolaiev, Rii. Shemelynets 2023).

IV.2.2. The structure of Ukrainian higher education system

The analysis of the current state of Ukrainian higher education European integration showed positive changes that took place during the last decade. The structure of higher education has been modernized, namely: the NQF has been partially brought into line with the Framework of Qualifications of the EHEA. In 2020, by the government decision (Cabinet of Ministers of Ukraine 2020), the NQF was aligned with the Qualifications Framework for lifelong learning of the EHEA and harmonized with the internationally accepted standard classification of education, which contributed to the creation of conditions for the recognition of national educational qualifications abroad.

Today, the updated NQF contains eight qualification levels and has been supplemented with concepts of educational and professional qualifications. A junior bachelor corresponds to the fifth level of the NQF and is a short cycle of higher education; a bachelor's degree is equivalent to the sixth level of the NQF and the first cycle of higher education of the EQF; a master's degree is considered the seventh level of the NQF and the second cycle of higher education of the EQF; a Doctor of Philosophy and Doctor of Arts correspond to the eighth level of the NQF and the third cycle of higher education. Thus, the NQF fully corresponds to the EQF.

IV.2.3. Standards and programs

The next stage of Ukrainian HEIs integration into the European educational environment was the implementation of the new list of fields of knowledge and specialties. Instead of 48 fields of knowledge, 144 directions and more than 500 specialties of the previous lists, 27 fields of knowledge and 114 specialties were introduced (Cabinet of Ministers of Ukraine December 2022).

Another step on the way to the European integration was the introduction of new standards of higher education and educational programs into pedagogical practice. They are the next generation of educational standards that replaced the industry standards of higher education, which were developed and operated in 2002–2014. By the end of 2022, 109 bachelor's, 100 master's, and 46 doctoral standards have been implemented (Fig. 3) (Ministry of Education and Science of Ukraine 2018-2022).

	2018	2019	2020	2021	2022
bachelors	51	21	26	5	6
masters	5	26	39	21	15
PhD	0	0	0	17	29

bachelors   masters   PhD
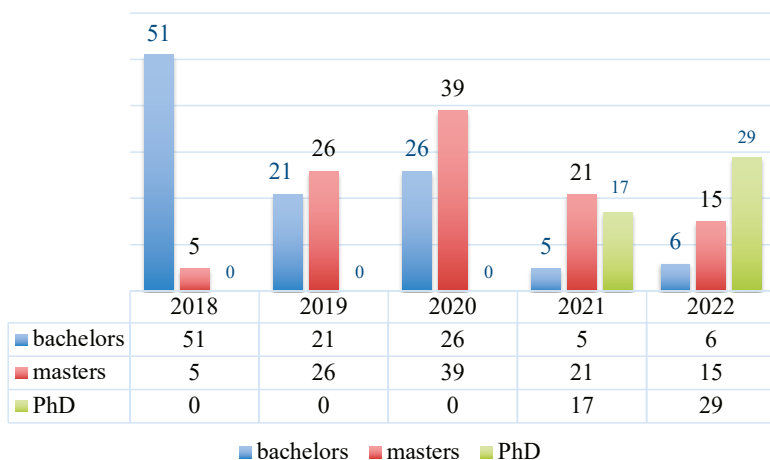
Figure 3

The approved standards of higher education

Source: the authors' analysis of the data from the website of the Ministry of Education and Science of Ukraine

IV.2.4. The system of quality assurance of higher education

The process of development and accreditation of educational (educational and professional, educational and scientific, educational and creative) programs has been introduced into the legislative field that forms the content of the

educational process. They are built in accordance the requirements of the higher education standard, taking into account the principles and values of the EHEA have been introduced into the legislative field. The programs are developed by HEIs in accordance with the requirements of the higher education standard and are accredited by the National Agency for Higher Education Quality Assurance (the NAHEQA). According to the minutes of the NAHEQA meetings, it was determined that by the end of 2022, 4,815 educational programs were accredited. There are 2,211 bachelor's, 1,359 master's, and 1,245 PhD programs among them (Fig. 4) (NAHEQA 2019-2022).

	2019	2020	2021	2022
bachelors	25	744	744	698
masters	125	546	193	495
PhD	0	226	602	417

bachelors   masters   PhD
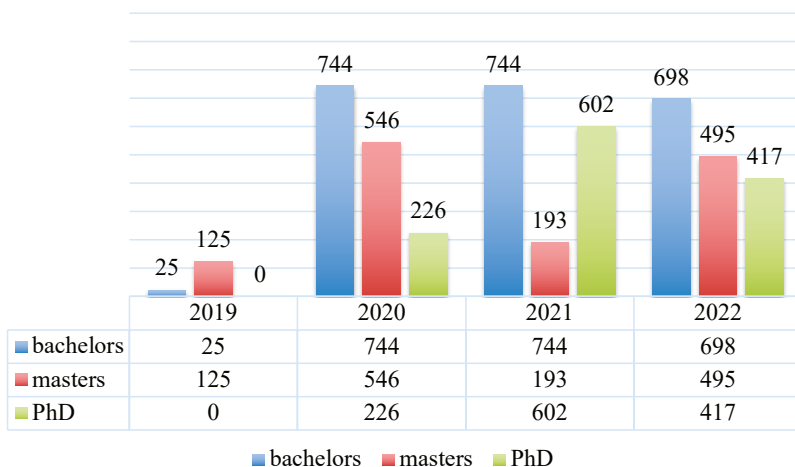
Figure 4

The accredited educational programs

Source: the authors' analysis of the data from the NAHEQA website.

The introduction of martial law in the Ukraine affected the practice of accreditation of educational programs and the terms of accreditation documents validity. The NAHEQA is temporarily allowed to carry out accreditation of educational programs in a remote (distant) mode, as well as to make a decision on conditional (delayed) accreditation without conducting or with partial conducting of an accreditation examination. The term of HEIs (or scientific institutions) certificates validity on accreditation of specialties and areas of training and educational programs, which were valid by February 24, 2022, has also been extended until July 1 the year following the termination or cancellation of the martial law in Ukraine (Cabinet of Ministry of Ukraine March 2022).

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Before the adoption of the Law in 2014, quality control of higher education in Ukraine was ensured in the process of licensing and accreditation of HEIs by the central executive body in the field of education and science.

Since 2019 (the beginning of the activity of the NAHEQA), an integrated system of quality assurance for higher education has been launched. It has such components as: internal and external quality assurance of the educational process and quality of higher education, quality assurance of the national agency itself. Paragraphs 23, 24 of Article 1 of the Law define the concept of the quality of higher education as the level of knowledge, abilities, skills, and other competencies acquired by a person, and the quality of educational activity as the level of organization of the educational process in a HEI, which correspond to the standard of higher education, and ensure that individuals obtain a high-quality higher education and contribute to the creation of new knowledge. The NAHEQA carries out effective management of the quality system of higher education (external quality assurance) through the formation of its requirements; analysis of the quality of educational activities of HEIs; approval of the standard of higher education; accreditation of educational programs and institutional accreditation; development of the market of quality educational services; implementation of the mechanism of healthy competition and integrity in higher education, etc.

Each HEI has an internal quality assurance system, which provides for the following procedures and measures:

1) monitoring and periodic review of educational programs;

2) annual evaluation of the achievements of participants in the educational process, regular publication of the results of such evaluations on the official website of the HEI and in any other way;

3) improving the qualifications of pedagogical, scientific, scientific and pedagogical workers;

4) ensuring the availability of the necessary resources for the organization of the educational process, including independent work of students, for each educational program;

5) availability of information systems for effective management of the educational process;

6) ensuring publicity of information about educational programs, degrees of higher education and qualifications; and

7) observance of academic integrity by employees of HEIs and students of higher education, etc.

The system of ensuring the quality of educational activities and higher education (the system of internal quality assurance) is evaluated by the NAHEQA or accredited independent institutions on the basis of its compliance with established requirements and international standards and recommendations.

In connection with the COVID-19 pandemic and Russia's military aggression, there have been significant changes in the network of higher education institutions, the formation of contingents, the organization of the educational process, and quality control. There was a transition to distance or mixed forms of education, which contributed to the activation of the internal information systems of the quality of education of higher education institutions. The methods of improving the qualifications of pedagogical, scientific and scientific-pedagogical workers, which are most often held in the form of webinars, online conferences, online trainings, online internships, etc., have changed significantly.

IV.2.5. The academic mobility

A harmonization of educational systems, cooperation HEIs, active participation of in international educational mobility programs and achievement of high indicators in world academic ratings are important processes that contribute to increasing the competitiveness of Ukrainian higher education. The process of ensuring academic mobility is regulated by the Regulation on the procedure for exercising the right to academic mobility. Academic mobility was also facilitated by the introduction of the European-style Diploma Supplement of higher education in Ukrainian HEIs. It contains the necessary information about an obtained qualifications and educational achievements of a graduate, sufficient to ensure international comprehensibility and recognition of a higher education diploma that expands the possibilities of academic mobility.

The EU Erasmus Mundus+ credit program has become the most widespread and popular of the European educational programs for Ukrainian HEIs. Since 2004, this program has become available for Ukraine. It is implemented taking into account the provisions of the Association Agreement. 1,889 projects for credit mobility were supported out of 2,522 project applications projects submitted by Ukrainian higher education institutions in 2015-2020 (Fig. 5). 227 Ukrainian universities participated in the mentioned projects, the total amount of grant funds was 54,327,000 euros (National Erasmus+ Offices and Higher Education Reform Experts 2021).
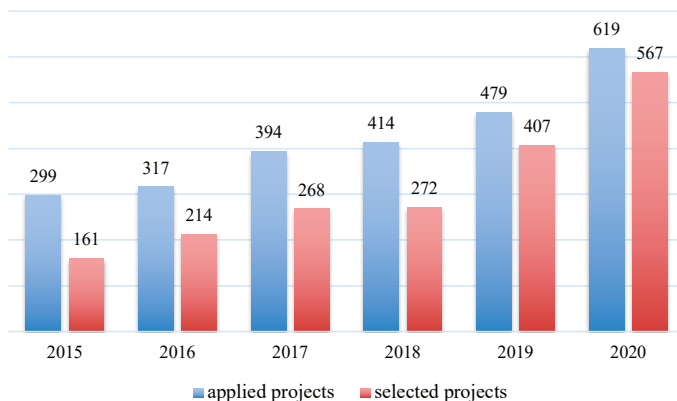
Figure 5

Dynamics of Ukraine's participation
in the EU Erasmus+ program during 2015-2020

Source: the authors' analysis of the data from Overview of New Opportunities within EU-funded Programme Erasmus+ 2021-2027. Participation of Ukrainian organisations EU-funded Programme Erasmus+ 2021-2027.

Over six years, 11,532 students and post-graduate students studied and more than 5,600 scientific and pedagogical workers taught or improved their qualifications in Europe based on the agreements implemented by European universities together with Ukrainian ones. Accordingly, 5,474 scholars from Europe visited Ukraine to study or teach (Fig. 6).

Poland, Germany, Lithuania, Romania and Spain are among the countries that most actively cooperated with Ukraine. The most active Ukrainian participants are Kyiv Taras Shevchenko National University of Kyiv, Ivan Franko National University of Lviv, National Technical University of Ukraine "Kyiv Polytechnic Institute named after Igor Sikorsky", National University "Lviv Polytechnic", V.N. Karazin Kharkiv National University, National University "Kyiv-Mohyla Academy" (National Erasmus+ Offices and Higher Education Reform Experts 2021).

For comparison, in 2007–2013, under the Program, in cooperation with 26 European universities, more than 1,800 exchanges of students, postgraduates and employees of Ukrainian universities were implemented. In March 2021, another seven-year Erasmus+ Program (2021-2027) was approved. According to the new Program, which is more inclusive, digital and ecological, 2,980,700 euros are planned to be allocated for education and

training. It is expected that almost 10,000,000 people will take part in it. As one of the members of the European Partnership, Ukraine is included in the group of partner countries and has the opportunity to participate together with representatives of the EU countries in more than 10 projects from 3 key areas of the Program (learning mobility, cooperation among organizations and institutions, support to policy development and cooperation).
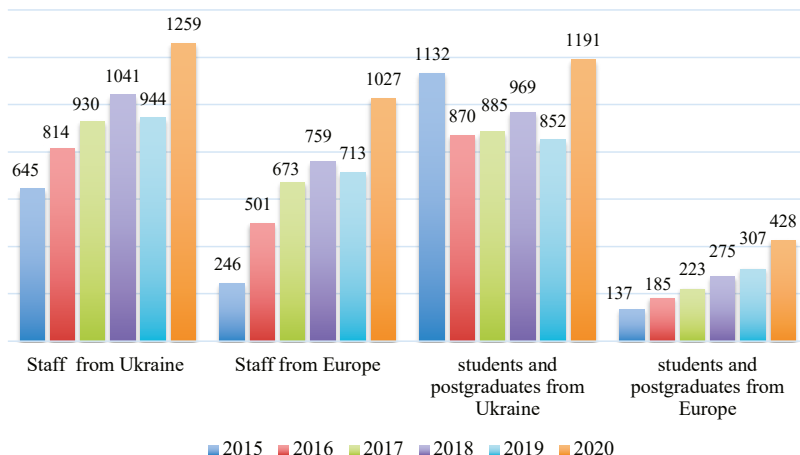
Figure 6

Dynamics of participation in the EU Erasmus+ program
of students, postgraduates, teachers

Source: the authors' analysis of the data from Overview of New Opportunities within EU-funded Programme Erasmus+ 2021-2027. Participation of Ukrainian organisations EU-funded Programme Erasmus+ 2021-2027.

An important novation for Ukraine is the implementation by the European Commission from 2022 of a simplified procedure for obtaining grants for mobility within the Erasmus+ Program through the implementation of exceptional measures to promote the integration of Ukrainians into European universities during the war (European Union 2022).

The task for the Ukrainian side is to use these additional opportunities as much as possible and to attract new participants to the projects.

The study shows that certain components of the European integration process are not completed and are in the process of development. These relate to: the structure of higher education in Ukraine (the "junior bachelor" level of higher education remains), research universities have not been

established as a basis for training doctors of philosophy/doctors of arts. The problems of modernization of the HEIs network and management of the industry remain relevant. It requires the expansion of participation of Ukrainian HEIs in international educational and scientific programs and consideration of this factor during the institutional accreditation of HEIs. The restraining factors are the complex and long-term process of Ukraine's accession to the EU and military actions on the territory of Ukraine. The reconstruction of Ukraine as a whole and the development of higher education in the post-war period will require significant efforts in connection with the losses suffered during the aggression of the Russian Federation.

The problems of the development of the System, its European integration into the EHEA under martial law and in the post-war period require the adoption of the necessary decisions at the state and institutional levels, the study of their effectiveness, the introduction and implementation of practical measures. The latter include:

- development of methodological recommendations on the preparation of project applications;

- training of pedagogical, scientific and pedagogical workers in the procedure of preparation and participation in international cooperation programs;

- study and dissemination of the best experience in an international cooperation; and

- joining the program "Intra-European mobility of students and staff of higher educational institutions – open for Ukraine", which provides for the simplification of procedures and mechanisms for the integration into European universities and receiving grants for mobility during the war.

V. Challenges and solutions

The results of the research indicate that certain components of the European integration process are incomplete and are developing. These issues concern the structure of higher education in Ukraine (there are still such levels of higher education as junior bachelor and doctor of science), the formation of postgraduate studies has not been completed, in particular, the creation of research universities as the basis of scientific support for postgraduate studies, approval of higher education standards of the specified level, educational programs of this level are accredited without approved standards yet. It requires the expansion of participation of Ukraine in international educational and scientific programs and consideration of this

factor during the institutional accreditation of Ukrainian HEIs. The restraining factors are the complex and long-term process of Ukraine's accession to the EU and military actions on the territory of Ukraine. The reconstruction of Ukraine as a whole and the development of higher education in the post-war period will require significant efforts in connection with the losses suffered during the aggression of the Russian Federation.

The specified problems of the European integration require the adoption of the necessary decisions at the state and institutional levels as well as the implementation of practical measures, such as:

- creation of an information resource, which should contain the entire legal framework on European integration, a complete list of current programs of international cooperation in the field of education and science, etc.;

- development of methodological recommendations on the preparation of project applications;

- conducting training of pedagogical, scientific and pedagogical workers in the procedure of preparation and participation in international cooperation programs;

- study and dissemination of the best experience of international cooperation of leading Ukrainian universities; and

- draw the attention of HEIs of Ukraine to the Erasmus+ Program, which provides for the simplification of procedures and mechanisms for the integration of Ukrainians into European universities and receiving grants for mobility during the war.

VI. Conclusions

1. The model of the integration of Ukrainian higher education into the EHEA has been developed. It can be used by other countries moving towards European integration, taking into account the national characteristics of their educational systems. This model and experience of Ukraine can contribute to speeding up the process in other countries.

2. Moving to the EHEA, Ukraine adapts its own legislation in the field of higher education to European one, reforms the System, modernizing all its components, achieves the convergence of educational systems and increases the quality of higher education, while applying common European principles and mechanisms:

- in accordance with the needs of society and the demands of the international market of educational services, the basic indicators of the higher education system are being transformed, such as: the network of HEIs and contingents of participants in the educational process (they are more in line with the current level of socio-economic development of the country);

- taking into account the requirements of European standards, the structure of higher education was significantly modernized, the NQF is partially in line with the EQF;

- the new list of fields of knowledge and specialties has been implemented (it became more recognizable in the European educational environment);

- the implemented modern standards of higher education and educational programs developed taking into account the competence approach to the organization of the educational process, the principles defined by the Bologna Declaration and formulated in the international project "Tuning Educational Structures in Europe"; and

- the comprehensive system of ensuring the quality of Ukrainian higher education has been formed (the necessary structures have been formed, approaches and mechanisms tested in European educational practice are used for quality assessment; the NAHEQA actively cooperates with European organizations ensuring quality and integrity in education and science).

3. The Law of Ukraine "On Higher Education" intensified the integration processes in the national higher education, and Ukraine's conclusion of the Association Agreement, joining the Bologna process and obtaining the status of a candidate country for joining the EU testify to the expansion of the presence of Ukrainian higher education in the EHEA. Ukrainian universities have gained access to European educational and scientific programs, are expanding their participation in international academic rankings. Some Ukrainian HEIs are actively presenting themselves on the international market of educational services:

- increased activity of the Ukrainian HEIs in European academic mobility programs; and

- a group of leading Ukrainian HEIs has been defined, which have been participating in EU educational programs for many years, are present in world academic rankings. These educational establishments can be

the basis for research universities with a high level of scientific and research work and an effective system of educational process.

4. Indicators, nature and dynamics of processes in Ukrainian higher education may change significantly in the near future due to the losses incurred by the country as a whole and Ukrainian higher education in particular as a result of aggression against Ukraine by the Russian Federation. Their restoration and improvement will require new decisions, multi-year efforts of the state, regions, university scientific and pedagogical teams, and the entire civil society.

Decisions and implemented measures adopted by state management bodies and HEIs ensure the effectiveness of the higher education system of Ukraine in the conditions of martial law and are aimed at its restoration and development in the post-war period.

Further research requires the modernization of the higher education system and the functioning of the quality assurance system in the new conditions associated with the war and post-war period, in particular:

- further modernization of the network of HEIs in order to improve the quality and efficiency of the higher education system;

- improvement of higher education management through reduction of the number of branch bodies to the management of which belong HEIs; and

- solving the problem of maximum return to Ukraine of students and teachers who were forced to live abroad due to the war.

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About the authors

OKSANA MELNYK (corresponding author, ok_melnyk@ukr.net, oksanam1709@gmail.com), the State scientific institution "Institute of Education Content Modernization"; PhD, Associate Professor, Head of the department of scientific and methodological support of integration into the European educational area. The field of her scientific interests includes the integration of higher education into the European educational area, the digitalization of education, the digital competence of pedagogical workers, electronic educational resources, and effective methods of teaching in higher education institutions.

OLENA DASHKOVSKA (dashkovskaya@ukr.net), the State scientific institution "Institute of Education Content Modernization", PhD, Associate Professor, Senior researcher. Her scientific interests and topics of research are modernization of the structure, modernization of the content and improvement of the quality of Ukrainian higher education in the conditions of European integration processes taking place in the educational environment.

VITALII POGREBNYAK (v_pogrebnyak@ukr.net), the State scientific institution "Institute of Education Content Modernization", PhD, Professor, Senior researcher. His main scientific interests include modernization and development of Ukrainian higher education in the face of global challenges: building modern systems and implementing effective management mechanisms for the industry as a whole and the educational process, in particular; creation of a complete education quality assurance system; integration of higher education into the European Area.

Service quality as the source of competitive advantage in higher education: The difference between students´ expectations and perceptions

Renata Skýpalová, Helena Chládková, Chijioke Esogwa Nwachukwu, and Hieu Minh Vu*

Abstract: The aim of this paper is to measure and compare the quality of services provided by higher education institutions in the Czech Republic and Vietnam. It is not the sheer volume of services offered, but their quality, which matters as a strategic tool enhancing the competitiveness in the tertiary education market. Feedback from student-clients is valuable to school management in their efforts to improve the services supplied. Samples of hundreds of students from the Czech Republic and Vietnam were involved in the research applying the SERVQUAL method. The five-dimensional questionnaire was administered, and the obtained data were analysed using descriptive statistics and t-test. The results show that Czech respondents are less satisfied with the service quality than their Vietnamese counterparts. In both countries, the quality perception in all dimensions was lower than expectations, the largest gaps being found in the Assurance dimension. Czech

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* **Renata Skýpalová** (renata.skypalova@ambis.cz), PhD, is an assistant professor at Ambis College, in Department of Management and human resources, in Prague in the Czech Republic.

Helena Chládková (corresponding author, chlad@mendelu.cz), PhD, is Associate Professor in Economics and Management in the Department of Management (FBE) at Mendel University in Brno, in the Czech Republic.

Chijioke Esogwa Nwachukwu (cesogwa@yahoo.com), PhD, is an international visiting scholar at Covenant University Ota Nigeria.

Hieu Minh Vu (hieu.vm@vlu.edu.vn), PhD, IS a full-time lecturer at the Faculty of Business Administration at Van Lang University in Ho Chi Minh City, Vietnam.

More information about the author(s) is available at the end of this article.

students placed the greatest emphasis on the Empathy factor, while their Vietnamese colleagues preferred the Tangibles dimension. To improve the quality of services, higher education institutions in the Czech Republic are advised to facilitate fast and unambiguous information transfer, ensuring comfort, security, and a supportive learning environment for students, with helpful staff willing to address their concerns.

Keywords: Higher education institution; service quality; student satisfaction; SERVQUAL model; competitive advantage.

I. Introduction

There are many comparative rankings of higher education institutions (HEIs). According to the international rankings of universities, the level of Czech HEIs is gradually improving, one of the criteria being the growing number of foreign students. Nevertheless, the best-ranked universities are ranked only around the 500th place, and most of them do not make the international ranking at all.[1]

Institutions of higher learning, like any other service facility, should strive for excellence.[2] Quality in education is not easy to define or evaluate, as it is affected by a great deal of factors. The quality of higher education services is essential for success in a highly competitive environment, a solid grasp of service quality determinants allowing for better management.[3] For the general definition of quality, customers are its ultimate judges. Students being the main clients of colleges and universities, their key role in legitimizing quality assurance processes is therefore a widely debated academic topic.[4] A high level of education and training provided is a

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[1] Jan Schejbal, "Bída českých univerzit: Proč se ani 30 let po revoluci nedaří českým školám zařadit ke světové elitě?" *Ekonom*, 2020, accessed May 2022, https://ekonom.cz/c1-66716910-bida-ceskych-univerzit.

[2] Minarni Anaci Dethan et al., "Competence Analysis of Internal Supervision Unit Auditor (SPI) in Nusa Cendana University of Kupang," *Proceedings of the International Conference on Tourism, Economics, Accounting, Management, and Social Science (TEAMS 2018)*, 2019, https://doi.org/10.2991/teams-18.2019.28.

[3] Soni Sanjay and Krishna Govender, "South Africa University Students' Perceptions of Key Education Service Quality Determinants," *Problems and Perspectives in Management* 16, no. 3 (September 7, 2018): 377–88, https://doi.org/10.21511/ppm.16(3).2018.30.

[4] Liudvika Leisyte and Don F. Westerheijden, "Stakeholders and Quality Assurance in Higher Education," *Drivers and Barriers to Achieving Quality in Higher Education*, 2014, 83–97, https://doi.org/10.1007/978-94-6209-494-9_7.; Ruhollah Mahdiuon,. "Students' Perceptions of the Quality of Educational Services of Tabriz University of Medical Sciences, Iran," *Strides Dev Med Educ,* 13 (1), (2016): 41-48.

prerequisite for meeting the needs of both individual students and local or wider communities.[5] To assess quality, it is essential to compare clients' expectations (what they should "get") with what was actually achieved (what they "have got"). Students' opinions are a reliable source for the evaluation of educational services, determining the difference between their current and expected level, the quality upgrade programmes being based on them.[6] If HEIs increase the quality of services based on the real needs of clients, they secure their international competitive advantage.[7]

The five-dimensional SERVQUAL (service quality) gap model (launched by Parasuramanem et al., 1985) is a globally recognized well-established tool for measuring customer perceived quality of service, widely employed in the banking, insurance, and retail sector. The analysis of the gaps between student expectations and the school's performance takes place in the following five service quality dimensions: Assurance (competent service availability), Responsibility (prompt service delivery), Reliability (correct service performance), Empathy (respectful student treatment) and Tangibility (school facilities and equipment).

The SERVQUAL method was chosen to evaluate and compare the quality of services at institutions of higher education in the Czech Republic and Vietnam. The differences between students' expectations and perceptions of the real quality of services in respective dimensions were identified, the relative importance of which being also rated. The results obtained in both countries were compared and areas for improvement proposed, the gaps detected in the perception of individual parameters giving a useful impetus for further development.[8]

Higher education has attracted research interest in recent years. Comparative survey of this type, however, is a novelty in the Czech Republic.

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[5] Nguyen Duc Hanh, "A Review of Issues of Quality Assurance and Quality Accreditation for Higher Education Institutions and the Situation in Vietnam," *Accreditation and Quality Assurance* 25, no. 4 (July 11, 2020): 273–79, https://doi.org/10.1007/s00769-020-01439-3.

[6] Godswill Ejeohiolei Esechie et al., "Framework for Enhancing Students' Smartphone Learning Ability: A Case Study of Nigerian Public Universities," *Journal of Information, Communication and Ethics in Society* 20, no. 2 (November 30, 2021): 213–28, https://doi.org/10.1108/jices-04-2020-0049.

[7] Maria Pujol-Jover, Lola C. Duque, and Maria-Carme Riera-Prunera, "The Recruit Requirements of Recent Graduates: Approaching the Existing Mismatch," *Total Quality Management & Business Excellence* 34, no. 1–2 (February 1, 2022): 57–70, https://doi.org/10.1080/14783363.2022.2029695.

[8] Xiaoqing Huang et al., "A KSA System for Competency-Based Assessment of Clinicians' Professional Development in China and Quality Gap Analysis," *Medical Education Online* 27, no. 1 (February 9, 2022), https://doi.org/10.1080/10872981.2022.2037401.

The Vietnamese were chosen for quality perception comparison – despite the declining number of their university students –, as they are the third largest and established minority of foreigners.[9]

II. Theoretical background

The large number of institutions of higher learning has stimulated competition in the tertiary sector, which is reflected in an intense fight for the customer, i.e., the student. In 2020, the Czech Ministry of Education, Youth and Sports (MEYS) registered 26 public, 2 state-maintained and 36 private colleges and universities, eight of the latter having terminated their activities since 2015, three through the merger with another private establishment.[10] The dynamic market of tertiary education forces HEIs to develop their competitive capabilities.[11] Quality assurance is therefore their crucial task.[12] To improve quality, thus strengthening competitiveness, it is critical to find out how students perceive the level of services provided.[13]

When applying, candidates consider the school's rating, considering the courses offered, the number and satisfaction of students and graduates, and the quality of the academic environment and staff.[14] Given the growing number of HEIs, applicants tend to compare their expectations more closely with the current conditions, often changing schools during their studies.[15] A survey conducted at a Mexican university shows that student loyalty and retention is

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[9] Czech Statistical Office, "Data on education of foreigners," accessed April 21, 2022, https://www.czso.cz/csu/czso/4-vzdelavani-cizincu-n0g9gf7lks.

[10] Ministry of Education, Youth and Sports, *Education*, accessed March 11, 2022, https://www.msmt.cz/vzdelavani/vysoke-skolstvi/prehled-vysokych-skol-v-cr-3.

[11] Helena Štimac and Mirna Leko Šimić, "Competitiveness in Higher Education: A Need for Marketing Orientation and Service Quality," *Economics & Sociology* 5, no. 2 (November 20, 2012): 23–34, https://doi.org/10.14254/2071-789x.2012/5-2/2.

[12] Nguyen Duc Hanh, "A Review of Issues of Quality Assurance and Quality Accreditation for Higher Education Institutions and the Situation in Vietnam," *Accreditation and Quality Assurance* 25, no. 4 (July 11, 2020): 273–79, https://doi.org/10.1007/s00769-020-01439-3.

[13] Nevzat Devebakan, Hüseyin Avni Egeli, and Nilüfer Koçak, "Evaluation of Service Quality Based on Student Expectations and Perceptions in Higher Education Institutions with Servqual Scale: A Research in Dokuz Eylul University Izmir Vocational School," *Yuksekogretim Dergisi* 9, no. 2 (August 1, 2019): 201–12, https://doi.org/10.2399/yod.18.047.

[14] Md. Jahangir Alam, "Effects of Service Quality on Satisfaction in Eastern University Library, Bangladesh," *IFLA Journal* 47, no. 2 (September 28, 2020): 209–22, https://doi.org/10.1177/0340035220959099.

[15] Ishak, Mohd., Ali Aeshah Mohd., and Shamsudin, Mohd, "Does institution ranking influences students' decisions-making to enrol at private higher education institutions? A pls-sem approach," *Academy of Entrepreneurship Journal*, (2021).

affected by factors such as cleanliness of the university premises, skills of the faculty, and Master students' managerial practice and age; improvement measures having been implemented, the loyalty of Master students increased by 7.7%.[16] Fulfilled expectations, whether about personal preferences or the school environment, have a causal effect on student retention.[17]

The quality of education provided and its impact upon the growth of the economy is the subject of much discussion. To be competitive, HEIs are supposed to be market-savvy, considering the factors influencing the decisions of applicants. It is therefore crucial to examine the internal and external motivators that shape the expected and perceived quality of higher education services.[18] The results of the present study suggest that external student motivators are positively related to both the expected and the real perceived service quality. Internal motivators, on the other hand, do not have such a clear affinity with quality.[19] Expectation analysis can help HEIs adapt their marketing mix to attract potential students, retain existing ones, better serving their student-clients' needs in accordance with the principles of employer branding.[20]

To improve the quality of services supplied, it is necessary to correctly anticipate the factors influencing student satisfaction and loyalty.[21] Due to the wider offer of higher education providers, applicants are mainly looking for more value for money – a higher level of the study programme and better

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[16] Fernando Gonzalez Aleu et al., "Increasing Service Quality at a University: A Continuous Improvement Project," *Quality Assurance in Education* 29, no. 2/3 (July 5, 2021): 209–24, https://doi.org/10.1108/qae-02-2021-0020.

[17] Adéla Fajčíková and Hana Urbancová, "Can Higher Education Institutions Adapt to Students´ Preferences? A Case Study at the Czech State University," *International Journal for Quality Research* 13, no. 3 (September 15, 2019): 721–34, https://doi.org/10.24874/ijqr13.03-14.; Ali Soroush et al., "Evaluation of the Educational Services Quality from the Viewpoint of Postgraduate Students at Kermanshah University of Medical Sciences in 2019," *Journal of Education and Health Promotion* 10, no. 1 (2021): 325, https://doi.org/10.4103/jehp.jehp_765_20.

[18] Chen Yan Li, Soaib Asimiran, and Suyitno Suyitno, "Studentsr Expectations and Perceptions on Service Quality of E-Learning in a Selected Faculty of a Public University in Malaysia," *Proceedings of the 3rd International Conference on Educational Management and Administration (CoEMA 2018)*, 2018, https://doi.org/10.2991/coema-18.2018.24.

[19] Ivana Jadric, Bruno Grbac, and Jasmina, Dlacic., "Analysing influences on service quality in higher educational institutions: role of students'intrinsic and extrinsic motivators," in *Ekonomski Fakultet U Osijeku | EFOS*, accessed July 5, 2022, http://www.efos.unios.hr/red/wp-content/uploads/sites/20/2020/06/RED-2020-Proceedings_.pdf.

[20] Renata Skýpalová, Vendula Hynková, and Monika Vencourová, "Trends in Strategic Human Resource Management: Employer Brand Attractiveness.," *AD ALTA: Journal of Interdisciplinary Research* 11, no. 1 (June 30, 2021), https://doi.org/10.33543/1101.

[21] T. T. T. Doan, "The Influence of University Sustainability Practices on Student Loyalty: An Empirical Study from Vietnam," *Journal of Asian Finance Economics and Business* 8, no. 10 (2021): 177–185, https://doi.org/10.13106/jafeb.2021.vol8.no10.0177.

services.[22] Colleges and universities thus ought to focus on the quality, increasing student satisfaction, and, potentially, their own market share, as candidates prefer a brand with a significantly better rating than that of its competitors.[23]

According to interim OECD reports, the Europe 2020 strategy education goals are being accomplished. For example, the largest numbers of college and university students in history are currently reported across countries. "The number of students at Czech universities had been growing until 2010, when almost 400,000 students studied at them. Since then, this number has declined every year. Pressure on present-day universities has been accruing due to the competitive environment".[24] In 2020, Czech HEIs enrolled 43,001 domestic and 2,730 international students, 29,534 Czechs and 571 foreigners graduating, respectively.[25] The numbers of admitted students and those of graduates differ considerably; there are several times more international applicants than graduates. In 2020, 24,853 students from countries outside the EU attended HEIs in the Czech Republic – mostly Russians (7,526), Ukrainians, Kazakhs, Indians, and Belarusians. The sixth largest group was Vietnamese students (450), which is, however, half the size compared to 2013 (945). According to the latest data, Vietnamese [62,842] form the third largest foreigner minority in the Czech Republic after Ukrainians [165,356] and Slovaks [124,544].[26] As Vavrečková and Dobiášová argue, Vietnamese seem to be more ambitious than Czechs, 83 % of them aspiring to study at university.[27] The authors conducted interviews with staff members teaching foreigners. Respondents pointed to the diligence, conscientiousness, ambition, discipline, and motivation for success seen among Vietnamese students. They also drew attention to mutual respect, helpfulness, and tightness of their families. Vietnamese parents instil in their

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[22] Helena Štimac and Mirna Leko Šimić, "Competitiveness in Higher Education: A Need for Marketing Orientation and Service Quality," *Economics & Sociology* 5, no. 2 (November 20, 2012): 23–34, https://doi.org/10.14254/2071-789x.2012/5-2/2.

[23] D. M. Griffioen, J. J. Doppenberg, and R. J. Oostdam, "Are More Able Students in Higher Education Less Easy to Satisfy?," *Higher Education* 75, no. 5 (September 4, 2017): 891–907, https://doi.org/10.1007/s10734-017-0176-3.

[24] Helena Chládková, Renata Skýpalová, and Veronika Blašková, "Strengthening the University Competitiveness in the Czech Republic," *Tuning Journal for Higher Education* 9, no. 1 (November 26, 2021): 127–55, https://doi.org/10.18543/tjhe-9(1)-2021pp127-155.

[25] Ministry of Education, Youth and Sports, "Education," accessed March 10, 2022, https://www.msmt.cz/vzdelavani/skolstvi-v-cr/statistika-skolstvi/data-o-studentech-poprve-zapsanych-a-absolventech-vysokych.

[26] Czech Statistical Office, "Data on education of foreigners," accessed April 21, 2022, https://www.czso.cz/csu/czso/4-vzdelavani-cizincu-n0g9gf7lks.

[27] Jana Vavrečková and Karolína Dobiášová, "Integration of children of foreigners from third countries on the basis of the OECD PISA international survey and guided interviews with primary school teachers," 2012, VUPSV.

children's minds that they should make the most of the opportunities that have opened for them by immigration to the Czech Republic, as evidenced by Šouralová.[28] Kratochvil drew attention to the long history of education of Vietnamese students in the Czech Republic, more than ten thousand of them having graduated in the Czech Republic, including the Deputy Prime Minister of Vietnam, several ministers, deputy ministers and university professors.[29]

In Vietnam, quality assurance was introduced into the higher education system more than ten years ago. This has had a positive impact on university governance, tuition, learning and research activities.[30] HEIs' executives have allocated more assets and human resources to ensure the quality of outputs, launching more projects aimed at upgrading and evaluating educational services, thus stimulating the satisfaction and retention of current students and the recruitment of future ones.[31]

According to the Higher Education Act, "higher education institutions, as the highest level of the educational system, are regarded as the top centres of education, independent knowledge, and creative activity and play a key role in the scholarly, scientific, cultural, social, and economic development of society" (Act No. 111/1998 Coll. on Higher Education Institutions). HEIs are supposed to improve the quality of their performance, dealing with students as a kind of interest group.[32] A key part of mutual communication is feedback on student

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[28] Adéla Šouralová, "An educated child as a successful fulfilment of a migration and parenting project? Vietnamese mothers, their children, and educational aspirations," *Social Studies*, 11, no.2 (2016).

[29] Bohumil Kratochvil, "Boj o studenty a vietnamská cesta," 109(5), (2015): 345-345, accessed April 3, 2022, http://www.chemicke-listy.cz/ojs3/index.php/chemicke-listy/article/view/367/367.

[30] Hong-Van Thi Dinh, "Factors Influencing the Students' Perceptions of the Quality of Education Services at Hue University in Vietnam," *INTERNATIONAL JOURNAL OF EDUCATIONAL SCIENCES* 32, no. 1–3 (January 15, 2021), https://doi.org/10.31901/24566322.2021/32.1-3.1157.; Huu Cuong Nguyen and Thi Thu Ta, "Exploring Impact of Accreditation on Higher Education in Developing Countries: A Vietnamese View," *Tertiary Education and Management* 24, no. 2 (November 20, 2017): 154–67, https://doi.org/10.1080/13583883.2017.1406001.

[31] Huu Cuong Nguyen, "How to Fulfil Vietnam's Higher Education Accreditation Strategic Plan 2017–2020," *The International Journal of Educational Organization and Leadership* 24, no. 3 (2018): 17–25, https://doi.org/10.18848/2329-1656/cgp/v24i03/17-25.; Hong-Van Thi Dinh, "Factors Influencing the Students' Perceptions of the Quality of Education Services at Hue University in Vietnam," *INTERNATIONAL JOURNAL OF EDUCATIONAL SCIENCES* 32, no. 1–3 (January 15, 2021), https://doi.org/10.31901/24566322.2021/32.1-3.1157.

[32] Piotr Grudowski and Katarzyna Szczepańska, "Quality Gaps in Higher Education from the Perspective of Students," *Foundations of Management* 13, no. 1 (January 1, 2021): 35–48, https://doi.org/10.2478/fman-2021-0003.

satisfaction and perceptions of the quality of services offered, this interaction taking place in a highly competitive cross-border environment.[33]

The concepts of monitoring customer satisfaction encompass, for example, a system of wishes and complaints or analysis of lost customers. To measure satisfaction, the Kano model is used, dividing product or service requirements into three categories – mandatory, one-dimensional, and attractive. The most common approach to evaluating the quality of services across institutions is the SERVQUAL method, the popularity of which is evidenced by the considerable volume of research work employing this model worldwide.[34]

A search of the Web of Science and SCOPUS databases yielded a total of 4,046 responses to the "SERVQUAL" query (in all fields) for the period from 2006 to 2022. The SERVQUAL model is widely used in the WoS database in many areas, especially Business Economics (554), Social Science (158), Engineering (140), Computer Science (134) and Educational Research (115). The query refinement for the combination of "SERVQUAL" (all fields) and "universit*" (in the topic field) brings 208 links. The articles come from Malaysia (5), Croatia (2), Indonesia (2), Slovenia (1) and the UAE (1). The topic is widely researched in Iran (25), Malaysia (21), Croatia (17), the USA (15) and Indonesia (12). No article is recorded for the Czech Republic. In the SCOPUS database, the areas that mostly use the SERVQUAL method are Social Science (145), Business, Management and Accounting (102), Medicine (50), Computer Science (44) and Engineering (26). Refinement of the query on the combination "SERVQUAL" (all fields) and "universit*" (in the topic field) yields 317 results mainly from Malaysia (37), Iran (34), the US (32), the UK (19), Turkey (18). There are no articles from the Czech Republic.

III. Research objective, methodology, and data

The aim of the paper is to assess the quality of services provided by colleges and universities in the Czech Republic and Vietnam as perceived by students, and to recommend measures for its competitive increase.

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[33] Basheer Al-Alak, B.A., and Alnaser, A.S.M., "Assessing the relationship between higher education service quality dimensions and student satisfaction," *Australian Journal of Basic and Applied Sciences*, 6(1), (2012): 156-164; Mark Christopher Springer and Craig K. Tyran, "Assessing the Quality of Faculty-Delivered Individual Academic Advising," *Quality Assurance in Education* 30, no. 2 (February 4, 2022): 236–50, https://doi.org/10.1108/qae-07-2021-0118.; Alam, M. J., "Effects of service quality on satisfaction in Eastern University Library, Bangladesh," *IFLA journal*, 47(2), (2021): 209-222, https://doi.org/10.1177/0340035220959099.

[34] Khanchitpol Yousapronpaiboon, "SERVQUAL: Measuring Higher Education Service Quality in Thailand," *Procedia - Social and Behavioral Sciences* 116 (February 2014): 1088–95, https://doi.org/10.1016/j.sbspro.2014.01.350.

The choice of the two countries has its factual and historical reasons. In the Czech Republic, comparative research on this issue of considerable scope has not yet been carried out. Vietnam was chosen not only due to traditional ties between the two countries, but mainly because Vietnamese higher education institutions take exemplary care of the quality of educational services as a factor increasing their attractiveness and rating.[35] In addition, there are more career-oriented Vietnamese students who invest in their education and study abroad.[36] In the Czech Republic, their number has been growing only slightly in recent years, but it is likely that the increasing quality of education provided will attract them in larger numbers.[37]

The SERVQUAL method applied assumes that customer satisfaction reflects the difference between expectations and perceptions of the quality of the service obtained. A 22-item SERVQUAL questionnaire modified for the higher education sector was administered. The signs of quality were transformed into statements adjusted for each of the five SERVQUAL dimensions using a student-oriented approach.[38] A Likert five-point scale ranging from strong disagreement (1) to strong agreement (5) was used. Two types of answers were created for each survey question – "so it should be" (respondents' expectations, E) and "so it is" (perception of the real situation, P). When evaluating research results, the perception gap (P – E, i.e., the perception score minus the expectation score) was identified. A positive score means that expectations have been met or exceeded, i.e., the quality of services is satisfactory. With a negative score, expectations were not met, i.e., the service quality is unsatisfactory and there is room for improvement in the given area. In addition, participants were asked to distribute 100 points

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[35] Hong-Van Thi Dinh, "Factors Influencing the Students' Perceptions of the Quality of Education Services at Hue University in Vietnam," *INTERNATIONAL JOURNAL OF EDUCATIONAL SCIENCES* 32, no. 1–3 (January 15, 2021), https://doi.org/10.31901/24566322.2021/32.1-3.1157.

[36] Huu Cuong Nguyen, "How to Fulfil Vietnam's Higher Education Accreditation Strategic Plan 2017–2020," *The International Journal of Educational Organization and Leadership* 24, no. 3, (2018): 17–25, https://doi.org/10.18848/2329-1656/CGP/v24i03/17-25.

[37] Czech Statistical Office, "Data on education of foreigners," accessed April 21, 2022, https://www.czso.cz/csu/czso/4-vzdelavani-cizincu-n0g9gf7lks.

[38] Mohammad S. Owlia and Elaine M. Aspinwall, "A Framework for the Dimensions of Quality in Higher Education," *Quality Assurance in Education* 4, no. 2 (June 1, 1996): 12–20, https://doi.org/10.1108/09684889610116012; Ana Brochado, "Comparing Alternative Instruments to Measure Service Quality in Higher Education," *Quality Assurance in Education* 17, no. 2 (April 24, 2009): 174–90, https://doi.org/10.1108/09684880910951381;Teo Boon Chui et al., "Evaluation of Service Quality of Private Higher Education Using Service Improvement Matrix," *Procedia - Social and Behavioral Sciences* 224 (June 2016): 132–40, https://doi.org/10.1016/j.sbspro.2016.05.417.

to the five dimensions in proportion to their importance in the context of the services provided.

During 2021, the SERVQUAL questionnaire was posted on Facebook pages of student groups in the Czech Republic and Vietnam. Students were informed that the outputs of the questionnaire would be used only for research purposes and its completion was voluntary. The questionnaire was anonymous, did not collect any personal information and the respondent could not be identified according to it.[39] The only condition for its completion was that the student finished at least one year of university studies. 845 respondents completed the survey in the Czech Republic and 955 in Vietnam. Since there were approximately 250,000 university students in the Czech Republic and 1,700,000 in Vietnam in 2021, the minimum number of respondents was calculated (with a 95% confidence level, 3.5% margin of error and 0.5% standard deviation) as 782 for the former and 784 for the latter country (Z-score of 1.96 for both), the size of respondent samples thus being sufficient.[40]

Five variants of the research hypothesis related to SERVQUAL dimensions were formulated:

H_A: There is a significant difference in the **Tangibles** service quality dimension between Czech and Vietnamese HEIs.
H_B: There is a significant difference in the **Reliability** service quality dimension between Czech and Vietnamese HEIs.
H_C: There is a significant difference in the **Responsiveness** service quality dimension between Czech and Vietnamese HEIs.
H_D: There is a significant difference in the **Assurance** service quality dimension between Czech and Vietnamese HEIs.
H_E: There is a significant difference in the **Empathy** service quality dimension between Czech and Vietnamese HEIs.

IV. Results and discussion

The aim of the paper is to assess the quality of services provided by colleges and universities in the Czech Republic and Vietnam as perceived by students, and to recommend measures for its competitive increase.

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[39] Qualitative data has been anonymized in line with ethical guidance. These data are not available open source to preserve anonymity.

[40] Minh-Ngoc Nguyen, "Number of university students in Vietnam from 2016 to 2019," 2021, accessed March 9, 2022, https://www.statista.com/statistics/815091/number-of-university-students-in-vietnam/#statisticContainer; Czech Statistical Office, "Data on education of foreigners," accessed April 21, 2022, https://www.czso.cz/csu/czso/4-vzdelavani-cizincu-n0g9gf7lks.

To determine the quality of services provided, the SERVQUAL method was utilized, measuring student satisfaction through the difference between the expected and actual delivered service. The procedure was modified so that the individual factors suited the area of higher education.

Table 1 presents the survey results of students in the Czech Republic. In the Tangibles dimension, respondents expect most that the premises will be student-friendly and well-maintained, and school websites clear and continuously updated. These two factors also show the greatest gaps, the overall one, however, reaching only -0.46. The biggest dissatisfaction is caused by the website, the gap amounting to -1.05. With the Reliability parameter, students expect most to receive the promised services and helpful assistance in case of troubles, these factors also indicating the largest gaps (-0.91 and -0.99, respectively), the average gap being lower, namely -0.56. These findings were in line with those in the Responsiveness dimension, where the factors with the highest expectations achieve the lowest level of satisfaction. The Assurance parameter suggests that participants have the highest demands on the experience and friendly approach of academic staff, this factor bringing them the greatest satisfaction. The gap was found only at the level of -0.37, while the value of the total gap was -0.73, i.e., the highest of all dimensions. As can be seen from the table, the other factors monitored have higher expectations than satisfaction. Within the Empathy parameter, students expect the school to follow their best interests, however, with this factor, the widest dissatisfaction gap (-0.80) was registered, the overall gap being -0.50.

Table 1

Student Expectation/Perception SERVQUAL Gap Analysis for the Czech Republic

Dimensions of quality	ME	SD	MP	SD	GAP (MP-ME)
Tangibles					
Modern equipment	3.71	1.06	3.57	0.89	-0.14
Attractive and well-kept spaces	4.44	0.73	3.95	0.89	-0.49
Clear and up-to-date website	4.68	0.68	3.63	1.04	-1.05
The staff look enjoyable	3.98	1.01	3.79	0.95	-0.19
Overall Mean	4.20		3.74		Overall Gap -0.46
Reliability					
Providing services as promised	4.74	0.55	3.83	1.00	-0.91
Sympathetic with and reassure student's problem	4.69	0.62	3.70	1.10	-0.99

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Dimensions of quality	ME	SD	MP	SD	GAP (MP-ME)
Providing services at the promised time	4.21	0.96	3.99	0.94	-0.22
College keeps unambiguous records	4.37	0.98	4.14	0.92	-0.23
College is dependable	3.72	1.12	3.29	1.01	-0.43
Overall Mean	4.35		3.79		Overall Gap -0.56
Responsiveness					
Accurate and unambiguous information for students	4.80	1.01	3.87	0.99	-0.93
Providing fast services	3.49	1.08	3.91	0.88	0.42
Willingness to help students	4.70	0.58	3.91	0.94	-0.79
Willingness to respond to a student's request	4.72	0.56	3.80	1.00	-0.92
Overall Mean	4.43		3.87		Overall Gap -0.56
Assurance					
Employees can be trusted	4.66	0.65	3.83	0.93	-0.83
Employees of college are polite	4.44	0.84	3.69	0.90	-0.75
The university staff are experienced and friendly	4.84	0.44	4.47	0.73	-0.37
Students feel safe when dealing with college employees	4.81	0.48	3.83	1.05	-0.98
Overall Mean	4.69		3.96		**Overall Gap -0.73**
Empathy					
The university gives students individual attention	4.28	0.92	3.66	1.00	-0.62
The university has students' best interests at heart	4.83	0.49	4.03	0.94	-0.80
The teachers take care of me individually	3.52	1.12	3.37	0.98	-0.15
The teachers consider my personal problems	3.34	1.25	3.15	1.05	-0.19
The teachers know students' need	4.13	1.00	3.37	1.02	-0.76
Overall Mean	4.02		3.52		Overall Gap -0.50

Note: ME = Mean Score of Student Expectation, MP = Mean Score of Student Perception, SD = Standard Deviation, Mean Score of 1 = strongly disagree, 5 = strongly agree.

Source: Own research.

The importance that respondents attached to each dimension is indicated in Table 2, showing the average gap scores. Given that Czech students identified the parameter with the greatest overall gap – Assurance (-0.73) – as the third most preferred one, universities should focus on enhancing the service quality within this very dimension.

Table 2

Average Gap Scores for the Czech Republic

Dimensions of quality	Expectation	Perception	Gap	Importance of dimension (%)	Average Gap score
Tangibles	4.20	3.74	-0.46	15.25	-0.070
Reliability	4.35	3.79	-0.56	17.26	-0.097
Responsiveness	4.43	3.87	-0.56	22.84	-0.129
Assurance	4.69	3.96	-0.73	21.04	**-0.154**
Empathy	4.02	3.52	-0.50	23.61	-0.118
Overall average GAP score for all dimensions					**-0.401**

The same is illustrated by Figure 1. It shows that the highest gap scores for Czech respondents were recorded on Assurance and Responsiveness dimensions, Empathy being at the bottom of preference rankings. Therefore, Czech HEIs should focus on their staff's confidence and helpfulness.
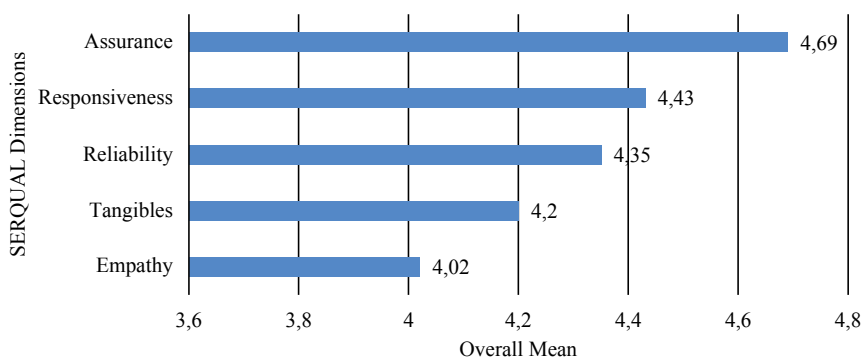
Figure 1

SERVQUAL Dimensions Ranking Based
on Overall Mean Values (Czech Republic)

Table 3 shows the survey outcomes of students in Vietnam. Like Czech respondents, their Vietnamese counterparts also have higher expectations than satisfaction, however, the gaps in all dimensions are significantly lower, which means that they are more satisfied with the quality of services than Czech students. This is confirmed by the smaller overall gap of all dimensions (-0.03). As for the Tangibles dimension, students were most dissatisfied with the quality of the school website (-0.27), the perceived difference between expectations and reality being almost four times smaller compared to Czech students' dissatisfaction. In the Reliability dimension, respondents were most disillusioned with the school's inability to provide service at the promised time (-0.24).

Table 3

Student Expectation/Perception SERVQUAL Gap Analysis for Vietnam

	ME	SD	MP	SD	GAP (MP-ME)
Tangibles					
Modern equipment	4.52	0.70	4.45	0.75	-0.07
Attractive and well-kept spaces	4.52	0.67	4.55	0.66	0.03
Clear and up-to-date website	4.55	0.69	4.28	0.84	-0.27
The staff look enjoyable	4.45	0.72	4.41	0.75	-0.04
Overall Mean	4.51		4.42		Overall Gap -0.09
Reliability					
Providing services as promised	4.47	0.73	4.45	0.72	-0.02
Sympathetic with and reassure student's problem	4.48	0.71	4.27	0.84	-0.21
Providing services at the promised time	4.35	0.83	4.11	0.93	-0.24
College keeps unambiguous records	4.44	0.73	4.43	0.73	-0.01
College is dependable	4.43	0.75	4.39	0.74	-0.04
Overall Mean	4.43		4.33		Overall Gap -0.10
Responsiveness					
Accurate and unambiguous information for students	4.59	0.63	4.47	0.72	-0.12

	ME	SD	MP	SD	GAP (MP-ME)
Providing fast services	4.47	0.72	4.31	0.79	-0.16
Willingness to help students	4.62	0.63	4.43	0.76	-0.19
Willingness to respond to a student's request	4.60	0.63	4.43	0.76	-0.17
Overall Mean	4.57		4.41		**Overall Gap -0.16**
Assurance					
Employees can be trusted	4.63	0.61	4.46	0.72	-0.17
Employees of college are polite	4.60	0.62	4.45	0.71	-0.15
The university staff are experienced and friendly	4.63	0.62	4.54	0.66	-0.09
Students feel safe when dealing with college employees	4.56		4.35		-0.21
Overall Mean	4.61		4.45		**Overall Gap -0.16**
Empathy					
The university gives students individual attention	4.45	0.74	4.54	0.65	0.09
The university has students' best interests at heart	4.30	0.82	4.43	0.75	0.13
The teachers take care of me individually	4.33	0.86	4.20	0.91	-0.13
The teachers consider my personal problems	4.25	0.92	4.19	0.92	-0.06
The teachers know students' need	4.49	0.71	4.28	0.85	-0.21
Overall Mean	4.36		4.33		Overall Gap -0.03

Source: Own research.

Table 4 shows how important are dimensions for respondents, presenting their average gap scores. Given that Vietnamese students also identified the Assurance dimension as the third most preferred one, reporting the greatest overall gap (-0.038), it is obvious that Vietnamese universities should focus on improving the service quality within this very parameter, too.

Table 4

Average GAP Score in Vietnam

Dimensions of quality	Expectation	Perception	Gap	Importance of dimension (%)	Average gap score
Tangibles	4.51	4.42	-0.09	23.51	-0.021
Reliability	4.43	4.33	-010	17.13	-0.017
Responsiveness	4.57	4.41	-0.16	19.26	-0.031
Assurance	4.61	4.45	-0.16	19.91	**-0.038**
Empathy	4.36	4.33	-0.03	20.19	-0.006
Overall average GAP score for all dimensions					**-0.113**

The same is documented by Figure 2. It is also evident that both limit values – the highest and lowest gap scores – were recorded on the Assurance and Empathy dimensions, respectively, as in the case of participants in the Czech Republic.
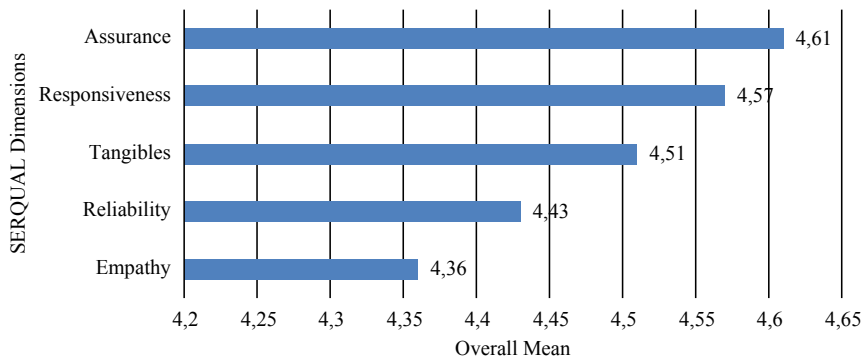
Figure 2

SERVQUAL Dimensions Ranking Based on Overall Mean Values (Vietnam)

As Tables 2 and 4 and Figures 1 and 2 document, although the individual parameters are given different importance (the most important aspect for students in the Czech Republic is Empathy, while in Vietnam it is Tangibles), in two of them – Assurance and Responsiveness dimensions – the highest SERQUAL average gap score appeared in both countries monitored. Therefore, institutions of higher education should pay due attention to these two aspects of their operation.

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The following conclusions about the differences between Czech and Vietnamese HEIs ensue from statistical testing of hypotheses H_A-$_E$:

H_A: An insignificantly weak negative correlation was found in the Tangibles service quality parameter (r=-.023, p >0.05). There is a significant difference in the Tangibles dimension between Czech and Vietnamese HEIs (t844 = -23.173, p < 0.05; see Tables 1 and 2), i.e., H_A is supported.

H_B: An insignificant low, near-zero correlation (independence) exists in the Reliability service quality parameter (r=-.026, p > 0.05). A significant difference in the Reliability dimension between Czech and Vietnamese institutions of higher learning was confirmed (t844 = -17.583, p < 0.05), H_B thus being supported.

H_C: In the Responsiveness service quality dimension, a statistically insignificant weak, close-to-zero correlation (independence) was detected (r=.021, p > 0.05). There is a substantial difference in the Responsiveness dimension between Czech and Vietnamese colleges and universities (t844 = -16.677, p < 0.05), H_C being supported.

H_D: An insignificant low correlation near zero (i.e., independence) was observed in the Assurance service quality dimension (r=-.025, p > 0.05). A substantial difference in the Assurance dimension between Czech and Vietnamese HEIs was verified (t844 = -16.203, p < 0.05), so H_D is supported.

H_E: In the Empathy service quality dimension, an insignificant weak correlation close to zero (independence) was found (r=.011, p > 0.05). There is a significant difference in the Empathy dimension between Czech and Vietnamese HEIs (t844 = -24.266, p < 0.05), H_E thus being supported.

In summary, no statistical dependence was identified, the correlation coefficient always coming close to zero, the values for the Czech Republic and Vietnam are mutually independent.

Two of the sample tests of mean values showed that the p-values for the Czech Republic and Vietnam differ considerably, those for the latter country being significantly lower.

Measuring the quality of services in higher education utilizing the SERVQUAL tool has become commonplace worldwide. The results regarding the predominance of expectations over the perception of the service quality are like those presented in this paper, while the prioritization of service quality dimensions is usually different. (For example, surveying the preferences of law students in Osijek, revealed the smallest and largest

negative gaps in the Reliability and Empathy dimensions, respectively. Comparing the quality of services at eight Pakistani universities, Zeshan et al. also demonstrated a low-quality perception in all five dimensions.[41] Abu Hasan et al. arrived at the reverse order of priority compared to the present study – from Empathy [the most important] to Assurance [the least important], carrying out a student satisfaction survey at private institutions of higher learning.[42] Khodayari and Khodayari examined the gap between the expected and actual service received by students at Islamic Azad University in Iran, concluding that the opposite dimensions were Reliability and Empathy.[43]

By comparing research and non-research HEIs, Mohamad Yusof et al. suggest that the most important parameter is Tangibles, the least important being again Empathy.[44] Al-Alak and Alnaser reached the same conclusion as the present paper, having surveyed business students at a university in Jordan, Assurance and Reliability proving to be the quality dimensions that need to be improved the most.[45] On the other hand, there is the greatest satisfaction with the Assurance dimension among engineering students in Thailand, as was found by Kiatcharoenpol et al., the least satisfaction being recorded in the Responsiveness parameter.[46] Datta and Vardhan showed that management students at international campuses in the UAE considered the dimensions of Responsiveness and Tangibility to be the most and least important, respectively.[47] In Vietnam, factors affecting university student satisfaction

[41] Ashi Zeshan, T. Afridi, and Salman Khan, "Assessing Service Quality in Business Schools: Implications for Improvement," in *The 3rd International Conference on Assessing Quality in Higher Education* (2010): 220-232.

[42] Hishamuddin Fitri Hasan et al., "Service Quality and Student Satisfaction: A Case Study at Private Higher Education Institutions," *International Business Research* 1, no. 3 (February 9, 2009), https://doi.org/10.5539/ibr.v1n3p163.

[43] Faranak, Khodayari, and Behnaz, Khodayari, "Service quality in higher education," *Interdisciplinary Journal of Research in Business* 1, no. 9, (2011): 38-46.

[44] Mohamad Yusof, A.R., Hassan, Z., Abdul Rah man, S., and Ghouri, A.M., "Educational service quality at public higher educational institutions: A proposed framework and importance of the sub – dimensions," *International Journal of Economics Business and Management Studies* 1, no. 2, (2012): 36-49.

[45] Md. Jahangir Alam, "Effects of Service Quality on Satisfaction in Eastern University Library, Bangladesh," *IFLA Journal* 47, no. 2 (September 28, 2020): 209–22, https://doi.org/10.1177/0340035220959099.

[46] T. Kiatcharoenpol, N. Subvaranont, and P. Pachayamai, "Measuring Service Quality on Educational Services of Engineering Curriculum Using SERVQUAL Model," *2017 IEEE 9th International Conference on Engineering Education (ICEED)*, November 2017, https://doi.org/10.1109/iceed.2017.8251184.

[47] Khyati Shetty Datta and Julie Vardhan, "A Servqual-Based Framework for Assessing Quality of International Branch Campuses in UAE," *SAGE Open* 7, no. 1 (January 2017): 215824401667629, https://doi.org/10.1177/2158244016676294.

were also regression-analyzed by Van Truong et al.[48] According to a study carried out at a Dutch university, the relationship of students with their teachers and faculty and staff is important. The results of the conducted study show that these relationships will positively affect the university experience of students, their willingness to complete their studies at the given school without ending their studies prematurely as described by Snijders et al.[49]

The quality of education is still under-researched and under-defined problem as pointed out by Naylor et al.[50] The SERVQUAL research reveals different quality dimension preferences, capturing statistically significant gaps between expectations and perceptions that allow to promote HEIs' development and competitiveness. Identifying service quality gaps may serve as the basis for planning, prioritizing, and deciding on the allocation of human and financial resources.

V. Conclusion

It may seem that competitiveness and the search for competitive advantage do not belong in the university environment, but the opposite is true. Universities compete primarily in obtaining the resources needed for their future development and survival. They are concerned with obtaining students in sufficient quantity and quality, obtaining renowned pedagogues, receiving financial resources, as well as strengthening the public´s positive evaluation.

The research focused on the university students' perception of the quality of educational services in the Czech Republic and Vietnam, emphasizing the factors influencing the competitiveness of higher education institutions.

The research examined the perception of the quality of services provided among students of the Czech Republic and Vietnamese students with the aim of which service quality factors universities in these countries should focus on to increase competitiveness on the global market.

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[48] Hung Van Truong, Cuong Hung Pham, and Nhan Hoang Vo, "Service Quality and Students Level of Satisfaction in Private Colleges in Vietnam," *International Journal of Financial Research* 7, no. 3 (May 13, 2016), https://doi.org/10.5430/ijfr.v7n3p121.

[49] Ingrid Snijders et al., "Relationship Quality Time: The Validation of a Relationship Quality Scale in Higher Education," *Higher Education Research & Development* 37, no. 2 (July 24, 2017): 404–17, https://doi.org/10.1080/07294360.2017.1355892.

[50] Ryan Naylor et al., "Students as Customers versus as Active Agents: Conceptualising the Student Role in Governance and Quality Assurance," *Higher Education Research & Development* 40, no. 5 (July 16, 2020): 1026–39, https://doi.org/10.1080/07294360.2020.17 92850.

The outcomes of the survey show that the participants had greater expectations about services than their perceived quality turned out to be. Vietnamese students reported higher satisfaction than the Czech ones, an overall average gap score for all quality dimensions being -0.401 for the latter and -0.113 for the former. A more critical perception of service levels was recorded in the Czech Republic. Regardless of the importance attached to specific parameters, the survey suggests that Czech HEIs should improve communication with students, respond appropriately to their requirements and individual problems, meet the commitments made, and create a supportive academic environment of mutual trust and helpful willingness. In Vietnam, higher education is less accessible because it is costly, and paradoxically, most university graduates work in fields where they do not even need it. Education is still considered a prestigious affair, Vietnamese students being more grateful for the opportunity to study and more motivated to learn than their Czech counterparts, which seems to have affected their greater satisfaction with the school services delivered.

The diversity of the sample of students and the complexity of the situation in both countries does not allow to make over-generalizations of the present findings.

Further research should be extended to other countries, especially to the V4 ones, which have similar historical and economic backgrounds. A survey of the perception of service quality by other stakeholders such as members of academic, technical, and administrative staff, or a comparison of public and private education providers could also produce useful outcomes. To improve the quality of services and increase the domestic and international competitiveness of institutions of higher education, it is advisable to undertake similar satisfaction surveys on a regular basis.

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About the authors

RENATA SKÝPALOVÁ (renata.skypalova@ambis.cz) PhD in Economics and Management is an assistant professor at Ambis College, a.s. in Brno in the Czech Republic. She achieved her doctoral degree in 2014 at the Faculty of Business and Economics of Mendel University in Brno in the field of Economics and Management with the title of the dissertation thesis: Corporate Social Responsibility concept. She is the Head of the Department of Management and human resources. Her research interests include human resource management, employer branding, small and medium enterprises competitiveness, and human resource development. She publishes mainly in the field of corporate social responsibility, and human resources management. She currently teaches human resources management, leadership, education and development management, and methods of personal works at Ambis College. She also has experience in conducting bachelor's and master's theses. She is actively involved in research projects in the Czech Republic and abroad, focusing on Corporate social responsibility (Visegrad fond), Policy Coherence, Metropolitan cooperation between cities.

HELENA CHLÁDKOVÁ (chlad@mendelu.cz) is an associate professor at Mendel University in Brno in the Czech Republic. She received her habitation in 2013 at the Faculty of Business and Economics of Mendel University in Brno in the field of Economics and Management with the title of habitation thesis: The role of the environment in the development of small and medium-sized enterprises. She is the Deputy Head of the Management Department. Her research interests include quality management, performance management, strategic management, SME competitiveness and human resource development. She publishes mainly in the

field of business competitiveness and business performance. She is also interested in the processing industry, viticulture, and winemaking. She currently teaches general management, business management and integrated management at four faculties of Mendel University in Brno. She also has experience in conducting bachelor's, experts, and rigorous theses. Under her leadership, 84 bachelor's theses, 47 diploma theses and 7 dissertations were successfully defended.

CHIJIOKE NWACHUKWU (cesogwa@yahoo.com) is an international visiting scholar at Covenant University Ota Nigeria. He has over 15 years of industry and teaching experience in Nigeria, Czech Republic, and Mexico. His research interest falls within general management, strategic management, and entrepreneurship. He obtained his Doctor of Philosophy (PhD) in Business Management and Economics from Mendel University in Brno. He has a number of scientific publications to his credit.

HIEU MINH VU (hieu.vm@vlu.edu.vn) is currently employed as a full-time lecturer at the Faculty of Business Administration at Van Lang University in Ho Chi Minh City, Vietnam. His expertise and research focus are on general management, strategic management, tourism management, sustainable tourism development and human resources management. He has over 16 years of industry and teaching experience in Vietnam. He obtained his Doctoral (PhD) in Business Management and Economics from the Mendel University in Brno. He has a number of scientific publications to his credit.

Competence-based teacher education programmes: Transitioning towards a paradigm shift or preserving the traditional?

Fjolla Kaçaniku*

Abstract: Adapting teacher education programs to societal changes is a current issue, especially when viewed through the European frameworks driving transformative reforms. The paper reports how European frameworks and other initiatives in higher education and teacher education aim to support the transformation of teacher education programmes. Multiple European-level interventions have engendered shifts in the conceptual understanding and orientation of initial teacher education programmes across numerous contexts within Europe. The purpose of this paper was to examine the shift of teacher education programmes into competence-based in Kosovo, the youngest country in Europe, in the context of European frameworks as an impetus for transition. This qualitative research is a part of a broader study that involves analysing study programmes, conducting interviews with teacher educators and management staff, and holding focus groups with student-teachers. The goal is to explore the path of contextualizing European-inspired programme reforms in more detail. The findings show that Kosovo is shifting to a competence-based approach to align with EU integration, incorporating European principles for programme improvement. However, the study reveals a notable focus on maintaining programmes' tradition. This leads to tensions and contradictions regarding programme tradition, EU integration goals, and actual implementation. The results provide valuable insights into the significance of educational context and

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* **Fjolla Kaçaniku** (fjolla.kacaniku@uni-pr.edu), PhD, is an Assistant Professor at the Faculty of Education, University of Prishtina in Kosovo. Her research interests are quality teacher education and European education policies focusing on teacher education.

More information about the author is available at the end of this article.

the tacit knowledge of teacher educators and other stakeholders during programme reforms within the context of European initiatives.

Keywords: Competence-based programmes; teacher education; European frameworks; reform; tradition.

I. Introduction

The international literature review reveals various initiatives to enhance the quality of initial teacher education. A significant change recognized in these efforts involves the transition of study programs from traditional knowledge-based approaches to competency-oriented or standards-based approaches (Bates 2008; Cochran-Smith et al. 2017; Darling-Hammond 2017; Darling-Hammond and Lieberman 2012a; Darling-Hammond and Lieberman 2012b; Edwards and Usher 2008; Flores 2016; Ostinelli 2009). While traditional teacher education traditionally emphasized subject knowledge and disciplinary expertise, the shift towards competency-oriented teacher education aims to elevate professional standards and improve teacher competencies to address evolving societal needs (Flores 2016).

In Europe, there is a preference for a competence-based teacher education system (Ostinelli 2009). Although the literature lacks a strict definition of competence, this paper adheres to the broader notion of (teacher) competences as complex combinations of knowledge, skills, values, attitudes and understanding that result in effective teacher practice (Caena 2011; Caena 2014b). According to the European Commission (2013), teacher education needs to be "founded upon a shared agreement in each education system about what it takes to be a high quality teacher: what competences (knowledge, skills and attitudes) they need, how those can be understood, described and deployed – and what policies and practical provisions can support teachers to acquire and develop them throughout their careers" (European Commission 2013, 5)

Scholars have regarded competence-based teacher education as an enticing concept that bridges the gap between theory and practice, enhances student-teacher employability, and forms the foundation for lifelong learning. Biesta (2012) expounds on two primary reasons why the notion of competence holds interest. Firstly, the concept of competence holds rhetorical appeal, portraying teachers as practically proficient individuals. Secondly, the discourse surrounding teacher competencies centres on the trajectory of teachers' abilities and skills rather than solely on their knowledge. As a result, teacher "competence" is perceived as a comprehensive and pragmatic approach that encompasses knowledge, skills, and action as an interconnected whole. The

literature shows that different countries have responded to the pressure of reforming teacher education programmes into competence-based using various intervention schemes (e.g., Darling-Hammond 2017; Page 2015; Caena 2014b). This paper focuses on European higher education and teacher education interventions that supported study programmes transformation into competence-based teacher education programmes. Here we have grouped such initiatives into the following: (i) the Bologna Process and its action lines (political level, general higher education), (ii) the Tuning project (grassroots level, programmes), and (iii) other initiatives related specifically to teacher education (e.g., European teacher competence frameworks) (e.g., Biesta 2012; Caena 2014a; Gassner et al. 2010; Hudson et al. 2010; Hudson and Zgaga 2008; Hudson and Zgaga 2017; Malinen et al. 2012; Schratz 2010; Schratz 2014; Valenčič Zuljan and Vogrinc 2011; Zgaga 2013).

Acknowledging the Bologna Process as a fundamental higher education intervention, its action lines and objectives are directed towards the establishment of a cohesive European Higher Education Area (EHEA). The Bologna Process endeavours to foster harmonization among European higher education systems, ensuring greater comparability and compatibility, promoting mobility, facilitating international collaboration, and elevating overall quality standards (Curaj et al. 2012, 2015). In this context, Zgaga (2013) supports the notion that this framework holds significance not only for higher education in general but also for the advancements in teacher education. The Bologna Process, as a political-level influence (e.g., Crosier and Parveva, 2013), stands in contrast to the grassroots initiative known as the Tuning Project, which involves academics strategizing to translate Bologna's initiatives into improved study programme quality (see: Wagenaar, 2013; Wagenaar 2014; Wagenaar 2019). Operating as a bottom-up approach, the Tuning Project engages European higher education institutions and their staff to modernize and enhance programme quality in alignment with the Bologna Process (González and Wagenaar 2005). It has fostered a common language and cooperation among institutions, countries, and regions worldwide in the dimensions of teaching, learning, and assessment (González and Wagenaar 2008; Wagenaar 2014).

Within the initial phase of Tuning, teacher education and education science were integrated as one of the "subject groups". Emphasizing the importance of transversal competencies to bolster teacher adaptability, this integration resulted in the designation of general and specific competences for the field of teacher education (Caena and Margiotta 2010). The outcomes and advancements stemming from this initiative have been instrumental in guiding the redesign and enhancement of initial teacher education

programmes' quality in the universities and countries involved (González and Wagenaar 2005; Wagenaar 2019). Furthermore, teacher education-specific measures aligned with European initiatives. Significantly, the endeavour to cultivate "a European Teacher" received paramount attention (Schratz 2010; Schratz 2014). In 2007 and 2009, the European Commission adopted its principal policy proposal, the Common European principles for teacher competences and qualifications, aiming to foster quality teachers dedicated to serving Europe (European Commission 2007; European Commission 2009). In 2013, the European Commission devised a teacher competence framework, providing policy guidance for the development of teacher competencies (European Commission 2013). This framework encompasses comprehensive elements to shape a European teacher's professionalism profile. It is worth noting that these initiatives did not aim to establish a uniform European teacher model, as emphasized by Schratz (2014). Instead, the overarching objective of these frameworks was to transcend national contexts and transform the teaching profession, accentuating the value of diversity and the richness that Europe offers, while urging collaboration among national teacher education programmes to preserve this "richness". This study focuses on Kosovo, the youngest country in Europe, to examine the shift of teacher education programmes into the competence-based design and delivery towards quality teacher education. Initial teacher education as part of higher education in Kosovo developed in 2002/3 academic year and its development is heavily influenced by various European interventions (Kaçaniku 2020; Kaçaniku 2022). Hence, it is relevant to understand how transitioning contexts as Kosovo have transformed study programmes into competence-based while using European frameworks as stimulus for change.

This paper serves as an in-depth exposition of the research findings conducted throughout rigorous PhD studies, firmly grounded in the data and content that have been previously published as an integral part of the doctoral thesis. The objective of this paper is to illustrate the transformation of study programme design and delivery, emphasizing the development of quality teacher competencies in response to European frameworks.

II. Literature review

II.1. *Understanding competence-based teacher education in Europe*

In European initial teacher education reform, there is a notable trend towards adopting a competence-oriented and learning outcomes approach to

shape future teacher professionalism (Werler 2016). The European Commission Report (2007) defines competence as a comprehensive concept encompassing knowledge, skills, and values (Caena 2014b). Future teachers' professional competences include a diverse range of skills and expectations (European Commission 2013). Increasingly, European teacher education institutions are strategically incorporating learning outcomes and transitioning to competence-based curricula (Caena 2014b; Flores 2016; Krek 2017; Pantić and Wubbels, 2010; Pantić and Wubbels 2012; Werler 2016). However, for seamless curriculum transformation within the European Higher Education Area (EHEA), a comprehensive competence-based framework for teacher education is crucial (Caena, 2014a; Caena 2014b). European initiatives prioritize the development of teacher professionalism and future teacher competences to enhance the quality of initial teacher education (Caena 2014a; Caena 2014b; Zgaga 2013; Niemi et al. 2016; Werler 2016). This has led to the establishment of various European frameworks, communications, and guidelines, serving as foundational constructs for competence-based teacher education programmes (Caena, 2014a; Caena 2014b; Flores 2016; Krek 2017). These initiatives reflect concerted efforts at the European level to harmonize and enhance the management of European teacher competence development.

II.2. *A brief presentation of European initiatives towards teacher competence frameworks*

The conclusions drawn from the EU Education Councils in November 2007, 2008, and 2009 underscored the necessity of outlining expected competences development in initial teacher education. Initial teacher education institutions were presented with the following requirements to construct a European teacher professionalism profile (European Union 2007; European Union 2008; European Union 2009): specialist subject knowledge and pedagogical skills, including the ability to teach diverse student groups, utilize ICT, instruct transversal competences, foster safe and engaging learning environments, promote a culture of reflective practice, and encourage research, innovation, collaboration, and autonomous learning.

As part of the Lisbon agenda, conclusions aligned with the Lifelong Learning paradigm have accentuated the significance of developing transversal competencies in initial teacher education, such as digital literacy, learning-to-learn skills, and civic competences, within the broader scope of eight key competences required in a changing world. Notably, the meta-competence of learning to learn, adapting to change, managing vast

information flows, and making appropriate selections were highlighted as crucial (Caena 2011).

Specialized problem-solving skills in research and innovation, as well as competences in managing and navigating complex and unpredictable contexts, are deemed essential teacher qualifications in the European Qualifications Framework for Higher Education (*based on the Dublin Descriptors*), placing teacher qualifications at Level 7 (Caena 2011). The Dublin Descriptors (Joint Quality Initiative 2004) are "generic statements of typical expectations of achievements and abilities", which student-teachers are expected to achieve upon completion of an initial teacher education programme.

Teaching staff must possess the competences to constantly innovate and adapt. "This includes having critical, evidence-based attitudes which enable them to respond to students' outcomes, new evidence from inside and outside the classroom, and engage in professional dialogue, in order to adapt their own practices" (European Commission 2012, 22–23). Reflective thinking and research actions are central to these competency-oriented frameworks, emphasizing the future teachers' ability to navigate change through research, collaborative learning experiences, and maintaining a critical stance (Niemi and Nevgi 2014).

In the context of summarizing the competence frameworks relevant for initial teacher education study programmes, Pantić and Wubbels (2010 and 2012) have identified four domains of teacher competences: (i) self-evaluation and professional development, which involve teachers' reflective practices on their educational impact and development, and various approaches to teacher evaluation; (ii) subject matter, pedagogy, and curriculum, encompassing competences related to a teacher's subject field, instructional methods, and the implementation, adaptation, or development of the school curriculum; (iii) understanding of the education system and contribution to its development, entailing a broader comprehension of the schooling context in which teachers operate, including the institutional setting; and (iv) values and child-rearing domain, focusing on competences related to addressing values and moral issues that emerge in teaching practice.

Considering the diversity and richness across European teacher education contexts (Schratz 2014), a common language is proposed for core competence requirements for teachers. This includes structured and well-organized knowledge frameworks, effective knowledge management strategies concerning curricula, educational theories, and assessment; sound knowledge of subject-specific teaching, digital competences, and an understanding of student learning; classroom teaching and management

skills; interpersonal, collaborative, reflective, and research skills for working in professional school communities; critical attitudes towards professional practice and innovation, informed by various sources such as student outcomes, theory, and professional dialogue; positive attitudes and commitment to ongoing professional development, collaboration, diversity, and inclusion; and adaptive expertise –the ability to adapt plans and practices to meet the needs of different contexts and students (European Commission 2013). This framework serves as a relevant frame of reference for analysing European initial teacher education approaches and promotes the identification of tensions between institutions and individuals, products and processes, and what is desirable versus what is feasible.

II.3. Unveiling the educational benefits of teacher competence frameworks

Teacher competence frameworks serve as effective tools for developing competence-based study programmes in teacher education (Caena 2014b). They offer flexibility, context responsiveness, and promote collective learning through mentoring and peer review. The value lies in enhancing awareness, fostering shared understanding, and encouraging collective discussion among stakeholders committed to quality initial teacher education (Caena 2014b). This tool, contributing to European teacher professionalism (Schratz 2014), cultivates a shared culture of quality. However, the literature underscores the need to consider aspects related to teacher professionalism, learning theories, quality cultures, and policy perspectives when conceptualizing competence-based education. This may lead to tensions due to diverse approaches (Caena 2014a; Caena 2014b; Flores 2016; Ostinelli 2009; Pantić and Wubbels 2010; Pantić and Wubbels 2012; Werler 2016). In the European context, it is crucial to define the purpose and implementation approach of competence frameworks, ensuring stakeholder commitment across diverse national cultures and contexts for quality initial teacher education within European initiatives.

III. Methodology

III.1. Research approach and participants

This is a qualitative study that analysed the content of (n = 6) study programmes at BA and MA levels, conducted interviews with (n = 6)

management staff (MS) and (n = 18) teacher educators (TE), and organised 2 group interviews with (n = 15) BA student-teachers (ST) and (n = 12) MA student-teachers (ST) in two initial teacher education institutions in Kosovo, Big urban – Capital and Small urban. See more details presented in *Table 1*.

Table 1

Sample characteristics

Programmes		MS	TE	ST
BA	Primary Teacher Education		10	15
MA	Master of Subject Teaching with a specialization in (i) Biology, (ii) Chemistry, (iii) History and (iv) Geography	6	8	12
TOTAL	**6**	**6**	**18**	**27**

III.2. Data collection

III.2.1. Study programme documents

The study involved the selection of six teacher education programmes from two institutions, comprising two BA programs and four MA programs. However, it is worth noting that the Small urban institution only offers BA programmes. The programmes were carefully chosen using purposive sampling based on criterion sampling, as proposed by Denzin and Lincoln (2018). The selection criteria aimed to represent various levels (BA and MA studies) and focuses (areas of teacher specialization) in the field of teacher education.

The Primary Teacher Education (BA) programme was designed to train teachers for grades 1 to 5. On the other hand, the Subject teaching (MA) programmes specialize in Biology, Chemistry, History, and Geography, preparing subject teachers. These subject teaching programmes catered to BA students with backgrounds in natural and social sciences, equipping them with pedagogical knowledge and pedagogical content knowledge (*as described by* Shulman in 1987). These MA students were interested in teaching at upper secondary and high school levels as subject teachers. For more information on content of selected programmes and prospective teachers graduating from the selected programme, see *Table 2* on characteristics of programming documents.

Table 2

Characteristics of programming documents

Programme	Institution	Programme purpose and profile
Primary Teacher Education (BA) 4 years	Big urban - Capital	The programme aims to prepare primary school teachers (class 1 to 5). The following are the guiding goals and profile characteristics of the programme: Educating students to realize the subjects of primary education (mother tongue, mathematics, nature, society, music, art and health, as well as the implementation of educational technology). Preparing students for the promotion, organization, evaluation and implementation of the educational curriculum effectively to students, parents and other members of society. Emphasising various study-learning options, educational issues within primary education.
Primary Teacher Education (BA) 4 years	Small urban	Implementing a contemporary practice in the field of primary education as well as the application of information technology in the development of activities with primary school students. Knowing interdisciplinary content and inclusive education. Familiarising with work in primary school institutions during the implementation of professional practices, which develops within specific methodologies. Understanding the importance of practice in school institutions.
Master of Subject Teaching with a specialization in Biology (MA) 2 years	Big urban - Capital	The Master's programmes for subject teaching integrate students who complete Bachelor studies in any of the academic fields and who wish to become subject teachers.
Master of Subject Teaching with a specialization in Chemistry (MA) 2 years	Big urban - Capital	The general purpose of the Master programme in Subject Teaching is to further advance the modern competencies of teaching and pedagogical practice, in addition to academic ones, taking into account prior education and needs of each subject teaching profile
Master of Subject Teaching with a specialization in History (MA) 2 years	Big urban - Capital	The Master's programme in Subject Teaching contains several relevant specializations, while 4 of them have been selected as part of this study.
Master of Subject Teaching with a specialization in Geography (MA) 2 years	Big urban - Capital	The programme consists of general education courses that are the same for all specializations, while special courses respond to each specialization.

It is important to highlight that documents play a crucial role in allowing researchers to gather "social facts" related to the institution or subject of the study, as proposed by Matthews and Ross (2010). The objective of selecting programme documents was to analyse various aspects of the programmes, including programme goals and expected outcomes, student learning achievements, teaching and learning methodologies, assessment techniques and criteria, the relationship between theory and practice, and the prescribed course literature. The content of study programmes was analysed using the EU framework (2013) Supporting teacher competence development for better learning outcomes. The framework is a dynamic and holistic representation of teacher competencies into three areas of competence development, including: knowledge and understanding, skills, and dispositions: beliefs, attitudes, values, and commitment. Programmes analysis was done in terms of two pillars for analysis, including: programme design (course descriptions and student learning outcomes) and delivery (lecturing approach, student-teacher activities, practical engagement, and assessment). This is relevant to understanding the extent to which this framework is reflected in the design and delivery of competence-based teacher education programmes in Kosovo.

III.2.2. Interviews

Interviewees were also selected with purposive sampling (Denzin and Lincoln 2018). Maximum variation-convenience sampling (Given, 2008) was used as criteria to identify teacher educators from all selected programmes, gender, age ranges, different disciplines/education backgrounds, research and lecturing experience, academic rank, and institution. A similar approach was used to select management staff from different positions, academic ranks, and profiles. All criteria were carefully chosen to cover the entire spectrum of perceptions.

III.2.3. Group interviews

Group interview respondents were selected through purposive sampling to correspond to study programmes selected for analysis. The group interviews were organised in two interconnected steps. Firstly, student-teachers (both from BA and MA groups) who agreed to participate in group interviews have received electronically a discussion/feedback form based on the EU framework (2013) for supporting teacher competence development for better learning outcomes. The purpose of the form was to facilitate discussions during group interviews. It was designed based on the competence areas outlined in the

framework. The study respondents were requested to reflect on how well each competence area was integrated into the course design (including syllabus and other plans) and delivery (covering aspects like teacher educator lectures, activities, engagement, and assessment). Student-teachers were given the option to provide a brief written reflection or simply answer with Yes/No comments to indicate whether the competence areas were adequately addressed in their study programme. In the subsequent step, student-teachers were invited to participate in face-to-face group interviews. These group interviews were particularly beneficial as they allowed the researcher to gain valuable insights into how the discussions unfolded, with group members encouraging each other to actively engage in the conversation (Frey and Fontana 1991). The primary objective of these group interviews was to further discuss the development of competence areas concerning the European competence framework (2013). The aim was to gain a deeper understanding of how students were exposed to competence-based teacher education. The overall goal was to encourage discussions among student-teachers about their perceptions of quality initial teacher education and competence-based programmes in Kosovo in relation to European competence interventions and frameworks.

III.3. *Criteria for evaluating the credibility and trustworthiness of qualitative research*

In this research, we utilized established criteria for evaluating the credibility and trustworthiness of qualitative research, as outlined in *Table 3*. This approach was employed to ensure the validity, generalizability, reliability, and objectivity of our study. Scholars who align with a constructivist perspective, particularly those who adopt a qualitative and interpretive methodology, have introduced a set of key principles, including credibility, transferability, dependability, and confirmability, to address the quality standards associated with assessing the trustworthiness of qualitative research, as originally proposed by Lincoln and Guba (1985).

Table 3

Criteria for assessing the trustworthiness of qualitative inquiries
(adopted from Lincoln and Guba, 1985)

Aspect	Scientific term	Qualitative term	Approach
Truth value	Internal validity	Credibility	Operationalizing concepts clearly Allowing respondents to confirm the results

Aspect	Scientific term	Qualitative term	Approach
Applicability	External validity Generalizability	Transferability	Allowing other researchers the opportunity to compare context similarities and differences Achieving theoretical generalizations as the key advantage of conducting qualitative research
Consistency	Reliability	Dependability	Outlining the methodological approach in detail Diverse sample/groups of respondents
Neutrality	Objectivity	Confirmability	Diverse instruments of data collection to ensure data triangulation

III.4. Data analysis

Thematic analysis of the data followed the six phases outlined by Braun and Clarke (2006). The initial phase involved familiarization through triangulation of data (Creswell and Creswell 2018) from interviews with teacher educators and management staff. Raw data were categorized, coded, and organized in an Excel spreadsheet before being transferred to ATLAS.ti for further sorting.

Generating initial codes followed, with a focus on reflection and interaction with data, as advocated by Nowell et al. (2017). A comprehensive code manual was developed, ensuring transparency for novice researchers and facilitating an organized approach. ATLAS.ti was instrumental in maintaining coding consistency.

The third phase involved searching for themes, grouping codes relevant to research questions using an inductive approach. Notes were kept for auditing and confirmability. The fourth phase included reviewing and revising themes, ensuring coherence and validity. External debriefing sessions with data auditors enhanced credibility and validity, aligning with Lincoln and Guba's (1985) recommendations.

Defining and naming themes constituted the fifth phase, seeking clarity through continuous consultation with data auditors. This step confirmed a clear and comprehensive final version of themes. The sixth and final phase involved producing a coherent and stimulating narrative report, aligning with Braun and Clarke's (2006) recommendation. The entire methodological process was meticulously recorded to ensure credibility in reporting the findings

III.5. *Ethical considerations*

Following Nowell et al.'s (2017) advice, I implemented two measures to address ethical concerns in the study: (1) allowing continuous negotiation of informed consent with respondents, and (2) sending summary points of transcribed data to interviewees to ensure unbiased data presentation. No respondent sought to negotiate consent or modify transcript text. Given the limited size of the initial teacher education community in Kosovo, this research guarantees the anonymity of student-teachers, teacher educators, and management staff identities.

IV. Findings

Findings synthesise multiple-source data to shape a consolidated understanding regarding the transformation of teacher education programmes into competence-based teacher education in the context of European frameworks. The analysis has revealed that programmes exhibit a certain degree of 'surface' convergence when they undergo improvement in accordance with European teacher education principles. The findings indicate a division in the development of knowledge, skills, and values within study programmes, which primarily focus on academic knowledge and rely on the classroom practices of teacher educators. Through the analysis of various data sources, several themes have emerged. A summary of these findings can be found in *Table 4* and is discussed in detail below (see Kaçaniku 2021, for more information).

Table 4
Detailed findings (see also: Kaçaniku 2021)

Themes	Detailed finding
Compartmentalisation of knowledge, skills and values development in programmes	• Content knowledge is the main learning outcome of programmes • Programmes overemphasise subject matter knowledge • Elective courses offered in different programmes entertain a less important status • Pedagogical knowledge is mostly offered through elective courses – making the pedagogical knowledge delivery limited • Programmes have limitations with missing subject didactics • Programmes offer limited knowledge in education policy and contextual awareness issues

Themes	Detailed finding
	• Limited knowledge about inclusion and psychological development issues is reflected in programmes • Knowledge about assessment is poorly addressed in programmes • Skills and values development is not prioritised in programmes learning outcomes • Courses are mainly organised through traditional lecturing • Student-teacher are not fully engaged in course processes • Programmes offer course variations from courses that organize practical activities to those offering isolated lecturing • Limited practical student engagement is represented in programmes • Student-teachers act mainly as an audience • Assessment is predominantly summative • Courses that focus more on skills and values are general education-related courses
Europeanisation or surface convergence of study programmes dilemma	• Programmes have engaged in continuous EU-led reforms • Partner European Universities offering initial teacher education assisted in reforming programmes structure and content based on European programmes models • Initial teacher education in Kosovo has harmonised degree structures (3+2 and 4+1 criteria accomplished) • Institutions adopted the three-cycle system (Bachelor, Master, and PhD) • Programmes are structured according to the European Credit Transfer and Accumulation System (ECTS) • Kosovo has been a participant country in Tuning Europe (III-IV) (2005-2009) • Limited interest and commitment showed by teacher educators and institutional management to implement Tuning recommendations within reference points • Content of programmes has reformed • Formal drafting of competences and learning outcomes in programmes and syllabi • Lack of practical convergence and common understanding for initial teacher education • Lack of institutional indicators to follow-up programmes design and delivery • Limited interest and commitment showed by teacher educators and institutional management to follow the methodology of enhancing the quality of study programmes

Themes	Detailed finding
	• Variations among stakeholders in how they conceptualise quality programmes design and delivery • Teacher education programmes are treated as a national concern
Fragmented implementation of study programmes	• Course design and delivery is fragmented • Courses are implemented in isolation and knowledge is not connected as a programme approach • Lack of programmatic approach in teacher education • Teacher competences development is fragmented into individual courses • No linkage between courses and syllabi • Integrated teaching is a missing aspect • Theory-practice gap and fragmentation is promoted in programmes • Disciplines and subjects disintegration is not addressed in programmes • The development of research skills is approached in isolation • Pedagogy-Psychology division is present in programmes • System/institutional formalities prevent integrated teaching in programmes • There is a vast difference between teacher educators' practices • Limited integrated teaching has been implemented with teacher educator of the same group • Shared teacher educator values are required for implementing integrated teaching

IV.1. *Compartmentalisation of knowledge, skills, and values development in study programmes*

The findings reveal a notable lack of cohesion in teacher competence development, with a significant gap between the design and implementation of competence-based programmes. Variations in teaching styles, student activities, practical engagement, and assessment methods exist across courses and among teacher educators. These discrepancies lead to tensions stemming from differing emphases on knowledge, skills, and values, which seem compartmentalized rather than integrated into a unified programmatic framework. For a detailed analysis, refer to Tables 5 and 6, covering the results of BA and MA program analyses, respectively.

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Table 5

BA level detailed programmes findings (based on EU Framework 2013) (see also: Kaçaniku 2021)

Categories	Competences (representation in %)	Detailed findings on programme design and delivery
Knowledge and understanding	Subject matter knowledge (26%)	**Knowledge development is the main programme focus** • Main programme outcomes relate to knowing, getting acquainted with knowledge, understanding, and learning • Theory and practice gap remains programme weakness • Developing knowledge and understanding of concepts as one of the most relevant aspects of the programme • Content reproduction and knowledge comprehension as the main programme learning outcomes • Programme encourages and expects factual knowledge • Mechanic learning is greatly promoted in programme delivery • Subject/academic courses dominate programme design and delivery • Subject matter knowledge is considered important for future teachers' knowledge base • Subject didactic courses are formally included in programme delivery • Didactic courses are delivered as subject (academic) courses due to teacher educator academic background • Didactic courses are content and knowledge-oriented • Pedagogical content knowledge is poorly represented in programme design and delivery • Lack of courses offering knowledge on strategies for teaching and learning • Limited courses discussing the knowledge of the teaching profession • Programme offers poor knowledge of teaching and learning process • Programme design reflects poor professional knowledge (e.g. knowing students, understanding how they learn, and how to teach?)
	Pedagogical Content Knowledge (PCK) (15%)	
	Pedagogical knowledge (8%*[1])	
	Curricular knowledge (1%*[1])	
	Educational sciences foundations (5%)	
	Contextual, institutional, organizational aspects of educational policies (5%*[1])	
	Issues of inclusion and diversity (4%*[1])	
	Effective use of technologies in learning (1%)	
	Developmental psychology; Group processes and dynamics, learning theories, motivational issues (3%*[1])	

[1] Elective courses are identified with an asterix. Obligatory and elective courses decision is relevant for the Findings discussion.

Categories	Competences (representation in %)	Detailed findings on programme design and delivery
	Evaluation and assessment processes and methods (4%*)	• Knowledge of questions "How am I going to teach?", "Am I doing the right thing?" remain on the margins programme design and delivery • Limited programme possibilities for gaining pedagogical knowledge during 4 years of studies • Programme offers limited knowledge about curriculum demands and future teacher expectations • Poor practical involvement of students with curriculum demands • Programme treats education sciences foundation at a theoretical level • Programme delivery fails to engage student-teachers in critical application of different theories in practice • Programme includes a limited number of courses about system education policy • Limited discussion on policy implementation for the teaching profession • Future teachers are not prepared to engage in professional development and address teacher licensing framework demands • Programme poorly addresses the social and cultural context of teaching and schooling • Limited knowledge about school context and culture is provided • Programme fails to develop knowledge on education policy review • Issues of inclusion and diversity are treated in an abstract and theoretical way • Use of technology focuses on knowledge of the course and not on practical application to teaching and learning • Psychology courses are poorly represented in the programme • Developmental psychology and knowledge of motivation theories and approaches are not given the necessary attention • Limited knowledge about assessment processes and methods • Programme offers knowledge of assessment methods in theory • Traditional knowledge transmission is the typical teaching mode • Frontal lecturing style is the main teacher educator practice • Limited activities and practical engagement is present

Categories	Competences (representation in %)	Detailed findings on programme design and delivery
		• Students are required to memorize, listing facts from lectures and literature • Student-teachers are assessed based on their comprehension of content knowledge • Programme delivery reflects limited analysis and reflection required • Student-teachers knowledge is assessed mainly through final exams • Limited formative assessment is practiced • Individual student work is desired in the majority of course in the programme • Limited group work is required • Students are receivers rather than contributors to course development • Students are treated as an audience in the majority of courses • Teacher educators act distanced to student-teachers • Many courses promote the use of outdated books in the Albanian language as the main literature • In the absence of literature, lecture notes are prepared and distributed in many courses
Skills	Planning, managing and coordinating teaching (6%*) Using teaching materials and technologies (4%) Managing students and groups (1%*) Monitoring, adapting and assessing teaching/learning objectives and processes (0%)	**Skills development is not a programme priority** • Many skills are taught in a knowledge-based format • Knowledge and skills development is not linked within and among courses in the programme • Programme fails to promote the development of transversal skills • Planning lessons as part of future teachers practical work is only theoretically lectured • Programme embassies the theoretical understanding of planning rather than applying in practice • Limited practical planning activities are organized in course delivery • Limited courses on classroom management and assessment methods are available • Programme promotes a theoretical understanding of classroom management and assessment methods • Limited group work and practical collaborative tasks are implemented

Categories	Competences (representation in %)	Detailed findings on programme design and delivery
	Collecting, analysing, interpreting evidence and data (school learning outcomes, external assessments results) for professional decisions and teaching/learning improvement; Using, developing and creating research knowledge to inform practices (1%*)	• Students are not prepared for classroom management and dealing with coordination matters • The use of technology in teaching has not been treated carefully • Students lack skills in using technology in teaching • Assessment methods and techniques in education are treated only in one course • Students have gained assessment skills in theory • Students lack skills in teaching modelling • Students lack the skills to judge the use of appropriate teaching methods and techniques • Students have a basic theoretical understanding of the steps of research methods and techniques • Only one research methods course us offered in the entire programme • Limited activities related to collecting and analysing evidence are organized throughout the programme delivery • Formal learning is embraced by the majority of teacher educators
	Collaborating with colleagues, parents and social services (1%*)	• Knowledge-based teaching and learning is the main programme theme • Limited courses promote analysis, discussion and research • No skills development for engaging in research to inform practice • Research engagement is considered separate to the teaching profession • Research activity is distanced as a complex task
	Negotiation skills (social and political interactions with multiple educational stakeholders, actors and contexts) (0%)	• The only research activity is thesis project (at the end of the programme) • Students are not skilled to complete a quality thesis work • No skills development for evidence-based decision-making • Knowledge of implementing the didactical triangle of collaboration is only considered from a theoretical perspective
	Reflective, metacognitive, interpersonal skills for learning individually and in professional communities (3%*)	• Teaching profession skills are development using a narrow traditional view • Students have developed limited skillset for adaptability • Narrow understanding of the education system is promoted • Students have a general comprehension of the relevance of collaboration

Categories	Competences (representation in %)	Detailed findings on programme design and delivery
	Adapting to educational contexts characterised by multi-level dynamics with cross-influences (from the macro level of government policies to the meso level of school contexts, and the micro level of classroom and student dynamics)	• Limited group work was encouraged in programme • Limited collegiality experiences offered in programme • Programme fails to develop skills for critical education policy review • Reflection essays and seminar are constantly required in programme courses • Students rarely receive feedback on reflection and other assignments • Limited reflective discussions on education problems are organized • Classroom dynamics represent a theoretical understanding • Gaining knowledge is fostered in many courses • Some sociological theoretical background is covered in the programme • Limited contextual discussions are organized
Dispositions: beliefs, attitudes, values, commitment	Epistemological awareness (issues concerning features and historical development of subject area and its status, as related to other subject areas)	**Development of beliefs, attitudes, values, commitment is not considered a priority and it is missing entirely in programmes** • Heavily knowledge-based awareness about the teaching profession is represented in the programme • Limited development of the transversal sense in a limited number of courses • Adaptability as a missing aspect in the programme
	Teaching skills through content	• Limited activities for professional learning are organized • Students are only exposed to knowledge about teacher professional development
	Transferable skills	• Flexibility is not developed as part of the programme • Limited knowledge about the importance of lifelong learning is offered
	Dispositions to change, flexibility, ongoing learning and professional improvement, including study and research	• Lack of awareness about the teaching profession lifelong demands • Lack of awareness about induction phase challenges and the role of mentoring • Limited promotion of appreciation for research engagement for practice improvement
	Commitment to promoting the learning of all students	• Programme develops an understanding of the importance of equality and diversity • Civic education is covered only within one theoretical course • Superficial knowledge about civic education is promoted in the programme

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Categories	Competences (representation in %)	Detailed findings on programme design and delivery
	Dispositions to promote students' democratic attitudes and practices, as European citizens (including appreciation of diversity and multiculturality)	• Students are assessed on the main knowledge frames of civic education • Respectful attitude is treated only by individual students • Programme promotes a limited understanding of minorities • Programme represents knowing about general European historic influence • No association with being European citizens reflected in programme • Limited student practical engagements in reflection, analysis and questioning discussions
	Critical attitudes to one's own teaching (examining, discussing, questioning practices)	• Limited sense for continuous self-reflection development through the programme • Teaching and learning is toughed at a traditional level • Mechanical learning is fostered • Programme and courses poorly trigger value creation • Creation of values is organized at the formal knowledge level
	Dispositions to team-working, collaboration and networking	• Critical thinking is not fostered as part of the programme • Group work is rarely required • Individual work and individually is cultivated throughout the programme • No networking platforms exist • No practical networking activities have been established
	Sense of self-efficacy	• Self-efficacy has never been discussed as part of the programme • Self-efficacy belief is not represented in the programme • Self-efficacy is not something student-teachers feel confident with.

The analysis of BA level studies, presented in *Table 5*, reveals that both programme design and delivery are predominantly focused on knowledge-based and academic approaches. This observation is further supported by various factors that emerged from the content analysis of the programmes and were corroborated by the study respondents. Additionally, the findings indicate that in numerous instances, there is a lack of alignment between course design and its actual delivery. This disparity between what is intended in the programme design and what is practiced during delivery is discussed throughout this section.

> Many course syllabi that are presented to us at the beginning of each semester are not in line with the actual implementation of those syllabi throughout the course delivery. (Primary teacher education student-teacher 18, phase 2)

The analysis reveals a significant prevalence of subject/academic courses within the programming, highlighting the substantial emphasis placed on subject matter knowledge in teacher education. According to feedback from several study respondents, even subject didactics courses are predominantly conducted as purely academic courses, further reinforcing the subject/academic orientation of the programmes.

> We have a lot of academic subjects in our programme. I am saying this because even the didactics of academic subject courses are treated as academic subject courses. We have had many subjects presented as "Methodology of the respective subject", but in reality, those courses did not correspond at all with the subject methodology course in practice. Although enrolled in subject didactics courses, we have been confronted with pure science. Therefore, I consider that the focus of the programme has been on preparing us with strong academic knowledge. (Primary teacher education student-teacher 284, phase 3)
>
> I consider subject teaching as a highly important aspect of the programme. Teachers should have a good command of the subject they will be teaching above everything else. (Teacher educator 8, phase 2)

Regarding the programme design (content), the analysis demonstrates that knowledge and understanding are the central elements, with subject matter knowledge taking precedence on the priority list. On the other hand, skills and values development seem to be overlooked and are absent from the programmes. The passage below serves as an example, highlighting the knowledge-focused nature of the learning outcomes.

> Gain knowledge and learn the rules of teaching and learning, as well as get acquainted with the relationships between learning processes on the one hand and the individual and society on the other. (Primary teacher education 1, p. 90)

The results also show the programme delivery (process and implementation) dimension. Conversations with study respondents have revealed that the conventional method of lecturing and knowledge transmission is the prevalent approach in teacher educator classroom practice. There is limited encouragement for practical engagement, and individual learning with exam-based assessment is the norm. Student-teachers have expressed their concerns about how this approach to programme implementation fosters memorization and mechanical learning. The delivery of the programmes has been extensively criticized by student-teachers, who have highlighted its strong emphasis on knowledge-focused teaching methods.

> I usually don't feel comfortable having to sit for 2 hours listening to the professors' lectures. Lectures should be interactive and engage us in various activities. But the vast majority of Professors choose the traditional approach of frontal lecturing with no interaction. Student contribution and engagement in activities is poor. There is no collaboration and debate. It is meaningless that we are assessed only with one exam at the end of the semester. Usually, we have no practical engagement. This approach of lecturing has created maximum distance between us and Professors because we are obliged to consider professors in distance as in the traditional education systems. (Primary teacher education student-teacher 298, phase 3)
>
> We have been encouraged to use mechanical learning and memorization. In a way, we are forced to be mechanical because this is determined both by the lectures and by the assessment approaches. I consider that the focus of the programme remains on knowledge and mechanical learning. (Primary teacher education student-teacher 289, phase 3)

Below, the discussion centres on the misrepresentation and inadequate implementation of competence areas as outlined by the European framework, drawing attention to the experiences shared by the study respondents.

> For curricular knowledge, apart from what we have learned a little in school practice, our cohort has learned almost nothing about the curriculum. In theoretical terms, it has been mentioned briefly and superficially. However, we as future teachers will be faced with curriculum planning and implementation and, unfortunately, we do not even know the curriculum well. (Primary teacher education student-teacher, 123, phase 2)
>
> We only had one course related to inclusion and I do not consider one course as being enough to equip us with knowledge and skills to be inclusive future teachers. Inclusion and diversity are issues that we will constantly face during teaching, which unfortunately we are only equipped with minimal knowledge in this regard. We did not have practical engagement and the tasks and activities were minimal. Therefore, we are not skilled in this aspect. (Primary teacher education student-teacher, 296, phase 3)

> Student-teachers do not need formal and theoretical courses. They need to be exposed to various activities that will help them be investigators and researchers. As future teachers, they need to be more analytical about the various problems in the classroom and at school and be able to evaluate them critically. Only in this way, they can be ready to face and be able to address different challenges. However, very few subjects at the Faculty of Education try to develop those skills and values. Acquiring knowledge is considered vital in programmes we offer, while critical and research skills development has not been dedicated the necessary attention. (Management staff 1, phase 3)
>
> We should be provided with more time-appropriate skills. We need to be teachers who know how to research, present arguments critically, and know-how to make sound decisions. Unfortunately, theory and knowledge prevail as the most important pillars of the programme. […] The aspect that the programme needs most, and what it lacks, is the practical engagement in research and the creation of a research approach to teaching and problem-solving. We need to deal more with education research. The only course is "Foundations of education research". We should be exposed more to education research in order to have the research skillset in order to better approach our students' needs adequately. (Primary teacher education student-teacher, 48, phase 2)

Lastly, the analysis presented in Table 5 has revealed that, although skills and values are not prioritised in programme design and delivery, general education-related courses have been shown to develop more skills and values than other course categories (i.e., Subject and Subject didactics).

At the Master's level, there is an improved integration of professional and academic course content, attributed to MA programmes' exposure to European-funded reform projects. This external focus challenges and reforms existing programme structures. Despite this improvement, the analysis reveals a prevailing content and knowledge-focused orientation in course implementation, with isolated courses lacking inquiry and problem-based teaching. Respondents note significant disparities influenced by individual teacher educators' practices. A specific example illustrates contradictions in programme content, highlighting the tension between knowledge-focused outcomes and the need for analytical and critical focus in student learning.

> The focus of this course is to equip students with knowledge about the use of basic teaching methods, in order to achieve learning objectives in school subjects related to Biology. The course helps students acquire the necessary knowledge on competencies for Biology teaching at different curricular levels in accordance with the national education system. (Master of Subject Teaching, 29)

Table 6

MA level detailed programming findings (based on EU Framework 2013) (see also: Kaçaniku 2021)

Categories	Competences	Detailed findings on program design and delivery
Knowledge and understanding	Subject matter knowledge (8%)	**Knowledge development is the main programme priority** • Programmes represent an equal range of professional and academic course • Course implementation is oriented towards knowledge delivery • The actual implementation of course delivery depends on teacher educator practice • Programmes offer quite a few subject courses
	Pedagogical Content Knowledge (PCK) (10%)	• Pure academic subject courses still occupy subject teaching programmes • PCK occupies a good portion of programmes • There is an appropriate representation of PCK in programmes
	Pedagogical knowledge (6%*²)	• Programmes cover the delivery of curricular knowledge from a theoretical perspective
	Curricular knowledge (2%)	• The majority of teacher educators fail to engage student-teachers in practical engagement with curricular knowledge
	Educational sciences foundations (2%)	• Programmes cover educational sciences foundations only from a theoretical perspective
	Contextual, institutional, organizational aspects of educational policies (10%*)	• Student-teachers are required to deliver reflection papers that lack a follow-up discussion and feedback sessions
	Issues of inclusion and diversity (4%*)	• Programme covers an adequate level of knowledge distribution on issues of inclusion and diversity
	Effective use of technologies in learning (2%)	• Student-teacher are exposed to limited knowledge of use technologies in learning
	Developmental psychology; Group processes and dynamics, learning theories, motivational issues (2%)	• Basic knowledge of Psychology is delivered to student-teachers during programmes/course delivery • Programmes cover only a theoretical understanding of group processes and dynamics, learning theories, motivational issues

² Elective courses are identified with an asterix. Obligatory and elective courses decision is relevant for the Findings discussion.

Categories	Competences	Detailed findings on program design and delivery
	Evaluation and assessment processes and methods (6%)	• Programmes deliver an adequate knowledge of assessment methods • There is a variation between different course requirements, approaches, activities and assessment • Programmes give emphasis to heavily academic and subject-oriented courses • A minority of courses follow a problem and inquiry-oriented approach • Lecture-based courses dominate programme design and (especially) programme delivery • Activity and practically oriented courses are course and teacher educator-dependent • Activity-based and practical assignments, discussion, reflection and formative assessment remains on programmes delivery margins • A number of courses require collaborative group work, but afterwards asses individual work • Single final exam assessment approach is the typical student-teacher assessment approach • The common programme delivery approach turns student-teachers into receivers • The knowledge and content-based practice dominate programmes
Skills	Planning, managing and coordinating teaching (8%*)	**Skills development is not considered programmes priority** • Programme offers opportunities for student-teachers to only develop basic planning skills • Planning in relation to curriculum requirements is addressed poorly in programmes
	Using teaching materials and technologies (2%)	• Programmes develop poor student-teacher skills in using teaching materials and technologies
	Managing students and groups (2%)	• Programme offers a general knowledge of assessment • Student-teachers do not feel confident in assessment skills
	Monitoring, adapting and assessing teaching/learning objectives and processes (0%)	• Research methods skills development is only covered in one course throughout programmes • Student-teachers feel good with research planning

Categories	Competences	Detailed findings on program design and delivery
	Collecting, analysing, interpreting evidence and data (school learning outcomes, external assessments results) for professional decisions and teaching/learning improvement; Using, developing and creating research knowledge to inform practices (6%*)	• Programme covers limited-to-no research engagement and discussion • Student-teachers do not consider themselves skilled for evidence-based decision-making • Skills for identifying, engaging and monitoring professional learning are missing • Student-teachers are not acquainted with professional development parameters and expectations • Thesis work as the only research engagement • Limited skills development opportunities for critical judgement of education problems
	Collaborating with colleagues, parents and social services (4%)	• Programme/courses implementation offers rooms for limited group work collaboration • Collaboration among student-teachers is usually treated as an isolated activity • Limited skills development opportunities for responsive, collaborative with colleagues, parents and social services
	Negotiation skills (social and political interactions with multiple educational stakeholders, actors and contexts) (0%)	• No negotiation skills development opportunities • Limited course cover teacher-stakeholder communication provisions
	Reflective, metacognitive, interpersonal skills for learning individually and in professional communities (4%)	• Reflection skills is developed as a formality • No feedback is provided on student-teacher reflection assignments • Programmes fail to develop a bridge between theory and practice
	Adapting to educational contexts characterised by multi-level dynamics with cross-influences (from the macro level of government policies to the meso level of school contexts, and the micro level of classroom and student dynamics) (0%)	• Limited discussions on context-based variations and dynamics pertaining to teaching profession • Learning is organised as an individual and isolated process

Categories	Competences	Detailed findings on program design and delivery
Dispositions: beliefs, attitudes, values, commitment	Epistemological awareness (issues concerning features and historical development of subject area and its status, as related to other subject areas) (2%*)	**Development of beliefs, attitudes, values, commitment is missing component of the programme** • Limited courses offer a platform for exposing student-teachers to value creation for the interrelatedness of subjects • Student-teachers claim to have a limited sense of transferable skills • Programmes have created a picture of the education system as a static environment with formal requirements
	Teaching skills through content (2%)	• Programmes fail to organize activities to develop a flexibility-oriented approach to the teaching profession
	Transferable skills (2%*)	
	Dispositions to change, flexibility, ongoing learning and professional improvement, including study and research (6%*)	• Professional learning has been considered important in some cases (courses within programmes) • Lack of efforts to develop an understanding that teaching is a lifelong profession • Professional development prospects are only covered in terms of licensing (a formal TPD framework in Kosovo)
	Commitment to promoting the learning of all students (4%)	• Student-teachers understand career advancement as a top-down required process • Professional learning and improvement not internalized as part of programmes goals and values
	Dispositions to promote students' democratic attitudes and practices, as European citizens (including appreciation of diversity and multiculturality) (2%)	• Teacher-research work is perceived as a demanding task and not vastly covered within programmes • Democratic values • Student-teachers claim to feel no association with being European teachers • Being critical and analytical is poorly addressed within the programmes
	Critical attitudes to one's own teaching (examining, discussing, questioning practices) (0%)	• Examination and questioning is not a continuous programme effort
	Dispositions to team-working, collaboration and networking (4%)	• Teamwork is important but not practiced in terms of course and programme – based activities
	Sense of self-efficacy (0%)	• Student-teachers claimed to struggle with the self-efficacy concept

In some cases, programme analysis has shown that courses are titled as teaching methods and didactics courses, but their content only represents pure academic subject course. This result has also been confirmed by several study respondents and relates to their main argument that programmes' delivery depends on teacher educator practice.

> This course is focused on helping students to supplement their knowledge of the history of the development of the world's most popular religions, whether polytheistic (Egyptian, Greek, Roman and Illyrian), or monotheistic (Judaism, Christianity and Islam). Topics covered in this course include selected chapters dealing with the basic concepts of religions, differences and commonalities of different religions, coexistence between religions during different historical periods, religious conflicts and contradictions, etc. (Master of Subject Teaching, 54)

Apart from analysing programme content, respondents have shared their experiences and insights regarding course implementation. The findings shed light on the diverse approaches used in delivering different courses, including variations in teacher educator lecturing styles, assignments, activities, and assessment methods. The discussions among study respondents indicate a widespread consensus concerning the predominant type of lecturing, characterized by traditional knowledge transmission with limited student engagement, minimal practical activities, group work, and assessment mainly reliant on comprehensive final exams. While student-teachers did acknowledge some exceptions in certain courses where theory and practice were integrated, these instances were discussed to a lesser extent, highlighting their limited representation in the overall programme delivery.

> Unfortunately, the majority of teacher educators exercise their roles as teacher educators formally and traditionally. Lecturing and exam-based assessment promotes a limiting and knowledge-based teacher education. (Teacher educator 3, phase 1)
>
> There have been cases when we met with the Professor in the first week of the semester whereby presenting syllabus provisions. There, the Professor noted that we will be continuously assessed about activities, research projects, group collaboration, and discussion during lectures, all this in addition to the final exam. However, the syllabus has not been implemented in practice as stated, and teacher educator-centred lecturing was realised. We have reacted and wanted to clarify why the syllabus was not respected and why such a drastic difference in approaches transpired – from the one presented to the one implemented. In this case, the professor in question responded that "I took this syllabus as a template from the accredited programme, but I do not practice and respect such a syllabus". The Professor has argued that our gaining knowledge is something he considers

important for the course design and delivery, thus, our course content knowledge was assessed with a final exam at the end of the semester. (Subject student-teacher 281, phase 3).

Master programmes in subject teaching are designed to attract students from strong academic disciplines like Biology, History, Chemistry, etc., to prepare them to become subject teachers. Consequently, the programmes aim to equip these students with the necessary knowledge, skills, and values related to subject teaching. However, according to study respondents, some courses within these programmes still tend to prioritize the academic aspects of the subject rather than focusing on the teaching (didactic) dimension. A high focus on academic subject knowledge refers to the depth of understanding and expertise in the specific subject for future teachers, for example a strong grasp of Mathematics content knowledge, as opposed to how to teach Mathematics to pupils (the pedagogical content knowledge) (see also Hudson et al., 2023). Student-teachers have expressed their perception that subject teaching programmes heavily emphasize knowledge but lack emphasis on practical activities and skills development. Furthermore, there is a consensus among student-teachers that the development of values and attitudes is absent from these programmes. In light of these concerns, study respondents have expressed their apprehension that the knowledge acquired for the teaching profession may not be sufficient to meet the demands they will face as future subject teachers.

In many subject methodology courses, there is a complete deviation from the syllabus and what is expected from such courses. We are finishing the first year of the subject in teaching master programme, but I can say that I still do not have a command of subject teaching. We have professors of academic subjects, but not the methodology of subjects. This is a critical aspect of the programme, which is missing. (Subject student-teacher 7, phase 1).

We still do not have proper knowledge of how to assess our future students. Only considering how we are assessed by our Professors, which in most cases is through a final exam, it reflects how the main principles of formative assessment are not being followed. As future subject teachers, we will be expected to continuously assess the specific learning outcomes of students in accordance with the new national curriculum. However, I can say that I am only theoretically prepared for education assessment, but I lack the skills due to limited practical engagement and activities. (Subject student-teacher 279, phase 3).

We do not need to discuss skills and values development as they were completely ignored in programme delivery. I have some general values

previously acquired, but not anything coming from the course or programme delivery. (Subject student-teacher 199, phase 2).

IV.2. *Europeanisation or surface convergence of study programmes dilemma*

This section highlights tensions between the surface convergence of programmes with European models and their actual implementation, echoing inconsistencies revealed in the preceding section. Focusing on programmes restructured based on European models, the analysis unveils variations in implementation, heavily reliant on individual teacher educators' practices. Despite formal convergence, where programmes mirror European structures, implementation remains ad hoc and isolated, shaped by educator practices. All programmes adopt the European Credit Transfer and Accumulation System, harmonized degree structures, and the three-cycle system, aligning with Bologna objectives. The commitment to the Bologna Process is reflected in programme content. Additionally, the findings affirm Kosovo's active participation in Tuning Europe (III-IV) from 2005 to 2009, with the University of Prishtina, Faculty of Education, contributing significantly. However, there's skepticism among teacher educators and management staff about the effective incorporation of Tuning project requirements into programme content, citing inadequate information.

> I don't think we refer to Tuning project in our programmes. I know vaguely about the project, but I could not say that we have used Tuning as reference point for our study programmes reform. (Management staff 1, phase 2)

Also, Master's programmes in subject teaching received distinct attention compared to other programmes. They have been privileged to receive support from various European-funded projects aimed at revamping their content based on the exemplary European initial teacher education programmes. As a result, numerous teacher educators observed that the programme content, including course descriptions and learning outcomes, underwent reform to align with the competence areas outlined in the European teacher education competence framework.

> The MedUP project has helped us to harmonize the programmes with the EU programmes and this project has been the "rescue" for us. […] Our current challenge is not the programme content, because we have generally harmonized MA programmes based on the European dimension of teacher preparation. We struggle with programme implementation. (Department head 3, phase 3)

While the efforts to align programmes with European teacher education frameworks might suggest progress towards European-level teacher preparation in Kosovo, challenges have surfaced at the level of teacher educator practices. It is widely recognized that teacher education remains a matter of national importance, and as a result, teacher educators impart their courses based on their individual beliefs, backgrounds, and experiences.

> We are having a lot of problems with the staff and the way they implement courses. […] We have just submitted programme syllabi for accreditation. Through a simple analysis of these courses, we can say that the courses are harmonized and equivalent to the course content in European initial teacher education institutions. But the problem is their implementation. Students are telling us that something else is presented as syllabus content, and something else is being implemented. This shows that the programmes have been reformed only superficially and that there is an urgent need to reform teacher educators. (Teacher educator 15, phase 3)

> The vast majority of syllabi are not implemented properly, everyone knows that, but nothing is done about it. The problem is with teacher educators who are not penalized for improper programme implementation. Syllabi are "perfect" on paper. (Subject student-teacher 17, phase 2)

The significance of teacher educators' role has been emphasized across various aspects of the discussions. The following excerpts underscore the relevance of this discovery concerning how the design and delivery of quality programmes is manifested.

> The programmes are implemented by the professors themselves and we continue to suffer the consequences of delivering quality programmes. I am not saying that we have not done anything because we have been engaged in various reforms and projects that have aimed to change. But, we deal with stagnant teacher educators. (Teacher educator 3, phase 1)

> Much of what is written in syllabi is not implemented. There is no mechanism that monitors and evaluates and that reveals how courses are carried out. (Department head, phase 2)

IV.3. *Fragmented implementation of study programmes*

This result highlights the existence of tensions between fragmented courses and integrated programmes within initial teacher education. Quality teacher education is structured in a disjointed and isolated manner, lacking a cohesive programmatic approach. Consequently, the development of future teacher competences is also fragmented into individual courses, resulting in

compartmentalized initial teacher education. Furthermore, there is a lack of harmonization or connection between different course syllabi and teacher educator classroom practices. Integrated teaching and learning are notably absent in these programmes, particularly in BA studies, where the issue of fragmentation is more pronounced.

> Courses are fragmented and the focus is on specific and isolated courses. There is no synthesis of topics concerning teacher development. This fragmented programme approach does not allow for the treatment of various problems related to the teaching profession in terms of a programmatic approach. (Teacher educator 12, phase 2)

> There is no collaboration between Departments or courses that should collaborate to harmonize syllabi. Everything is scattered. The purpose of teacher education is treated at the course and professor level and not at the programme level. There is no "we" and only "I" approach dominates teacher education programming. (Teacher educator 3, phase 2)

> I do not remember a time when two professors have integrated their efforts in two or more courses to provide integrated teaching and learning. I think this is a critical component in which we lack exposure. (Primary teacher education student-teacher 61, phase 2)

When considering potential opportunities for integrated teaching and learning, the participants in the study identified two obstacles that hinder productive engagement in teacher education: system/institutional formalities and significant disparities in teacher educator classroom practices. This discussion underscores how both formalities within the system and practical challenges contribute to the continued fragmentation of teacher education programmes.

> One year we have tried to offer a course that is co-taught by 3 teacher educators (15 weeks of a semester divided by 5 weeks for each teacher educator). The assessment has also been planned as a joint enterprise. This is a case where all three teacher educators have been of natural sciences disciplinary areas, thus, teaching the same course (i.e. Methodology of Natural Sciences) was "permissible". However, these three teacher educators could not come to a consensus on how to plan and deliver the course as well as how to assess students. Here, controversies related to "who is the leader of the course" needed to be settled. Another problem was institutional formalities. Our institution asks teacher educators to submit timesheets throughout the semester, totalling 15 weeks. However, the three teacher educators could not meet the formal institutional expectations of reporting hours held. Also, the great differences in the beliefs and practices of the three teacher educators were prominent, so much so that the students

have expressed difficulties to connect the knowledge they have gained through these three parts of the course. So, in a way, even though we are used to considering the programme design and delivery as fragmented through individual courses, in this case, we witnessed fragmentation within the same course. (Management staff 1, phase 1)

Study respondents showed a greater inclination towards implementing an integrated teaching and learning approach in cases where teacher educators shared similar values, beliefs, and practices concerning teacher development.

I tried it with my colleague to integrate the courses. In the framework of this practice, we have integrated the students of two different disciplines and programmes. But, although I prefer cooperation, I do not believe that productive cooperation is possible when my colleague and I do not share the same beliefs and practices about how integration is organized and more broadly how quality teachers are developed. (Teacher educator 3, phase 3) We have been exposed to an integrated approach between courses for one day in which we had to collaborate with students from another programme. At first, it felt odd as a process, but it triggered us to engage in very productive discussions with colleagues from the other subject teaching programme. I would prefer similar experiences for a longer period to evaluate in depth the benefits of such engagement in my future teaching practice. (Subject student-teacher 94, phase 2)

V. Discussion and conclusion

This paper represents a comprehensive elucidation of the research findings derived from a rigorous doctoral pursuit, firmly rooted in the data and content previously published as an integral component of the doctoral thesis (for more information, see: Kaçaniku 2021). The purpose of this paper was to examine the shift of teacher education programmes into competence-based in Kosovo in the context of European frameworks as a stimulus for change. Within the European context, the Council of the European Union has placed high expectations on stakeholders involved in initial teacher education to enhance the quality of these programmes in response to societal shifts. Numerous European competency frameworks and other initiatives have been utilized to assist teacher education institutions in achieving this challenging objective (e.g., Biesta 2012; Caena 2014a; Hudson et al. 2010; Hudson and Zgaga 2008; Hudson and Zgaga 2017). Consequently, modifications in the conceptual understanding and orientation of initial teacher education programmes have occurred in various settings. Our findings show that transitioning towards a competence-based paradigm shift is seen in Kosovo's motivation for EU integration by adopting European principles for programme improvement.

However, findings reveal that preserving programmes tradition is considered even more significant. Consequently, tensions and contradictions arise between programmes' tradition, motivation for EU integration, and actual programme implementation (refer to *Figure 1*) (see also doctoral dissertation: Kaçaniku 2021). While the doctoral dissertation primarily has centred on three dimensions of change pertaining to the quality of initial teacher education within the framework of European initiatives –namely, (i) policies and institutional culture, (ii) teacher educators, and (iii) study programmes– this paper reports findings on programmes change in the context of European interventions. Therefore, our research findings underscore that the successful transformation of study programmes into competence-based structures relies significantly on the education context and tacit knowledge of local stakeholders, which is evident in the diverse approaches adopted for programme implementation. Consequently, this study makes a noteworthy contribution to elucidating the significance of considering the educational context and tacit knowledge of teacher educators and other relevant stakeholders during the process of programme reform within the ambit of European initiatives.
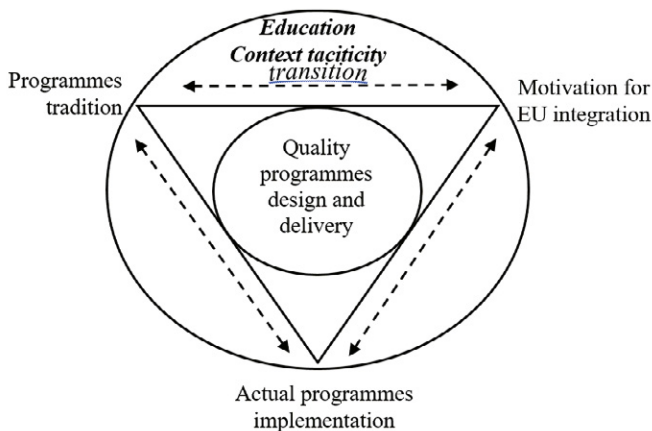
Figure 1

Quality programmes design and delivery (see also: Kaçaniku 2021)

Programmes' tradition plays a crucial role in the design and implementation of competency-based study programmes within the initial teacher education system in Kosovo. To comprehend this traditional aspect, it is important to acknowledge that Kosovo has been training teachers since

the 1950s. Over this period and within the specific context, local stakeholders have developed an understanding of the role of initial teacher education. Our findings indicate that the conceptual orientation of this programme tradition reflects the notion of preparing future teachers as holders of knowledge and views teachers as the primary source of knowledge in society. Loughran and Hamilton (2016) describe this conceptual orientation of the programme as the values and beliefs concerning teaching and the intended learning outcomes that the programme aims to achieve.

Furthermore, previous research reinforces the idea that conceptual orientations play a significant role in guiding practical activities involved in the design and implementation of teacher education programmes. These activities include the development of programmes and courses, teaching and learning methods, monitoring and evaluation procedures, and assessment strategies (e.g., Brouwer and Korthagen 2005; Flores 2016; Feiman-Nemser 1990; Zeichner 1983). Based on these sources, our findings support the notion that initial teacher education programmes in Kosovo prioritize the transmission and acquisition of knowledge as the primary goals of the programmes. The majority of stakeholders in Kosovo maintain a perception and understanding of competence-based programmes that align with the traditional orientation focused on academic and knowledge-based aspects. Through discussions with participants in the study, we contend that breaking away from generations of tradition in Kosovo's teacher education system remains a challenging endeavour. As a result, the implementation of programmes continues to be influenced by the implications inherited from the emphasis placed on the academic and knowledge-based tradition of teacher preparation.

According to the EU framework (2013), our research findings indicate that there is a significant focus on course descriptions and learning outcomes related to knowledge and understanding, while skills, beliefs, attitudes, and values receive limited attention. The content of the programmes places excessive emphasis on subject matter knowledge, with other forms of knowledge being underrepresented. This conceptual orientation is also reflected in the delivery of the programmes, where teacher educators play a guiding role in implementing the planned course content. The majority of teacher educators in Kosovo support a formalistic approach to knowledge transmission, wherein courses primarily consist of traditional lectures, student-teachers have limited involvement in the learning process, practical activities are scarce, and assessment is primarily conducted at the end of the course. The dominance of an academic orientation is considered the hallmark of 'quality' in competence-based teacher education programmes, leading to significant implications in practice. Consequently, the existing attachment of

institutional stakeholders, particularly teacher educators, to such traditional programme approaches acts as a barrier to improving the quality of programmes and implementing necessary changes.

The drive for EU integration serves as a strong motivator for Kosovo's endeavours to transform its study programmes into competence-based designs and delivery. Based on our research findings, it is evident that the motivation for EU integration among local stakeholders plays a pivotal role in engaging initial teacher education institutions to restructure their programmes and enhance their quality. In line with these efforts, Kosovo's initial teacher education institutions have actively participated in the EU-led restructuring process to ensure the compatibility of their programmes with those of European partner institutions. At the structural level, these institutions have aligned their degree structures, implemented the three-cycle system, and implemented the European Credit Transfer and Accumulation System (ECTS). Furthermore, our findings affirm that the process of programme reform has been facilitated through EU-funded projects. Partner universities from Europe have provided assistance to Kosovo's initial teacher education institutions in reforming their programme structures and content, drawing on European competence-based programme models. Within the framework of these projects, Kosovo stakeholders, including teacher educators and other staff members, have benefited from capacity-building initiatives and mobility schemes.

Nevertheless, European initiatives primarily focus on implementing structural reforms in programmes and providing frameworks for discussing the essential competencies that future teachers should possess. Within the scope of our study, this implies that local stakeholders in Kosovo were offered a platform to adapt competence-based teacher education programmes to their specific context. According to Krek (2017), the lack of a standardized teacher education process across Europe makes it challenging for initial teacher education institutions to ensure consistent implementation of competency-based education. Therefore, European competence-based frameworks offer precision and foster a shared understanding of the development of teacher competencies across Europe (European Commission 2013). These frameworks also stimulate new perspectives on conceptual orientations for teacher education, with a focus on preparing teachers for the demands of the 21st century. Consequently, local stakeholders within Kosovo's initial teacher education institutions had the opportunity to transform their programmes into competence-based approaches by exploring how these teacher education paradigms could be adjusted to the national and local context of teacher competence development in Kosovo. Schratz (2014)

also advocates for a European-led approach that considers the specific contexts in which teachers' competencies are developed. In line with our findings, this means that local stakeholders in Kosovo were not forcibly imposed with European guidelines for transforming their study programmes, but instead were given the opportunity to adapt European teacher competence areas to the design and implementation of their programmes while considering their local context.

European-led initiatives aimed at enhancing programme quality provide opportunities for individual institutions and stakeholders to exercise autonomy and flexibility in designing and implementing competency-based programmes (Caena 2014a; Flores 2016). However, our research findings indicate that the European-led frameworks for competence-based programme reforms were primarily utilized to achieve superficial compliance. Local stakeholders were mainly involved in the formal drafting of competencies and learning outcomes for programme and syllabus design. Our findings emphasize that competence-based teacher education programmes are treated and implemented as a matter of national concern. The structural changes made to align programmes with competence-based principles were primarily driven by the motivation to please international partners and the donor community, which was a shared value among local stakeholders. Nevertheless, our study reveals that the initial openness and willingness of stakeholders to engage in structural reforms does not necessarily indicate their genuine appreciation or acceptance of a complete transformation towards competence-based programmes. The local stakeholders' willingness to align with EU structures often reflects a superficial readiness to demonstrate engagement with the EU reform process and make 'cosmetic' changes in order to integrate into EU frameworks. Consequently, we argue that the autonomy and flexibility afforded to local stakeholders hinder the full-fledged transformation of programmes towards a paradigm shift that truly ensures quality teacher education.

The actual implementation of programmes is shaped by the internal values and practices of local stakeholders, which reflect how the quality of programme design and delivery is realized within the framework of European initiatives. Our research findings indicate that, although programme content underwent reforms based on European models for initial teacher education programmes, the same stakeholders displayed significant resistance when it came to committing to and implementing European initiatives aimed at improving programme quality. Our study reveals a dichotomy between stakeholders' apparent readiness to enhance programme quality within the framework of EU competence frameworks and their actual readiness as

demonstrated in the implementation of programmes. As discussed by Caena (2014a) and Flores (2016), this gap or dichotomy can be attributed to the substantial autonomy enjoyed by teacher educators who serve as implementers of programmes (see also Flores 2018). Due to the autonomy and flexibility granted to teacher educators in Kosovo, greater emphasis is placed on their individual values and beliefs regarding how to implement programme content and shape the desired outcomes for student-teachers as future teachers. In summary, we contend that the practices of teacher educators hold significant influence over programme implementation.

The discourse surrounding the improvement of quality teacher education over the past two decades has been marked by various emerging issues related to different conceptualizations of teacher professionalism. These conceptualizations range from viewing teachers as mere "doers" and "technicians" to considering them as "curriculum developers" and "researchers" (Biesta 2012; Biesta 2016; Caena 2014b; Flores 2016; Loughran and Hamilton 2016). However, the PhD dissertation (see also: Kaçaniku 2021) and findings in this paper indicate that these 20 years of debates are confined to a specific context of initial teacher education programmes in Kosovo, where significant contradictions exist between programme tradition and the pursuit of improvement and change. The dependence on teacher educators in programme implementation has contributed to a situation where Kosovo's initial teacher education is caught between two highly conflicting paradigms of programme implementation. The role of initial teacher education programmes has become increasingly ambiguous, accommodating alternative interpretations, conceptualizations, and approaches put forth by teacher educators within their specific educational context. This predicament arises from an unequal distribution of power among local stakeholders, with teacher educators holding significant "control" over course and programme implementation and the determination of future teacher competencies.

In conclusion, further exploration is warranted to understand the roots of predominant focus on knowledge-based and academic approaches in the design and delivery of teacher education programmes and to propose corrective actions. Our discussion has underscored the intricate dynamics between the preservation of programme tradition, the motivation for EU integration, and the challenges encountered in actual programme implementation. The historical context of teacher education in Kosovo, dating back to the 1950s, has cultivated a deep-seated belief in the role of teachers as knowledge holders. This conceptual orientation, shaped over decades, has influenced the design and implementation of programmes,

favouring a traditional academic emphasis. Consequently, the transformative shift towards competence-based paradigms faces resistance as local stakeholders, particularly teacher educators, exercise significant autonomy in programme implementation. Therefore, the transformation of study programmes into a competence-based paradigm shift is shaped by the push-pull dynamics within the educational context, influenced by the stakeholders' tacit knowledge and understanding.

The study recommends continued collaboration with European partner institutions to further harness their expertise in developing competence-based teacher education programmes. Additionally, the study suggests facilitating networking opportunities for local stakeholders to exchange insights and best practices with peers from other countries. In terms of stakeholder engagement and dialogue, the study recommends encouraging open collaboration among teacher educators, policymakers, and diverse stakeholders. This inclusive approach is vital for collectively envisioning and implementing transformative reforms. Seeking input from a variety of perspectives is also recommended to ensure a comprehensive and well-rounded approach to the ongoing transformation of teacher education programmes in Kosovo.

Notes

In contrast to the doctoral thesis (see: Kaçaniku 2021), which is focused on three dimensions of changes manifested in the quality of initial teacher education in the context of European initiatives, such as (i) the dimension of policies and institutional culture, (ii) the dimension of teacher educators and (iii) the dimension of study programmes, this paper demonstrates the scholarly efforts in providing a comprehensive understanding of study programmes' change in the context of European interventions.

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About the author

DR. FJOLLA KAÇANIKU (fjolla.kacaniku@uni-pr.edu) is an Assistant Professor at the Faculty of Education, University of Prishtina in Kosovo. Her research interests are quality teacher education and European education policies focusing on teacher education. She has held several research grants and contributed to several national and international research projects in Europe

and Asia. She is currently a board member of the Teacher Education Policy in Europe (TEPE) network. Recent articles and book reviews appear in Policy Futures in Education, Quality in Higher Education, and European Journal of Teacher Education and she also serves as a reviewer for Tuning Journal for Higher Education.

Faculty development to design effective online courses: Responding to requirements

Kamil Arif Kırkıç, Zehra Sedef Korkmaz, Selçuk Doğan, Ümran Yazıcılar Nalbantoğlu, and Sina Güzin Cengiz*

Abstract: Since the pandemic, the importance of faculty development has been taken much more attention and has gone from being an 'expectation' to a 'requirement'. Therefore, universities have started to step toward faculty development, which is also necessary. A wide variety of professional learning activities has been

* **Kamil Arif Kırkıç** (corresponding author, kamil.kirkic@izu.edu.tr; ORCID iD: https://orcid.org/0000-0002-8902-437X), PhD, is an associate professor of curriculum and instruction in the Department of Educational Sciences, İstanbul Sabahattin Zaim University, İstanbul, Türkiye.

Zehra Sedef Korkmaz (sedefcoskun@artvin.edu.tr; ORCID iD: https://orcid.org/0000-0002-3466-8119), PhD, is an assistant professor of education in the Department of Educational Sciences, Artvin Çoruh University, and Artvin, Türkiye.

Selçuk Doğan (sdogan@georgiasouthern.edu; ORCID iD: https://orcid.org/0000-0002-0527-8453), PhD, is an associate professor of curriculum and instruction works at Georgia Southern University, United States of America (USA), and teaches instructional design, methods, and assessment courses.

Ümran Yazıcılar Nalbantoğlu (umranyazicilar@gmail.com; ORCID iD: https://orcid.org/0000-0002-5535-9075), PhD, is working as a Learning and Development Manager in an international company and has a postdoctoral research fellowship at European Science Institute, Germany.

Sina Güzin Cengiz (sina.cengiz@izu.edu.tr; ORCID iD: https://orcid.org/0000-0002-1503-5711), PhD student, is a research assistant in preschool teaching education in the Primary Education Department, İstanbul Sabahattin Zaim University, İstanbul, Türkiye.

More information about the author(s) is available at the end of this article.

used for faculty development purposes in universities, but the research examining its effectiveness is limited. Our goal is to investigate the experiences of faculty from diverse backgrounds regarding technology-based, high-quality professional development programs in terms of their effectiveness. The faculty working at a foundation university participated in high-quality professional development programmes implemented in this study. The data were collected through focus group interviews. Using a qualitative methodology, we have found that faculty improved their knowledge and skills in designing and teaching online courses, with some faculty even reporting active use of what they have learned in their class and finding it valuable and effective. Program features such as feedback, facilitation, and best examples are helpful for having faculty grow pedagogically. The faculty has demonstrated that they can participate in learning activities that are meaningful to them in their daily lives. For the professional development programmes designed for the faculty to be effective in future studies, it is recommended that the programmes should be designed in a meaningful way for the faculty.

Keywords: Faculty development program; centre of excellence; online teaching; online instructional design; professional development in higher education.

I. Introduction

After receiving their doctorate, faculty members at the university level become competent in their fields of expertise. However, a faculty member may not have the essential skills to be a fully competent instructor (Persellin and Goodrick 2010). Few are trained on how to teach, design effective instruction, facilitate student learning, or assess learning outcomes.

Instructional quality and student success are well-known as being among universities' quality criteria for securing jobs and gaining tenure (Stupnisky et al. 2018). Universities are well aware that the faculty are a key to success in higher education and expect them to have the essential qualifications and attend professional development (PD) to gain various pedagogical competencies (Shankar, Gowtham, and Surekha 2020). Since the pandemic, the importance of faculty development has received much more attention and it is now more than expectation but also a requirement (Hodges et al. 2020). A wide variety of professional development activities such as teaching excellence centres (Mazı, Kırkıç, and Gürdağ 2022) virtual work labs (Boutelier et al. 2020), one-on-one consultations (McKee and Tew 2013), online courses (Bragg, Walsh, and Heyeres 2021; Hollander, Vavasseur, and Robicheaux 2020), and fellowship models (Welch and Plaxton-Moore 2017) are used for faculty development purposes in universities, and these have expanded since the pandemic.

Supporting faculty with a variety of professional development opportunities have positive outcomes for students to gain the skills needed to

learn better and for the permanence of the gains they have achieved (Levesque-Bristol et al. 2019). As Pascarella and Blaich (2013) demonstrated, effective teaching through faculty development increases college students' achievement levels. Students who have the opportunity to study in student-centred classrooms can create higher quality products. In addition to having higher self-efficacy and better attendance rates, students exposed to the student-centred teaching processes are also competent at transferring the knowledge and skills they have gained to new learning environments (Hoyert and O'Dell 2019). The faculty also gain advantages. In Richter and Idleman's (2017) study, faculty who were trained to teach online courses had higher teaching self-efficacy. Roman, Kelsey, and Lin (2010) also echoed similar findings, with faculty improving both technological and pedagogical skills through a six-week intensive faculty development course.

Workshops, seminars and workshops should be designed by higher education institutions to enable academics to become techno-pedagogues rather than ensuring that they are competent pedagogues. However, the current situation also has components that hinder academician technical skills and technical integration (Asad et al. 2012, 9-10). In addition, the use of ICT-related tools in education is one of the obstacles that academics will encounter in the new learning environments they enter. The use of tools requires academic staff and teacher educators to interact with potentially new learning environments and increases the complexity encountered (Rienties et al. 2013, 481). In order to eliminate these obstacles, it is necessary to add 'understanding of technological teaching knowledge (TPACK) and reasonable use of ICT for teaching and learning subjects' to PD programs (Fernández-Batanero et al, 2022, 526).Because the TPACK framework allows them to look at a complex phenomenon such as technology integration from different perspectives in professional development processes. Moreover, rather than simply treating technology as an "add-on" in professional development processes, the TPACK approach allows students to focus on the connections between technology, content, and pedagogy from a holistic perspective effectively and efficiently in classroom teaching (Koehler and Mishra, 2009, 67).

By considering the importance of faculty development and the effect of emerging innovative models of training faculty members, this study reports on a faculty development program aimed to improve their skills in order to design effective instruction. As universities create more opportunities for faculty and establish learning centres to support teaching excellence, importance is had in knowing whether or not these efforts have come to fruition. Creating a well-developed course at either the graduate or undergraduate level takes time and effort as well as expertise and support that go beyond writing a syllabus or

meeting students in synchronous sessions (Walsh et al. 2021). What faculty experience as they transform their teaching to a better modality needs to be understood. This information will help in planning future faculty development. As more is known about how teachers react to faculty development, professional efforts will be able to better address the challenges.

The growing market of technologies and educational apps has made allowed teaching to occur anywhere and anytime. The new generation of students are really familiar with these tools and know how to interact well in online environments. They expect to take responsibility for their own learning (Stout 2021). Faculty who have not experienced online design and teaching might experience difficulties, and university instruction might drop in quality. Teaching as a duty of faculty continues to evolve with almost daily advancements. Consideration must be given to preparing faculty to teach with innovative technologies and to design learning environments that fit students' needs (Leslie, Lizardo, and Kovacs 2021).

Moreover, just as courses are being digitized, faculty development will also continue to be implemented using digital tools in higher education (Alexander 2020). How faculty respond to more technology-based learning experiences remains unknown territory. Our study can shed more light on the matter in terms of how faculty from diverse backgrounds with different teaching responsibilities design their own online courses. We also need to address faculty concerns regarding online teaching. Most faculty believe that teaching an online course is demanding and that they don't have enough support to handle the related problems (Allen and Seaman 2009). Another point they often make is that in-person classes are always better and more effective (Jaschick and Lederman 2018). However, research results exist that show otherwise. For example, in Mandernach and Holbeck's (2016) study, faculty start to spend less time designing their courses after training because they feel comfortable enough to teach using technology and online learning methods in their practice. Therefore, faculty need support and structured experiences to prepare for online teaching, and this can be accomplished through faculty development programs.

II. Our faculty professional development program

Initially, we conducted a needs analysis to determine what the faculty members need for their professional development during the 2021 spring semester. Our analysis revealed measurement and evaluation approaches in online learning, innovative instructional strategies, course material development, technology use/integration, and online course design to be among the main content areas needing to be addressed.

We used effective professional learning theories and research results (Darling-Hammond, Hyler, and Gardner 2017), the Quality Matters (QM) rubric standards of online course design (Quality Matters 2020; Shattuck 2015), and online adult learning principles (Bragg, Walsh, and Heyeres 2021; Dede et al. 2009) to design the program. Our program is also closely aligned with recent systematic approaches to professional faculty development that are offered and studied for online teaching training and support (e.g., Ibrahim et al. 2020) which provide positive outcomes in higher education in terms of improvements in teaching. Because we have participants from various disciplines, from business to nursing and world languages, we also used Baran and Correia's (2014) framework for assessing online teaching with a focus on teaching, community, and organization. For teaching, we provided content, pedagogy, technology, and various combinations of each. For the community, we supported the groups with a facilitator for feedback and guidance, in addition to posts in the learning management system. For organizational support, we used sample plans/templates, worked examples, and university-recognized awards/badges. We integrated all frameworks and theoretical backgrounds to provide an intensive, three-week training program followed by group support sessions with facilitators.

Our program is characterized by active participation, hands-on design opportunities, and expert facilitation consisting of six synchronous courses (2 hours each), asynchronous activities that include 10 interactive videos (in Playposit) and five interactive reading assignments (in Perusall), two live design workshops, and three individual assignments that require the faculty to integrate their learning (i.e., designing a formative assessment), as well as four reflection diaries (see Figure 1). All activities were completed using Microsoft Teams. The content and detailed activities are outlined in the Appendix.
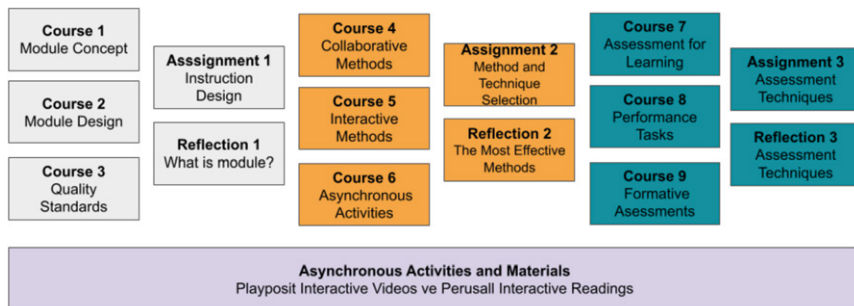
Figure 1

The outline of the PD program

III. Purpose and research question

The present study aims to examine faculty members' experiences in terms of PD outcomes. The participants never had any previous PD experiences to learn about online course design, but they were assigned to teach online in the following semester. The following research question guided our study: Can an online faculty development training provide faculty members with the skills and knowledge essential for design online courses?

IV. Method

We used a qualitative case study design (Yin, 2017) to examine faculty members' experiences, with the focus of the research being the program itself.

IV.1. Sample of the study

The participants are 50 faculty members employed in various faculties of a private university. During the program, we assigned tasks and asked all participants to make entries in their reflection diaries at the end of each week. We excluded faculty members who did not fulfil their task and who were unable to attend consecutive sessions and see the new content. The last live session had 16 faculty members who completed all of their tasks and assignments.

IV.2. Data sources

To acquire a better understanding of how the program affects faculty members' learning, we used reflection diaries, focus group interviews, and document analysis. Therefore, multiple measures (triangulation; Miles and Huberman, 1994) were used to provide an overview of the faculty members' experiences. Firstly, we designed reflection diaries that allowed the faculty members to reflect on the program and included five open-ended questions (e.g., What goal do you want to realize with the knowledge or skills you have learned in this module?). All faculty members filled out the reflection diaries after the live sessions in each module. We asked the participants to upload their reflection diaries to our learning management system (LMS).

Secondly, documents such as individual assignments (responses to prompts) and module plans (e.g., blueprints) were the main outputs of the programs that were developed each week. All documents were collected and

included in the research with the faculty members' permission. The documents in particular were used to monitor the progress and changes regarding the faculty members' knowledge and skills as well as to support the focus group interviews. They uploaded all assignments in our LMS.

Lastly, our main data sources were the focus group interviews. In order to examine the similarities and differences between the experiences of faculty members, we formed focus groups with people working in similar fields. We formed four different focus groups from the 16 people who completed the PD program and grouped them according to their disciplines. Each focus group included four faculty members from the Colleges of Health Sciences and Nursing, the College of World Languages, the College of Education, and the College of Humanities. The interview protocol included 12 questions, and the form was finalized based on the feedback of two experts specialized in curriculum, instruction, online learning, and professional development. We conducted all interviews online and the focus interview lasted approximately one and a half hours. All of the interviews were conducted just after the program with the goal of determining the faculty members' perspectives/views regarding the program and its structure (e.g., activities, learning opportunities) and their awareness of developments regarding design skills. For instance, the faculty members were asked whether the program had met their expectations, whether it had contributed to their design skills, and what suggestions they had about further developing the program.

IV.3. Data analysis

We analysed our data in three phases according to Braun and Clarke's (2006) framework. In the first phase, we created a dataset containing the documents, reflection diaries, and interviews for each faculty member. The second and fourth researchers organized and classified all the data collected. In the second phase, all the data were coded deductively due to our focus on self-reported experiences in terms of changes in knowledge, skills, and perspectives. We initially created a code list from the literature reflecting the possible outcomes that could be achieved as a result of PD with a focus on developing online design skills. We coded all data sources in line with this code list. We inductively coded when we noticed data outside of this code list. This was particularly evident when analysing opinions about the effective components of PD. Therefore, we added new codes to our original code list and then recorded all the data using the new code list. We worked manually on Excel while coding.

Theme and Code List	Group 1	Group 2	Group- 3	Group-4
A. Expectations and reasons for participation				
1. reasons for participating in the PD				
1.1. Willingness to learn innovations	pg13			
1.2. Willingness to design effective lessons				
2. Expectations from PD				
2.1. How to integrate technology into the lesson		pg13	pg14	
2.2. Technology supported assessment and evaluation	pg13		pg14	
2.3. Practical education				
2.4. The use of digital tools		pg15	pg14	fp
B. Representing the gained knowledge, skills and perspectives learned from the PD				
1. Change in knowledge	pg19			fp
1.1 Cooperative-interactive methods and techniques	pg19	pg18		
1.2 Lesson/module design	pg19		pg19	pg20
1.3. Student assessment (performance task)		pg18		pg19
1.4. Synchronous and asynchronous event planning				
1.5. Considering inquiring community constituents				
2. Change in skills				
2.1. Integration of technology into the lesson	pg18	pg16		fp
2.2 Using Teams as LMS	pg20	pg 19	pg21	
2.3. Synchronous and Asynchronous activity application	pg12	fp		pg28
3. Change in perspective on design				
3.1. Professionality				
3.2. Differentiation	pg22	pg22		
3.3. Innovative perspective		pg22		
3.4. Change in the understanding of measurement and evaluation				
3.5. The perspective of designing by taking into account the needs of the student		pg.17	pg29	
4. Implementation of what was learned				
4.1. Module/lesson design and implementation				
4.1.1 Big ideas/important question				
4.1.2 Using co-operative and interactive methods and techniques				

Figure 2

An example for coding process in data analysis

In the third phase, we defined similar categories and themes based on these codes in terms of an effect or result of the PD, with the themes being strongly associated with the data as suggested by Patton (1990). In total, we obtained three major categories: reasons for and expectations from attending the PD program, the gained knowledge, skills and perspectives, and effective elements of the PD program. The first category was divided into two sub-themes as expectations and reasons for participation. The second category, representing the gained knowledge, skills and perspectives learned from the PD, included four separate themes: change in knowledge, change in skills, change in perspective on design, and implementation of what was learned. The last category focused on the strengths and areas for improvement of the PD we designed and implemented.

In summary, when a faculty member stated having learned something new about the use of a technology or offered a new asynchronous activity, we coded it as learned knowledge. When we observed changes in perceived or intentional behaviour through such statements as "I used to conduct only synchronous lessons but now I integrate them with asynchronous activities" or "I tended to use LMS more, now I do things differently," we coded them as changes in design skills. When they made a comparison between old and new design habits, we acknowledged them as a change in design beliefs/ perspectives. The second researcher analysed all the qualitative data then discussed and reviewed them together with the fourth researcher.

IV.4. *Validity, trustworthiness, and role of researchers*

To enhance the validity and trustworthiness of the study, we used several techniques including in-depth data collection, triangulation, peer debriefing, and member-checking by considering the framework of Lincoln and Guba (1985). First, we employed data triangulation (i.e., focus group interviews, reflections, and assignments from the faculty members) to acquire in-depth data for research question. Second, we recorded each focus interview to confirm the accuracy of the data and shared these in Microsoft Teams. In this way, we ensured transparency by taking into account their access to interview records and transcripts. For member checking, we also stated that they have the right to make changes wherever they want. For peer debriefing, the fourth researcher then reviewed the analysis the second researcher had performed. All decisions at each step of the analysis were discussed with and validated by the fourth researcher, who also checked the findings from the interviews, the reflections, and the documents in terms of accuracy. Finally, the interview results were illustrated using representative quotes from the faculty in order

to underline the trustworthiness of the study. We used pseudonyms to conceal the identities of all participants.

Three of the researchers (second, third, and fourth researchers) in this study were not only the trainers (PD providers) but also the designers of the program. As designers, we explored theories and approaches for improving the faculty members' design skills as well as professional/faculty development in higher education. As trainers, we served as experts and facilitators for the faculty members, conducted the live sessions, followed their asynchronous activities, and gave them feedback. As a result, we have defined ourselves as outsiders (Dwyer and Buckle 2009) and as qualitative researchers who analyze data in research and are accustomed to understanding the context of faculty members. Finally, we did our best to address concerns about external validity by thoroughly specifying the study design, the participants, the data sources, the analyses, and the interpretations.

V. Findings

V.1. *Reasons and expectations for participating in the program*

The main reason for participating in the program was to learn how to overcome the difficulties they had experienced in online course design and teaching. The faculty members stated that they had experienced difficulties due to being unable to maintain students' active participation in their online classes. They felt incompetent using online teaching strategies and didn't know how to integrate technology into the design and teaching. Based on their expectations, we found that they expected to learn how to integrate technology into their course and learn new methods for technology-assisted measurement and assessment, how to design effective courses, and how to use digital tools. Two quotes below illustrate the motivation behind their participation:

> I wonder how we can adapt technology to education and how it benefits the student. In other words, we used to use it in the traditional presentations in Microsoft Teams, but I attended the program with the expectation that it would make a difference for us in the classes where various technologies are used [Melih, Health Sciences, Interview].

> During this [pandemic] period, I tried to investigate using some keywords such as what distance education strategies are there and how should they occur. However, maybe due to my laziness or I used the wrong keywords and concepts, I could not find more. That was why this program was exactly right for me. We can learn something by watching videos on the

Internet, but the important thing is that we should pay more attention to course design [Nedim, Education, Interview].

In summary, we can say that the faculty members participated in the program in order to be able to learn online course design and cope with the difficulties they experienced when teaching, especially during the pandemic period. In addition to the difficulties described above, faculty members stated that they were unable to design in accordance with the nature of the course during the pandemic (Kenan, Education), that they experienced difficulties in online assessment and evaluation (Özge and Masal, Islamic Sciences) and lacked experience with distance education (Kenan, Education). These challenges were the primary motivations for learning online course design and effective instructional design and the reasons that led them to participate in the program.

Based on the findings presented, the faculty members' engagement in our PD program was fundamentally driven by their need to adapt to the challenges of online education, which were particularly highlighted during the pandemic period. This adaptation involves mastering digital tools and learning effective online course design and teaching strategies. Their experiences reveal a significant gap in preparation for digital education and highlight the importance of professional development programs to equip educators with the skills and knowledge necessary for the evolving educational landscape.

As illustrated by their statements, the faculty members' motivations reflect a broader need within the education sector for training that goes beyond traditional teaching methods. This need is amplified in the context of unexpected transitions to online learning environments, such as those experienced during the pandemic. Faculty expectations of the program - to learn new methods of technology-enhanced measurement, assessment, and course design - indicate a desire for deeper integration of technology in education.

V.2. *Gained knowledge, skills, and perspectives*

Based on the focus group interviews, the reflection diaries, the documents, we found two areas that improved after the program: (1) improved knowledge and skills of instructional design and (2) changes in beliefs about instructional design.

Within the scope of the online module design, the faculty members first stated that they had learned what modules are and how to design them. Second, we found that they learned teaching methods that focus on

collaboration and interaction as well as how to design synchronous and asynchronous activities. For example, Dila from the College of Health Sciences stated that she had always taught with synchronous sessions before the program and expressed how the program also has contributed to her current skills in designing asynchronous activities:

> We always used TEAMS in our synchronous courses and simultaneously communicated with the students. After the training, I think our knowledge on asynchronous activities has improved. We learned better how to use TEAMs for asynchronous activities. [Dila, Health Sciences, Interview].

To validate Dila's response, we looked at her module design presented in Figure 3.

Day/Lesson and Time	Activity
Monday asynchronous Warm-up	Learners will be asked to bring "an object that represents birth for you" to the lesson with the announcement made by the teams team on the basis of the asynchronous activity created before they come to the lesson.
Entry Activity 4 min	A short video will be shared, the content of which includes the prenatal, birth and postnatal period and reflects those feelings, and will allow students to feel these processes as emotions.
Discussion 6 min	By asking the question of "Do you think the prenatal period, the moment of birth, or the postpartum period is more important?", Mentimeter assessment will be made and the percentage of opinions will be determined. They will be expected to think and respond based on the issue of women's health.
Group Working 30 min Discussion 30 min	The groups formed in line with the views will gather in the general channel after the group work and a debate will be held by supporting their ideas with literature that will defend their views. In the debate, peer evaluation and instructor evaluation will be calculated at the rate of 50%.
30 min	Lecturing
10 min	Objects brought with asynchronous preparation are shared, the opinions and predictions of other learners are taken, and the comment of the person who brings the brainstorming about the connection of the object with birth is listened.
30 min	Lecturing
15 min	Assessment via Kahoot or Quiziz
asynchronous assignment	One of the skill targets will be determined by a wheel created with the wheel of names, and the student will be asked to take a video of the skill target that appears on the wheel. For example, if the fundus massage came out on the wheel, the student will apply the fundus massage with the material they want, in the environment they want, take a video, and then upload it to the homework tab created in the virtual classroom. Evaluation criteria will be shared with the student along with the homework instruction.

Figure 3

Dila's Module Outline

As seen in Dila's module outline, she now designs her online courses by taking into account a balance of synchronous and asynchronous.

Furthermore, the participants learned how to integrate formative assessment techniques and the concept of assessment for learning. Specifically, Kübra, from the College of Education, also explained how her perspective had changed:

Before the program, I was in the group that advocated that face-to-face and distance education could be measured and evaluated with the same methods. However, I learned the differences due to the very important concept of assessment for learning. I learned how to monitor the asynchronous and synchronous assignments in online education, their percentiles, the outputs of performance tasks, and more. In short, I learned what we can do to assess the students [Kübra, Education, Interview].

The module Kübra designed proves how her main point of view had changed (see Figure 4).

Day/Lesson-Time	Activity
Monday, 20 min	Kahoot questions created by the teacher and questions prepared on the basic concepts of the creative drama lesson will be answered. Each student whose correct answers are revealed will be self-assessed.
Tuesday 40 min	What is creativity? And what are the stages? Straight narrative method will be told to the students using. (10 minutes) Students will develop a problem of a life in every stage of creativity within themselves. A student will be able to develop a question, and the other student will be asked to provide solutions using creative problem solving skills for the problem. (20 minutes) The stages of creating and answering the question will change for each student. Students will make a peer assessment and score the answers given over 5. Alternative solutions will be offered (10 minutes).
Wednesday 30 min	Students will produce products by working within the scope of the Performance task. The instruction of the performance task will be given. They will design a teaching method by finding a creative solution for a special student who does not understand the lesson with any method.
Wednesday 20 min	"How did this event make you feel? Can you write down how you feel about the product you created and the process?" Reflection articles with questions will be requested.
Thursday 30 min	Using Genialy, students are asked to create a presentation of what they have learned. The presentation is evaluated as relevance to the subject (25 points), writing his own thoughts about the definition of creativity (25 points), including the stages of creativity (25 points), using creative visuals and content (25 points).

Figure 4

Kübra's Module Outline

The module outline shows that Kübra's views on measurement and evaluation in the interviews had changed with the program and that she now uses process evaluation instead of classical methods. This change proves that the program has increased the faculty members' online design knowledge and skills.

Some faculty members who had a chance to implement the design they had developed during the program provided us with similar findings. They stated that the assignments and the trainers' perspectives had enabled them to prioritize the design decisions they make. They used module design principles and preferred collaborative and asynchronous methods and techniques over the more traditional teaching methods. They also provided feedback to their students after they completed a formative assessment. Some participants also reported using the new technologies and digital tools/apps during their online

teaching. From their observations of their own class, they stated that their new design and teaching habits had helped their students become more interested in learning and that some of the students had told them how they felt included in the learning process. Excerpts from two faculty members demonstrate how the program had affected their practice and teaching:

> In my last class. I employed several technology tools. I first started with entry tickets. Then the students completed short assignments. They presented what they had in the class. Then, they received feedback from me. I asked questions and allowed them to reflect on their learning. I collected all the students' views and used them for self-evaluations. Well, we did these. These had significant contributions [Melih, Health Sciences, Interview].

> At first, techniques like KWL [Know, Want-to-know, Learned] or apps like Kahoot appeared like methods for K-12 levels, not for college levels. There were times when I wondered if it would be a little too simple for our undergraduate students, but then I implemented KWL in one of my classes for a week. It really worked. The feedback I received from the students tells me that they are more interested in engaging in my class [Nilay, Health Sciences, Interview].

In the program, we observed not only changes in the knowledge and skills of the faculty members regarding module design but also changes in their beliefs about online course design. In particular, they transformed their ideas about assessment from a traditional way to a more innovative and creative way. Some of the faculty members who'd described themselves as traditionalists (who use more direct ways to teach) stated that they started assessing their students' multiple times in a session after the program. Moreover, they now believe that instruction by design should be differentiated based on student needs.

> Normally, when I design a course, I divide the semester into two or three parts to assess the students. I would assign a book for the midterm and final. But now, I can say that using multiple opportunities, such as a book assignment, a movie analysis assignment, or a travel assignment would be better for capturing what students understand [Sena, Education, Interview].

> I used to think that constant updates would be good and that things like homework and projects were important. I would prioritize the development of good material and better instruction. Now, I think we need to involve technology and, therefore, include more students in the learning process using interaction [Melih, Health Sciences, Interview].

Apart from the quotations above, the faculty members who participated in the program stated that their beliefs about design had changed and that they had gained more professionalism while designing the teaching, would

try to differentiate the teaching process, believed that time and effort should be spent in order to make an instructional design, and most importantly would consider the needs of the students while designing the teaching.

These findings indicated a significant positive impact of a faculty development program on participants' abilities and perspectives in online course design. The program enhanced knowledge and skills in instructional design, mainly by integrating synchronous and asynchronous activities, as exemplified by faculty members like Dila and Kübra. Furthermore, there was a notable shift in beliefs about instructional methods, moving from traditional approaches to more innovative and student-centered practices. This shift was evident in adopting varied assessment strategies and focusing on interactive, technology-driven teaching methods. Overall, the program not only improved the faculty's technical competencies in online course design but also let them transform their educational philosophies, leading to more engaging and effective online teaching practices.

V.3. *Effective elements of the program*

From the interviews, we found that our program had elements that were effective in improving the faculty members' pedagogical practices:

(1) Multidisciplinary audience: The first sessions had faculty members from more than 10 of the university's colleges. Toward the end, we were left with four or five different colleges. Our participants thought that having people from different backgrounds would help them think outside the box.

(2) Presenting a different perspective on design: Our sample plans and the way we facilitated the sessions were revealed as effective elements in the program. We never lectured about online learning, but we did ask open-ended questions to discuss and reflect on.

(3) Activities that improve participation in live sessions: We provided opportunities for hands-on learning. The faculty created mini activities, such as small group discussions during the synchronous sessions so that the participants are engaged.

(4) Effective feedback at every stage: Our facilitator team and the experienced trainers provided on-demand and asynchronous feedback to assignments and prompts. This created a chance to revise and improve.

(5) Focus on design skills: The program focuses on the big perspective regarding online learning design rather than on technology use.

The following are the excerpts from the faculty to illustrate the elements listed above:

> The strengths are the introduction of a new educational perspective, inclusion of field experts in education, the up-to-date nature of the approach, and emphasis on current educational needs, as well as prioritization of technology and interaction [Melih, Health Sciences, Final Reflection].

> It was valuable since it included all faculty members with an interdisciplinary approach. We could look at the events from different perspectives and learn about the different views of the teachers who instructed theoretical and practical courses during the distance education process. They shared their very creative ideas with us [Kenan, Education, Final Reflection].

Overall, the PD program's approach to presenting different perspectives on design, eschewing traditional lecturing in favor of open-ended discussions and reflections, was particularly beneficial. The hands-on activities in live sessions, such as small group discussions, enhanced participation and engagement. Additionally, providing effective feedback from the facilitator team and experienced trainers at every stage allowed participants to revise and improve their work continually. Lastly, the program's focus on design skills over mere technological use provided a more comprehensive understanding of online learning design. Testimonials from participants like Melih and Kenan emphasize the program's strengths, such as introducing new educational perspectives, an interdisciplinary approach, and an emphasis on current educational needs and technology.

VI. Discussion

Overall, our effort to support faculty succeeded in improving skills regarding online course design and a positive change in perspective toward online learning. Attending this high-quality program helped the faculty because many had never participated in a program that offers hands-on experiences and design-based activities for their online courses (Leslie 2020). First-hand experience with other faculty from the same department teaching in the same program was also beneficial. As we gave them more opportunities to work together, they created a deeper understanding of online learning (McDonald, Yanchar, and Osguthorpe 2005).

However, although it is challenging to motivate faculty to improve themselves as faculty members (Aust et al. 2015, 115), participating in a program relevant to them for the first time may have enabled faculty members to be successful due to the program. Academicians who participated in the program as students of a well-designed program in the field they need

may have approached the online course design positively. Evaluating the possible positive results of participating in such a program for the first time with new studies will reveal the effectiveness of this high-quality program more clearly.

Many of our participants had never designed an online course through a planned, structured process. Framing our online training as an online course itself provided the faculty with a fruitful learning experience as a student learning online. This approach of letting them experience it enabled them to move forward and transform their design skills to a new-and-improved level. Studies using similar training structures yielded similar positive results (e.g., Ibrahim et al. 2020). This came as no surprise because adult learners look for relevance to learn (Knowles, Holton, and Swanson, 2005). We provided an environment where they had opportunities to produce, not just consume. They created new activities and used technologies because they were assigned to teach online and felt they needed this training. They were motivated and stayed until the end of the program by completing all the required assignments.

The success of any faculty training program depends on creating a program that effectively delivers appropriate content in a supportive environment. The success of a training program provided to faculty members depends closely on a supportive environment provided to the faculty members participating in the training, the provision of appropriate content, and the effective presentation of this content in a supportive environment (Aust et al. 2015, 115). Therefore, when provided with opportunities to try, the faculty thrives. Our participants reported positive beliefs regarding online course design. One reason this was achieved might be our focus on effective instruction rather than technology usage or logistics in online learning. During the learning activities in the program, all faculty members were provided with resources for critical elements of online courses and how these elements play a role in their relationship with their students. The learning process was the focus, and they were encouraged to think more about assessment and interaction from students' perspectives. Positive learning environments have brought about positive beliefs.

The higher education institutions where they work must provide continuous support to faculty members so that they can use the training they receive after completing the programs in which online education is provided (Baran et al. 2014, 101). In particular, providing a supportive teaching environment to faculty members may have led to more positive beliefs about online learning. However, the fact that the faculty members who participated in this training willingly participated because they needed it may indicate

that they had positive beliefs about online learning and teaching before the program. In addition, it can be considered an ordinary situation that the group of instructors from whom the data were collected took the training they attended to the end and completed it, so they formed positive beliefs and had a positive perspective on online teaching, unlike the large group that existed at the beginning of the training and left it before completing the training. In future studies, in a situation where the same program is compulsorily implemented, determining the thoughts of all faculty members participating in the training about the program may reveal a different perspective on the effectiveness of the applied program.

We also used Baran and Correia's (2014) framework for assessing online teaching with a focus on teaching, community, and organization. For teaching, we provided content, pedagogy, technology, and various combinations of each. For the community, we supported the groups with a facilitator for feedback and guidance, in addition to posts in the learning management system. For organizational support, we used sample plans/templates, worked examples, and university-recognized awards/badges. We integrated all frameworks and theoretical backgrounds to provide an intensive, three-week training program followed by group support sessions with facilitators.

In addition, the participants used online teaching applied as a model by the instructors during the training by providing each of content pedagogy, technology and their different types of combinations. By showing a teacher model during the training we did not let the participants encounter the complexity of the learning environment where ICT-related tools used (Rienties et al. 2013, 481) and based on TPACK approach. Because we added 'understanding of technological teaching knowledge (TPACK) and implemented reasonable use of ICT for teaching and learning subjects' in our PD program to eliminate various obstacles (Fernández-Batanero et al. 2022, 526). In addition, we implemented TPACK approach by providing technology integration from different perspectives instead of giving technology as an "add-on" in our PD program. Therefore, participants were able to focus on the connections between technology, content, and pedagogy from a holistic perspective effectively and efficiently in classroom teaching (Koehler and Mishra 2009, 67).

The frameworks we used to design our training were conducive to our accomplishment (e.g., the collegial faculty learning groups, having peers support each other during the live sessions; Baran and Correia 2014; Dede et al. 2009). Facilitator support and feedback were much appreciated when the faculty had something to ask or were concerned about something. Creating a

small community of learners built around online teaching and design fostered the sharing of ideas and experiences. The participants valued the success stories and reflected on the presented best practices. Darling-Hammond, Hyler, and Gardner (2017) also found that modeling the best practices in online teaching during training encouraged the faculty to do the same in their own teaching. The third researcher was also the lead trainer in the program and has extensive experience teaching and designing online courses. As he engaged the participants through a constructivist way of interaction using an inquiry approach (i.e., asking questions, Socratic questioning, and creating discussion at the moment with feedback), the faculty developed new perspectives to integrate with their own teaching just by experiencing and observing. Modeling the instructor was intentionally put in the program so that the faculty members would begin characterizing their own online teaching style. The fact that the second, third, and fourth researchers who provided the training were models during the training process contributed to the positive development of the participants' teaching styles. However, the fact that the participating faculty members had teaching experience, participated in the training program voluntarily, continued with determination until the end of the training program, did the assigned homework, and continued to interact outside of class not only with the instructors but also with their peers made a very positive contribution to this process.

When we juxtapose the reasons for attending the program (theme #1) and the gained knowledge, skills, and perspectives (theme #2), the program is said to have fulfilled its promises. For example, our focus on design itself as a big part of the training was what some participants expected to see. This is also about relevance. Because the faculty had found something with which they could relate and consider valuable in their daily professional practice, they committed more and engaged more in their own learning. One of the success criteria might be motivating faculty to immerse themselves in the learning journey.

Seven factors significantly contribute to faculty satisfaction with professional development programs in higher education: "(1) achievement of the program objectives, (2) appropriateness of the program topics, (3) appropriateness of the program activities, (4) duration of the program, (5) academic developers' teaching skills, (6) appropriateness of the program objectives, and (7) academic developers' skills in discussion management" (Muammar and Alkathiri 2022, 221). In addition, a needs analysis study prepared by all researchers together before the program is designed is another essential factor in ensuring that the program meets the expectations and that the instructors have knowledge and skills in online course design. Obtaining

the participants' expectations from the program to be designed, determining their needs, and preparing a training program according to the working hours of the faculty members can be considered as factors that motivate the faculty members in their online course design journey. Therefore, in program design, determining the needs of the participants, whether they have to participate in a training program voluntarily or compulsorily, is seen as one of the prerequisites for the training program's success.

Limitations: Although this study is enlightening by responding to faculty needs as a faculty development study to design effective online courses, it is subject to several limitations. Firstly, the research is confined to a specific academic setting - a foundation university - which may limit the generalizability of the findings to other types of institutions (like a state university). The particular characteristics and motivations of faculty members at this university might differ significantly from those at the state or other types of universities.

Secondly, the participants in this study were people who participated in the application voluntarily. So, they showed high levels of enthusiasm and determination. Voluntary participation of faculty members affects the representativeness of the findings. It may not accurately represent the experiences or impacts on faculty members with average or lower enthusiasm and engagement in professional development.

Third, Although the implemented professional development program was prepared to high standards, based on the needs of the faculty members, and taking into account online course design standards, it should be supported by similar research. Furthermore, the study's reliance on qualitative methods, although rich in detail, may limit the ability to quantify the impact of the professional development program and make broad generalizations. Future research could benefit from incorporating a more diverse participant pool from various types of institutions and employing mixed methods research to provide a more comprehensive understanding of the effectiveness of similar professional development programs in different contexts.

Considering the country where the study was conducted, the faculty members who participated are foundation university faculty members. Foundation university faculty members, as younger faculty members at the beginning of their careers, have different characteristics than the more experienced faculty members working at the state university; therefore, this feature of the study's participants is another limitation of the study. Additionally, exploring the experiences of faculty less inclined to participate in such programs could offer valuable insights into barriers to engagement and ways to address them.

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About the authors

KAMIL ARIF KIRKIÇ (corresponding author, kamil.kirkic@izu.edu.tr; ORCID iD: https://orcid.org/0000-0002-8902-437X), PhD,is an associate professor of Curriculum and Instruction in the Department of Educational Sciences, İstanbul Sabahattin Zaim University, İstanbul, Türkiye. His research interests include curriculum development and evaluation studies, teacher education, design of learning environments, innovative learning, and teaching methods in K-12 schools and higher education. He has been the vice dean of İstanbul Sabahattin Zaim University (IZU) education faculty since 2017. He has also founded and directed the Centre of Excellence in Learning and Teaching at İstanbul Sabahattin Zaim University since 2020. He has 26-year experience in private K-12 schools as a teacher, head teacher, and general director of a group of schools in İstanbul, Türkiye, and 15-year experience in two universities of Türkiye, Boğaziçi University, and İstanbul Sabahattin Zaim University. He is a Turkish Association of Curriculum and Instruction (TACI/EPÖDER) member. He is also responsible for the faculty's institutional accreditation process and the program accreditation of the eight faculty programs.

ZEHRA SEDEF KORKMAZ (sedefcoskun@artvin.edu.tr; ORCID iD: https://orcid.org/0000-0002-3466-8119) is an assistant professor of education in the Department of Educational Sciences, Artvin Çoruh University, and Artvin, Türkiye. She teaches effective teaching and curriculum development. Her research areas are curriculum development and evaluation, teacher education, teachers' professional development and thinking skills. In her doctoral thesis, Dr. Korkmaz developed and implemented a program that supports

critical thinking skills for primary school teachers and examined the effects of the program. As a member of the education and training commission of the university where she works, Dr. Korkmaz examines the programs planned to be opened at the university and provides guidance in the development of the curriculum. She also designs and implements professional development programs for faculty members under the name of "training the trainer".

SELÇUK DOĞAN (sdogan@georgiasouthern.edu; ORCID iD: https://orcid.org/0000-0002-0527-8453) works at Georgia Southern University as an associate professor. His research interests lie in three main fields: teachers' professional development, instructional design, and technology. He uses quantitative methods to analyse different variables in multiple levels. He currently works on expectancy-value theory to explore the outcome of teachers' professional development experiences. He collaborates with other researchers to conduct qualitative and mixed-methods studies to evaluate the effect of professional learning experiences of teachers after they attended programs. His focus is on online, synchronous, and asynchronous professional development.

ÜMRAN YAZICILAR NALBANTOĞLU (umranyazicilar@gmail.com; ORCID iD: https://orcid.org/0000-0002-5535-9075) works as a Learning and Development Manager in an international company and has a postdoctoral research fellowship at European Science Institute. She has been working on the topic of curriculum adaptations for seven years. To extend the literature on this topic, she designed a professional development program for in-service teachers in her Ph.D. thesis and developed a scale to measure which adaptation patterns are used in classroom settings. Besides curriculum studies and teacher professional development, her research interest includes analysing teacher learning and teacher change. She uses some analytical tools to analyse the teacher change process during and after the professional development programs.

SINA GÜZIN CENGIZ (https://orcid.org/0000-0002-1503-5711) is working as a research assistant in preschool teaching education in the Primary Education Department, İstanbul Sabahattin Zaim University, İstanbul, Türkiye. She has worked also as the research assistance of the Centre of Excellence in Learning, İstanbul Sabahattin Zaim University since 2020. She has worked as the research assistance of the Web-Site Editing Committee, İstanbul Sabahattin Zaim University since 2020.– She has a 5-year experience in private and governmental K-12 schools as a teacher in İstanbul, Türkiye. She has also a 5-year experience in the university of Ayvansaray University, İstanbul, Turkey as the lecturer in the Department of Childhood Development. Her research interests include early childhood curriculum, early literacy development in 0-6 ages, online classrooms in the preschool learning system, e-classes for learning foreign language for children and the design of preschool learning environments.

Appendix

Table 1

The professional development content

First Week	Live course 1	The module concept	Expert Feedback to Individual Assignments and Reflection Journals
	Live course 2	Module design and quality standards	
	Individual Assignment	Instructional design assignment on module knowledge, model, and targets	
	Reflection Diaries	Reflection on the week based on the reflection form that included five open-ended questions	
Second Week	Live course 3	Interactive, Collaborative and Asynchronous Methods-Techniques	
	Live course 4	Interactive, Collaborative and Asynchronous Methods-Techniques	
	Individual Assignment	Instructional design assignment where the participants associated questioning groups and interaction methods, and included module activities and activity details	
	Reflection Diaries	Reflection on the week based on the reflection form that included five open-ended questions	
Third Week	Live course 5	Innovative, Formative Evaluation and Performance Task	
	Live course 6	Innovative, Formative Evaluation and Performance Task	
	Individual Assignment	Evaluation activities that included decisions on the measurement of module targets and instructional design assignment on the performance task	
	Reflection Diaries	Reflection on the week based on the reflection form that included five open-ended questions	

Asynchronous Activities and Materials Playposit Videos and Perusall Reading			
Fourth Week	Design Workshop Session 1	Module design in groups of three with expert supervision	Expert Feedback to Module Design Assignment
	Design Workshop Session 2	Module design in groups of three with expert supervision	
	Module Design Assignment	Ready-to-implement module design assignment where they integrated their modules into the LMS	
	Final Reflection Diaries	Reflection on the whole program based on the reflection form that included nine open-ended questions	

Predictive role of psychological capital and perceived organizational support on innovative work behavior among higher education teachers of Pakistan

Maria Wahid and Nadia Ayub*

Abstract: The current study aimed to determine the predictive role of Psychological Capital (PsyCap) and Perceived Organizational Support (POS) on Innovative Work Behavior (IWB) among higher education teachers of Pakistan. A sample of 200 higher education teachers was recruited from various private and public sector institutes across Pakistan. The analysis revealed significant relationship between psychological capital and innovative work behavior ($r= .700$); and; perceived organizational support and innovative work behavior ($r= .305$). Also, psychological capital and perceived organizational support were found to be strong predictors of innovative work behavior ($R= .700$). In conclusion, when teachers

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* **Maria Wahid** (corresponding author, mariawahid81@gmail.com), MPhil, is a lecturer in the Department of Business Psychology, Institute of Business Management, Karachi, Pakistan.

Dr. Nadia Ayub (nadia.ayub@iobm.edu.pk), PhD, is a professor and dean of College of Economics and Social Development at Institute of Business Management (IoBM), Karachi, Pakistan.

More information about the author(s) is available at the end of this article.

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possess psychological capital as their personal resource and perceived organizational support as social resource at workplace; they are more likely to demonstrate innovation into their work behavior.

I. Introduction

Positive Psychology emerged in the field of psychology as an exclusive approach towards human wellbeing and enhancement in quality of life by emphasizing on positive subjective experiences and traits, self-potential, growth and development of individuals (Seligman and Csikszentmihalyi 2000). The approach of positive psychology was introduced into the organizational world with concept of applying the human positive traits, potentials and strengths at workplace for improving the employee's performance and organization's effectiveness (Luthens and Youseff 2004, 14-15). Psychological Capital (PsyCap) as a core construct of positive psychology in an organizational world has now enabled the researchers and practitioners to imply the importance of self-growth and progressive organizational behavior. It integrates the four HERO resources namely Hope, (Self)-Efficacy, Resilience and Optimism to support the goals pursuing attitude and predictability of success (Luthans & Youseff, 2017, 343). Psychological Capital (PsyCap) works under an integrated resource model where the psychological stability and desired outcome are more likely to be influenced by a broad focus on the overall resources rather than any one significant resource, which serves as a key operator during the challenging times and assists in human wellbeing promotion (Hoofball 2002, 311). According to the Broaden-and-Build Theory, the experience of positive emotional state is an outcome of developed psychological state which ultimately results in individual's socio emotional growth, enhanced functioning and thought-action repertoires (Fredrickson 2001, 219-220). The generated positive mood through psychological capital facilitates the self-regulation and goal-oriented behavior by broadening consideration, attention and cognition processes suggested that through the experience of positivity, the individuals are able to transform themselves by becoming more focused, explorative, resilient, socially organized and integrated in their lives. When individuals constantly put emphasis on the positivity of experiences, the array of consciousness reaches to the extent that they become more attentive, flexible and creative in coping with the life circumstances (Aspinwall 1998, 6-8; Fredrikson 2004).

Along with the personal positive resource, a supportive social environment is prerequisite to acknowledge employees as valuable and trustable resource for boosting their performances and achieving favorable outcomes at workplace. Perceived Organizational Support (POS) allows the employees to perceive their importance, worth and value in the organization where their contribution, care and wellbeing are considered as the top priorities by the employers (Eisenberger et al. 2016). It revolves around the social exchange ideology as the employees are expected to assist the organization in its goal attainment process for receiving an exchange social outcome/benefits in the form of rewards, appraisals, organizational membership and status (Eisenberger et al. 1986, 503-504). Social Exchange Theory anticipates that in reply to the positive instigating action a more favorable reciprocating response is likely to be generated by the targeted individual. A chain of effective reciprocal exchanges tends to convert an economic exchange relationship into a sufficient social exchange relationship; employees seem to develop affective commitment with organizations (Cropanzano et al. 2017, 480). Individuals' self-interest and motivation are flourished in social settings where rewards are greater than the costs, ultimately leading towards satisfaction and commitment in a social relationship (Kim 2016, 3-4).

The psychological stability and a strong sense of social support appears to play crucial role for service providing profession where direct dealing and managing simultaneous duties are the essential requirements of a job.) The teachers of higher educational institutions possess a general aim of making progress in thinking and acting pattern of their students and influencing their approach in a field of study and practice; the common goal is to enrich students' career development in their respective fields (Dall'Alba 1994, 301). As the teaching profession carries a significant expectation to educate and empower the next generation; so these two factors tend to become the utmost necessity in the educational sector.

Innovative Work Behavior (IWB) enables the personnel to explore various opportunities, generate unique ideas and implement those in work process for bringing progressive change at individual and organizational level (De Jong 2008, 5). The central focus of innovation is on the result-oriented behavior demonstrated by the employee through a multistage process; cognitive ability to recognize the problem and generate ideas, to establish coalition for bringing them to reality, and then implementing them by improving the current strategies or evolving the new ones into the work system for benefiting individual and organizational development (Scott and Bruce 1994, 581-582). As suggested by J-D-R model, work innovation tends to depend on a controlled balance between job demands and resources;

imbalanced job demands could lead towards burnout which seems to act as an inhibitor for wellbeing and innovation, whereas balanced job resources could lead towards employee engagement which serves as a booster for the wellbeing and innovation among employees (Huhtala and Parzefall 2007, 302-303).

In a developing country like Pakistan, work innovation significantly in seems to be required for nurturing the youth and the progress of the country, however, the university teachers would only be able to deliver positive outcome with adequate satisfaction of their psycho-social needs. Work stress was reported to be caused by several factors among the academic personnel in Pakistan including; excessive workload, insecure job, insufficient training, limited resources and extreme job demand (Khan et al. 2014, 28-29). When teachers implement innovation in their teaching methods, they are more likely to address the diverse need of students and increase their performance by engaging majority of students. The study indicated that student-focused approach of teaching seem to be potentially beneficial in comparison to the subject-focused approach for shaping the future of students (Naz and Murad 2017, 5-7). In the last few decades, with rapid technological developments, the creativity has become crucial for the organizations' effective functioning and progressive competition in the market. Predominantly, it is observed to be more essential in the higher educational institutes of the country. The creativity of university faculty was found to be effected by authentic leadership in academia where the Head of Departments with their trustworthy behavior encourages the faculty in dealings with work, fosters the view of faculty regarding the ethics, authenticity and provision for open communication with their leaders. They seem to be intrinsically motivated, secured, relaxed and thus show work performance in a more proficient and creative way. This behavior of leaders is further likely to satisfy the faculty leading towards their positive mood at work. Consequently, as the results suggests both the intrinsic motivation and positive mood have an impact on the creativity of faculty at workplace (Ahmad, Zafar and Shahzad 2015, 14-15).

In order to bring productive advantage in educational sector, the Higher Education Commission (HEC) of Pakistan is focused towards the progressive change in the areas of teaching and research in the Higher Educational Institutions. The policy handbook formulation by Higher Education Commission of Pakistan in 2017 highlighted the major role of universities in bringing research and innovation to the market, it was decided to promote and flourish the innovation process in order to enhance the organizational competitiveness and support the economic development in the country.

Considering the prominent role of these two factors on work innovation of university teachers, the study aimed:

a. To determine the relationship between Psychological Capital, Perceived Organizational Support and Innovative Work Behavior among higher education teachers of Pakistan.

b. To evaluate the predictive role of Psychological Capital and Perceived Organizational Support on Innovative Work Behavior among higher education teachers of Pakistan.

II. Literature review

II.1. *Psychological Capital*

The concept of Psychological Capital (PsyCap) is drawn from an umbrella term, "positive psychological behavior" which allows the examination and application of an individual's positive state-characteristics such as strengths and psychological capabilities for performance management and development at workplace (Luthens 2002, 698).

Several empirical investigations have been conducted by scholars on the concept of PsyCap since its introduction into the organizational system. An individual's emotional state, wellbeing and attitude tend to be associated with PsyCap; positive emotions seemed to have significant positive relationship with PsyCap however, employees' wellbeing at workplace served as moderator in an association between PsyCap and turnover intention. PsyCap is likely to enhance the work satisfaction and lead towards an increased overall wellbeing of employees at workplace. The overall wellbeing and psychological stability than further uplift the employees to pursue the challenging paths and accomplish the set goals. (Luthans et al. 2013, 128; Siu et al. 2015, 2-3). PsyCap is considered to be one of the main determinants for bringing innovation at workplace as those employees who possess positive attitude and are confident in their capabilities are more likely to involve in work-related innovative behavior for the organizational development (Ratnaningsih, Prihatsanti and Prasetyo 2016, 87).

In teaching profession, teachers usually get stressed, anxious and burnt out under pressurized work challenges, but PsyCap is proven to be the vital factor in decreasing their stress, anxiety and burn out; moreover, helps in elevating work satisfaction and involvement during difficulties (Demir 2018, 145). Those teachers with higher level of PsyCap are more likely to be committed towards their work. Increased level of PsyCap was associated

with decreased level of stress and increased level of wellbeing among teachers where job demands were reported to be perceived as challenges handled with effective coping strategies; and teachers are more committed towards their organization due to the positive influence of psychological capital (Soykan, Gardner and Edwards 2019, 5-6; Yalcin 2016, 79). For university teachers, the PsyCap serves as the key factor in reducing the negative influence of burnout by paving a way to tackle the stressful circumstances and perform well (Rehman et al. 2017, 463). Psychological Capital as personal resource is likely to mediate the link between job demands and outcomes, and to support the performance and inhibit the stress process among the university teachers in Pakistan (Adil and Kamal 2019, 15). The role of PsyCap on innovation at individual employee level was examined; it was concluded that PsyCap helps in psychological empowerment of employees and has a positive impact on the Individual Innovative Behavior of employees in higher educational sector (Mutonyi 2021).

II.2. *Perceived Organizational Support*

Perceived Organizational Support (POS) relies on the perceptive of norm of reciprocity which demands that as part of universal value system, people are obliged to favor others in return and not to hurt them in response of their favors (Gouldner 1960, 171). This means that it seems a social responsibility of people to reciprocate the favors of others in the most meaningful and effective way.

The perception of supportive work environment is considered as a key factor for the physical and psychological wellbeing of the personnel. The employees are more likely to experience positive emotions at workplace in response of POS which in turn has a positive impact on their physical health; the more levels of POS and organizational justice is likely to be associated with reduced risk factors of developing cardiovascular diseases among the workers (Arnold and Dupré 2012, 147; Rineer et al. 2017, 9). An establishment of positive work commitment is an outcome of favorable organizational culture, where employees' ties with their leaders are strengthened and they are motivated to show innovative behavior with constant perceived organizational support (Nazir et al. 2018, 11). The innovative work capability depends on the transformational leadership, perceived organizational support and knowledge sharing attitude at workplace (Le and Lei 2019, 15). Perceived Organizational Support is a strong predictor of recognition and implementation of new work ideas as significantly correlated with IWB, where boosted person-organization fit facilitates the relationship (Afsar and Badir 2017,

104-105),. The higher the POS, the higher will be the IWB, supportive work environment will raise the predictability of knowledge sharing behavior which increases the IWB among the employees (Mustika, Rahardjo and Prasetya 2020, 63).

Previous studies found out the positive outcomes of POS among teachers indicating: lesser possibility of developing burnout; reduced work-related stress and enhanced emotional wellbeing; increased job and then life satisfaction; have significant positive association with self-efficacy which further, assists to overcome occupational challenges in order to boost their work engagement (Anomneze et al. 2016, 18; Bernarto et al. 2020, 5500; Malik and Noreen 2015, 871; Musenze et al. 2020, 17). A conductive work climate with sufficient support from supervisors and co-workers seems to empower individuals in their jobs and enhance the organizational commitment of academicians in higher educational institutions of Pakistan (Ahmad, Bilal and Bibi 2020, 229). Empirical data on the higher education academician has revealed that POS enhances the job satisfaction and exploration to accomplish the set goals of university teachers (Thevanes and Saranraj 2018, 5).

II.3. *Innovative Work Behavior*

Work Innovation which allows continuous growth in an organization with the generation and implementation of unique ideas, has remained an investigative concept for researchers because of its multiple benefits. Creativity and innovation appear as corresponding constructs where creativity refers to the emergence of different and beneficial ideas by employees for organizational welfare, while innovation as a comprehensive concept allows the careful integration and transfer of these ideas into advantageous outcomes for bringing positive change at individual and organizational level. This innovative process seems to be flourished through a pattern of interaction between personnel, organizational internal climate and external environment. Innovation effectively occurs in a work setting with both emergence of individuals' creative efforts and organizational boosters. (Bharadwaj and Menon 2000, 425; Martins and Terblanche 2003, 67).

The empirical demonstration stated the Innovative Work Behavior (IWB) as an effective resource for employees to deal with the higher level of job demands by controlling their effort-rewards interaction at work. In an organizational setting, employees' decision for IWB depends on their commitment to bring novelty, autonomy in designing and controlling work performance (Janssen 2000, 297; Ramamoorthy et al. 2005). The present perspective on innovative behavior at individual level stated that the self-

efficacy, competency, motivation and commitment are main influencers for bringing occupational novelty (Siregar et. al 2019, 324-325). The results of a study revealed that how the personal values of employees influence their innovative behavior, those who prioritized the conservative values were more resilient to change and less likely to innovate at work whereas those who prioritized the self-enhancement values were more willing to expand learning and accept change which enhanced their innovative behavior at work (Purc and Lagun 2019, 28).

Prior investigation on teachers of higher educational institutions of Pakistan showed that personality characteristics of an individual are related to their attempt of demonstrating job-related innovation; openness to change allows exploration of new ideas and opportunities, and extraversion lead towards being more energetic and enthusiastic for novelty at workplace (Qaiser et al. 2019, 82). The organizations that promotes creativity and healthy learning environment for teachers result in enhancing their work engagement and Innovative Work Behavior (Hosseini and Shirazi 2021, 13). An interesting investigation on university faculty revealed that the individual capacity for knowledge absorption positively predict the individual knowledge acquisition and individual innovative behavior, making the faculty members more knowledgeable and innovative in academic world (Fakhrorazi, Hartini and Islam 2019, 235).

There is unfortunately lack of innovative working strategies used by higher education teachers of Pakistan where they still seemed to practice the traditional methods of teaching without implementing any innovative tools into the learning process of students (Zaman 2012). An analysis suggested that though the innovation system in Pakistan has evolved over time but it has a long way to go, there is still need to formulate and implement a diversified policy structure in country which supports the effective innovation process in both public and private sectors (Ul-Haq et al. 2014, 134). Therefore, this study aimed to discover the concerned determinants, their relation and impact on Innovative Work Behavior, support the HEC decision and its future implications mainly in Pakistani society.

The current study revolves around the concept that PsyCap and POS are associated as determinants of IWB. When an employee experiences psychological stability with sense of hope, efficacy, resilience and optimism; perceives the supportive environment in organization where he/she is being encouraged and treated fairly (all of these combined determine the perception of IWB) then he/she would be able to explore opportunities through various perspectives, develops new strategies and implement them in work process for profitable result-orientation. Hence, the positivity from psychological

stability and perception of supportive work environment would influence the employees' work as innovative and solution-oriented. (See fig. 1).
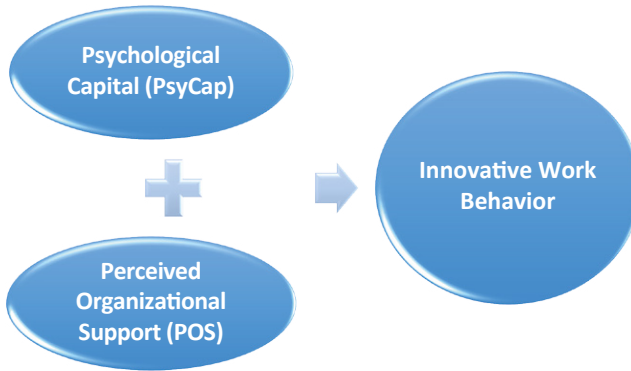
Figure 1

Conceptual Model of Study

In the light of abovementioned literature, following hypotheses have been proposed:

a. Psychological Capital and Perceived Organizational Support will have relationship with Innovative Work Behavior among higher education teachers of Pakistan.

b. Psychological Capital and Perceived Organizational Support will have an impact on Innovative Work Behavior among higher education teachers of Pakistan.

III. Methodology

III.1. Research design

A research design is a comprehensive and strategic framework that guides the researcher to explore the objectives, answers the research questions, collect and analyze the data with respect to the main purpose of the study (Durrheim 2006, 34). There are several ways of conducting a study such as a quantitative research can be conducted in descriptive, experimental and causal comparative ways. The variety of research designs mainly include correlational, observational, survey method, case study and ethnography study.

This is a descriptive research wherein quantitative approach has been used to examine the influence of psychological capital and perceived organizational support on innovative work behavior. In quantitative approach, survey method has been applied in the current research which facilitated the evaluation of the concerned variable by collecting responses from representative sample of targeted population through questionnaires.

III.2. Sample

The sample of the study was 200 faculty teaching in universities from private and public sector in Pakistan with 95% confidence level and +5% error of margin. Non-probability, convenient sampling method was used for recruitment of participants in the study.

Following the results based on demographics, equal responses were collected from male and female participants with age ranged from 25 to above 50 years, however, more responses belonged to faculty from private sector as compared to the public sector. According to the demographic data, the male participants were 100 (50%) and female were also 100 (50%). As the age groups of participants ranged from 25 to above 50 years; 50 (25%) belonged to the age group of 25-30 years, 51 (25.5%) were of 30-35 years, 39 (19.5%) were of 36-40 years, 31 (15.5%) were of 41-45 years, 15 (7.5%) were of 46-50 years and 14 (7%) were aged above 50 years.

Among them, the marital status of 53 (26.5%) was single, 146 (73%) were married and only 1 (0.5%) was divorced. The family structure of 108 (54%) was nuclear and 92 (46%) belonged to the joint family structure. Qualification status showed that 102 (51%) were holders of Masters' (post-graduation) degree while 98 (49%) were holders of Doctoral (PhD) degree. Out of 200 participants, 91 (45.5%) were teaching faculty in public sector whereas, 109 (54.5%) were providing their services in the private sector of Pakistan. Majority of participants i.e. 174 (87%) were working as permanent faculty while only 26 (13%) were working as the visiting faculty in their respective universities.

III.3. Instruments

Along with demographic form, three questionnaires were also administered on the participants.

III.3.1. Demographic Form

It was comprised of questions like gender, age, marital status, socioeconomic class, family structure, qualification, job sector and working time.

III.3.2. Psychological Capital Questionnaire

The Psychological Capital Questionnaire (Luthans et al. 2007) was originally a 24-item measure which was modified into a shorter 12-item version in 2011 to determine the level of positive psychological development by assessing the four respective HERO resources. Hope is measured by 4 items, Efficacy is examined by 3 items, Resilience is evaluated by 3 items and Optimism is determined by 2 items. Responses are recorded on a 6-point Likert scale where 1= Strongly Disagree and 6= Strongly Agree. The overall PsyCap score is obtained by taking average score of all items. The Cronbach Alpha value for the scale was .886.

III.3.3. Survey of Perceived Organizational Support

Survey of Perceived Organizational Support (SPOS; Eisenberger et al. 1986) was originally proposed with objective to evaluate the employees' perception about social support at workplace. This study used the 8-items scale (Eisenberger et al. 2002) which is a shorter version of 36-items scale and was recommended by authors as it is unidimensional and highly consistent, the responses will be given on 7-point scale which ranged from "Strongly Disagree" (0) to "Strongly Agree" (6). The minimum score could be 0 and maximum could be 48. The higher the score, the higher will be the POS experienced by an individual. The Cronbach Alpha value for the scale was .724.

III.3.4. Individual innovative behavior scale

This is a 14-item self-report measure developed by Kleysen and Street in 2001 for evaluating individual's perception about innovation on five respective factors including; opportunity exploration, generativity, formative analysis, championing and application. Participants will be required to answer according to the behavioral frequency using a 6-point Likert Scale where 1= Never and 6=Always. The minimum score could be 14 and maximum could be 84. The higher the score, the higher will be the innovative behavior experienced by an individual. The Cronbach Alpha value for the scale was .935.

III.4. *Ethical considerations*

The current study considered the following ethical guidelines to ensure that the participants' ethical norms are maintained in the study:

- Informed consent from the participants was taken by making them understand their right to either participate or not in the study. They also had the right to withdraw at any time during the study.

- The participants were notified that no harm and risks would be associated with their participation in the study. Moreover, the participants were also informed about the researcher's right to publish the study in any research journal without disclosing their identity.

- The main objective and purpose of the study was briefly communicated to them and they were assured about the non-disclosure of their identity or personal information. The gathered data of participants was kept confidential throughout the study and used only for the research purpose.

- The teachers were given sufficient time duration to fill the questionnaires as per their availability, convenience and feasibility.

- Researcher's email address was also provided in order to communicate for their any concern or query related to the study.

III.5. *Procedure*

At the beginning of the study, permission was taken from the authors of respective scales through email enlightening the purpose of research and assurance of ethical principles while using the scales. The online method was opted for the data collection by posting the online link via Google forms on various social media apps including Facebook and WhatsApp in order to reach the target population. The respective faculties of various universities in Pakistan were also approached by personally emailing them with the help of their email addresses available on official universities' websites, and requesting them to participate in the study. The online form was consisted of four sections in which the informed consent appeared at first following the demographic information form, PCQ-12, SPOS-8 and IIBS. The average duration to complete the survey was 8-10 minutes and collected data was further progressed for the analysis.

III.6. *Analysis*

The collected responses were organized on Statistical Package for Social Scientists (SPSS 20) in order to carry out the respective analysis.

Demographic data was statistically analyzed through descriptive statistics. Correlation Analysis was carried out on the data to explore the relationship between variables. Moreover, Regression Analysis was undertaken on the gathered data to examine the impact of independent variables on dependent variable.

IV. Results

According to the correlational analysis for hypothesis 1, Psychological Capital has a significant positive correlation $p \leq$ .000 (less than .05) with Innovative Work Behavior (r = .700) of university teachers in Pakistan. Moreover, it was depicted that Perceived Organizational Support also has a significant positive relationship $p \leq$ .000 (less than .05) with Innovative Work Behavior (r = .305) among university teachers of Pakistan. (As shown in Table 1)

Table 1

A Correlation between Psychological Capital, Perceived Organizational Support and Innovative Work Behavior among Higher Education Teachers of Pakistan

		Innovative Work Behavior
Psychological Capital	Pearson Correlation Sig. (2-tailed) N	.700** .000 200
Perceived Organizational Support	Pearson Correlation Sig. (2-tailed) N	.305** .000 200

** Correlation is significant at the 0.01 level (2-tailed).

In order to test the hypothesis 2, result of linear regression revealed that Psychological Capital and Perceived Organizational Support are significant predictors of Innovative Work Behavior in university teachers. The significant equation shows, $p \leq$ .000 (less than .05) indicating determinants as good predictors of dependent variable. The R value is .700, which elaborates a strong relationship between independent and dependent variables. The value of R^2 points out that how much dependent variable i.e. Innovative Work Behavior can be explained by the independent variables i.e. Psychological Capital and Perceived Organizational Support. In this case, it is .489 (48%) which means good. (Tables 2-4)

Table 2

Summary of Linear Regression with Psychological Capital and Perceived Organizational Support as predictors on Innovative Work Behavior of Higher Education Teachers of Pakistan

Model	R	R Square	Adjusted R Square
1	.700ᵃ	.489	.484

a. Predictors: (Constant), Psychological Capital and Perceived Organizational Support.

Table 3

Analysis of Variance for Linear Regression with Psychological Capital and Perceived Organizational Support as predictors on Innovative Work Behavior of Higher Education Teachers of Pakistan

Model		SS	Df	MS	f	Sig
1	Regression	9680.992	2	4840.496	94.222	.000ᵇ
	Residual	10120.528	197	51.373		
	Total	19801.520	199			

a. Dependent Variable: Innovative Work Behavior.

b. Predictors: (Constant), Psychological Capital and Perceived Organizational Support.

Table 4

Coefficients for Linear Regression with Psychological Capital and Perceived Organizational Support as predictors on Innovative Work Behavior of Higher Education Teachers of Pakistan

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	19.165	3.498		5.479	.000
	Psychological Capital	.777	.063	.658	12.353	.000
	Perceived Organizational Support	.115	.055	.112	2.101	.037

a. Dependent Variable: Innovative Work Behavior.

V. Discussion

The aim of this study was to explore the predictive role of Psychological Capital as a personal resource and Perceived Organizational Support as a social resource in cultivating the Innovative Work Behavior of higher education (university) teachers in Pakistan.

The findings for testing hypothesis 1 indicate significant positive correlations between Psychological Capital and Innovative Work Behavior; and Perceived Organizational Support and Innovative Work Behavior. Through correlation analysis, it was revealed that indeed significant correlation is present between the concerned variables. The significance for Psychological Capital and Innovative Work Behavior is determined through the following values: $sig=.000, r=.700, n=200$ (See Table 1).

The result suggests a significant strong correlation between the two variables which means that among the fraction of sample that responded were likely to report a boosted Innovative Work Behavior with an increased psychological capital. HERO (Hope, Efficacy, Resilience and Optimism) resources of PsyCap though individually generate positivity but as a whole construct is worthwhile of producing greater outcomes. Empirical researches conducted on each individual resource of PsyCap support the link with Innovative Work Behavior of employees. Hope seems to nurture the IWB through work and organizational engagement, knowledge sharing behavior enabling the employees to become hopeful for bringing pioneering change in organization. Self-Efficacy promotes confidence in one's capabilities and influences the IWB of employees. Resilient employees are more likely to demonstrate IWB by adapting changes in career and availing various opportunities. Optimism was found to be one of the significant determinants of IWB as it allows to expect positive outcomes and direct energy on goals attainment (Fatima and Khan 2017, 202; Hsiao et al. 2011, 34; Abukhait, Melhem and Shamsudin 2020; Okeke 2019, 5).

This indicates that each resource of PsyCap contributes effectively for the Innovative Work Behavior. The collaboration of all four dimension of PsyCap enables the psychological stability which is associated with the creation and implementation of novel ideas (IWB) (Wojtczuk-Turek 2012, 83-84). This shows that with an enhanced PsyCap, employees become psychologically stable for considering and applying new solution-oriented ways in work so, the IWB also increases among them. When they are involved in IWB they are more likely to view and report their work as innovative. It can be further elaborated by exploring the aspects promotion approach which stems from Higgins self-regulatory theory and its connection with the current finding.

Individuals have two basic regulatory systems; Prevention and Promotion which influence motivation and goals pursuing behavior (Higgins 1998, 27). The finding of analysis focuses on the latter highlighting that Promotion-Focused Approach allows the individuals to use their exclusive characteristics and generate many diverse alternatives when possible because the mind is focused on the goals achievement and continuous growth. Employees with PsyCap uses its all dimensions to become psychologically stable, focus on the promotion regulatory system with balanced mindset to avail opportunities, and are motivated to show innovative performance for beneficial change and growth. The university faculty was found to be potentially strong and solution-oriented (IWB) when they were more likely to experience effective PsyCap (Supriyadi et al. 2020, 390).

Furthermore, the correlational analysis indicated a significant but weak relationship between the concerned variables. The significance for relationship between Perceived Organizational Support and Innovative Work Behavior can be determined from the following values: sig=.000, r=.305, n=200 (See Table 1).

These findings show that POS is one of the main factors in stimulating the employees with novel ideas to bring beneficial change at individual and at organizational levels. Employees who perceive that adequate support exists in their organizations, they seem motivated and enthusiastic to gain coalition and deliver their unique opinions in front of others for solution-oriented implementation. Perceived organizational support nurtures the feeling of obligation for university teachers to work for the welfare of their students and institute, due to the mutual trust and respect they ultimately become more committed towards their organizations (Lew 2009, 12). It made easier to suggest that when individuals' (university teachers; in case of current study) socio-emotional needs are fulfilled through caring and fair treatment at the organization, they tend whole heatedly trust their organization and put their immense efforts for successful goals attainment. Moreover, they tend to view and report themselves as being innovative when they are more likely to involve in bringing constructive modification through implementing their solution-oriented novel ideas. The employees would be focused in consideration of pioneering strategies and encouraged to take new challenges with for growth and welfare at personal and organizational level. POS was found to be as significant booster for enhancing performance and bringing positive change through IWB of employees at the organization (Susilo 2019, 103-104).

However, the weak relationship amongst the two variables in this study can be supported by the previous findings suggesting that supportive

environment may not fully permit all the employees to take risky challenges and voluntarily participation for being innovative, risk-taking tendency of individuals allows to establish networks when POS is insufficient at workplace. They appeared more prone towards attempting the routinely tasks in supportive environment instead of instead of proposing newness intentionally; which means that employees with proactive personality and when psychologically empowered are more strongly related to IWB than the POS (Yildiz et al. 2015, 1412; Yildiz, Uzun and Coşkun 2017, 355).

Moreover, both independent variables i.e. Psychological Capital and Perceived Organizational Support are found to have significant impact on the dependent variable i.e. Innovative Work Behavior. The regression analysis revealed that PsyCap and POS significantly predicts the dependent variable. The significance of Psychological Capital and Perceived Organizational Support for predicting Innovative Work Behavior (dependent variable) can be determined through the following values: *sig*= .000, *R*= .700, *R²*= .489.

These findings suggest the impact of Psychological Capital as personal and Perceived Organizational Support as social resource on participants' view and reporting of Innovative Work Behavior. These two resources serve as motivating factors to influence the work behavior that brings constructive newness in the organizational setting. The findings are aligning with the conservations resource theory which proposed that the maintenance of resources depicting the human evolutionary behavior for survival. Individuals conserve both personal strength and social connections which are worthwhile for their own advantage and need in future when face stressful or challenging circumstances. The resources caravan stated these resources are usually available in collective form to generate profitability for individual employee and organization. Developed organizations are in favor of providing combined resources to enhance the work productivity. Personal resources are likely to arise from fostering or supportive social conditions, linked with supportive family and organizational environment so that the combined effect can be used in times of need (Hobfall 2011, 19). Hence, it can be related with the current findings showcasing the combined effect of personal and social resources on the demanding need of innovation in today's time.

Moreover, the linkage of job demands-resources model with the university faculty suggested that job resources motivate for work engagement and satisfaction whereas the work overload enhances demands and lead towards job stress. When the teachers have availability of adequate job resources (e.g., as supportive work environment and high work influence), they tend to be primarily satisfied with the academic job nevertheless of the developing work demands. Sufficient resources could then result in positive outcomes though

excessive demands could cause psychological exhaustion (Mudrak et al. 2018, 16-18). In this case, the sufficient job resources such as psychological capital at individual level and perceived organizational support at social level facilitated the higher education (university) teachers in effectively managing the work demands of being innovative in stressful circumstances of the pandemic in order to continue and improve their work processes.

Moreover, it is significant to note that the organizational support impacts the work innovation of employees and produce favorable outcome in a systematic way. On the basis of empirical evidence, it can be suggested that the workforce which values the innovation was reported as being supportive for each other at workplace. The mutual support encourages employees to showcase their opinions, experiences and capabilities; improves their organizational learning and enhances collective work innovation in the organization (Hsiao, Chang and Chen 2014, 7). On the other hand, an individual's Innovative Work Behavior was revealed to be influenced when the employees incorporate both personal and organizational factors in the job behavior; individual creativity establishes the foundation of innovation, psychological capital boosts the wellbeing and leadership autonomous support paves a way to independently initiate the Innovative Work Behavior by individual employee and contribute his/her part in the welfare of an organization (Slåtten et al. 2020, 12-13).

VI. Study implications, limitations, and recommendations

In accordance with the study aim, the strengths lie in highlighting the importance of psycho-social needs fulfilment among the university faculty in bringing profitable newness in academic system by not only raising awareness for the individual employee but also for the higher educational institutions to develop frameworks that cater the psychological wellbeing for growing demands of innovation in current times. It could facilitate the higher educational intuitions and policy makers in Pakistan and across world to lift the psychological capital and perceived organizational support of university teachers by providing effective trainings, promoting such work strategies and policies which manage the psychological stability and instill the perception of supportive work environment for the teachers in order to withstand in todays' competitive organizational environment. Furthermore, organizations can modify their organizational structure and work environment in such a manner that encourages innovation and allows employees to think out of the box and produce better outcomes.

Despite these strengths, there are some limitations to the generalizability of present study such as; sample of the study was limited to the university teachers only and the sample size was limited to 200 participants only, hence the results can neither be generalized to school/college teachers nor to other employees belonging to different occupations. The study applied quantitative research method for testing the concerned hypotheses. It comprised of structured questionnaires with close ended questions which lack the detailed answers. It may lead to limit the responses of respondents and not represent the in-depth opinions of the participants. This study only evaluated two of the predictive determinants of IWB, there might be several other factors influencing the innovation among the teachers in higher educational setups.

Few suggestions for taking the research forward in future include; the replication of the in different settings to enhance the generalizability and better representation of the current findings, collection of data through different ways other than the online survey method which would ensure better understanding of research, researcher-participant effective communication and clarification where needed, incorporation of qualitative research design for detailed insight and better in-depth analysis of the concerned variables, and integration of other factors such as knowledge sharing behavior, organizational climate and organizational citizenship behavior into the conceptual framework of future researches to examine the influence on innovative work behavior.

VII. Conclusion

The proposed hypotheses were confirmed by the current study; as it indicated that relationship exists between psychological capital, perceived organizational support and innovative work behavior; and that the PsyCap and POS serve as significant determinants of IWB among higher education teachers of Pakistan. It shows that psychological wellbeing developed through hope, self-efficacy, optimism and resilience can produce work innovation among the university teachers. Moreover, it demonstrated that the perception of being valuable, encouraged and treated fairly can promote innovation through work behavior of the teachers in higher educational institutions of Pakistan

This study further highlights that the concept psychological capital and perceived organizational support need to be introduced in organizations as these concepts hold the ability to transform the innovative work dynamics of an organization. As this investigation emphasized on selected variables, it is

relatively significant to explore them extensively by incorporating other related variables so that this can facilitate in bringing out the best in every employee.

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About the authors

MARIA WAHID, (corresponding author, mariawahid81@gmail.com) is the Lecturer in the Department of Business Psychology, Institute of Business Management (IoBM), Karachi, Pakistan. Maria completed MPhil in Organizational Psychology from IoBM and BS in Professional Psychology from Institute of Professional Psychology, Bahria University, Karachi. She also has relevant experience as a Research Associate for two years at IoBM and became truly devoted to pursuing a career in research and teaching. Her interest lies in writing academic research in the areas of organizational psychology, social issues, positive psychology, learning, and development.

NADIA AYUB, (co-author, nadia.ayub@iobm.edu.pk), is a Professor and Dean of College of Economics and Social Development, IoBM. Dr. Ayub completed a Postdoctoral Fellowship from the School of Psychology, University of Queensland, Australia, and earned a Doctor of Philosophy in Psychology from the University of Karachi, Pakistan. She is HEC approved Ph.D. Supervisor and supervised a number of MPhil & Ph.D. theses at IoBM. Her research focuses on social problems, adolescents, organizational issues, personality, family and marriages, and Psychometrics. She has published more than forty journal articles, presented research papers at Harvard University, the USA in 2012 & 2013 and around the world, and served as a reviewer of Impact factor journals including the Australian Journal of Psychology and PsyCH Journal.

Annexes

A. *PSYCHOLOGICAL CAPITAL QUESTIONNAIRE (PCQ-12)*

Directions. Below are statements about you with which you may agree or disagree. Using the following Likert scale, indicate your level of agreement or disagreement with each statement.

Statements	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
I feel confident in representing my work area in meetings with management.	1	2	3	4	5	6
I feel confident contributing to discussions about the company's strategy	1	2	3	4	5	6
I feel confident presenting information to a group of colleagues.	1	2	3	4	5	6
If I find myself in a jam at work, I could think of many ways to get out of it.	1	2	3	4	5	6
Right now I see myself as being pretty successful at work.	1	2	3	4	5	6
I can think of many ways to reach my current work goals.	1	2	3	4	5	6
At this time, I am meeting the work goals that I have set for myself.	1	2	3	4	5	6
I can be "on my own" so to speak at work if I have to.	1	2	3	4	5	6
I usually take stressful things at work in stride.	1	2	3	4	5	6
I can get past difficult times at work because I've experienced difficulty before	1	2	3	4	5	6
I always look on the bright side of things regarding my job.	1	2	3	4	5	6
I'm optimistic about what will happen to me in the future as it pertains to work.	1	2	3	4	5	6

B. SURVEY OF PERCEIVED ORGANIZATIONAL SUPPORT-8 ITEMS

Listed below are statements that represent possible opinions that YOU may have about working at your workplace. Please indicate the degree of your agreement or disagreement with each statement that best represents your point of view about your workplace.

Statements	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree
The organization values my contribution to its well-being	0	1	2	3	4	5	6
The organization fails to appreciate any extra effort from me	0	1	2	3	4	5	6
The organization would ignore any complaint from me.	0	1	2	3	4	5	6
The organization really cares about my well-being	0	1	2	3	4	5	6
Even if I did the best job possible, the organization would fail to notice.	0	1	2	3	4	5	6
The organization cares about my general satisfaction at work	0	1	2	3	4	5	6
he organization shows very little concern for me	0	1	2	3	4	5	6
The organization takes pride in my accomplishments at work.	0	1	2	3	4	5	6

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C. *INDIVIDUAL INNOVATIVE BEHAVIOR SCALE*

Directions: Considering the uncertain situation during Covid-19, rate the behavioral frequency in your current job indicating how often you do behave in the certain way.

Statements	Never	Almost Never	Sometimes	Fairly Often	Very Often	Always
Look for opportunities to improve an existing process, technology, product, service or work relationship?	1	2	3	4	5	6
Recognize opportunities to make a positive difference in you work, department, organization, or with customers?	1	2	3	4	5	6
Pay attention to non-routing issues in your work, department, organization or the market place?	1	2	3	4	5	6
Generate ideas of solutions to address problems?	1	2	3	4	5	6
Define problems more broadly in order to gain greater insight into them?	1	2	3	4	5	6
Experiment with new ideas and solutions?	1	2	3	4	5	6
Test-out ideas or solutions to address unmet needs?	1	2	3	4	5	6
Evaluate the strengths and weaknesses of new ideas?	1	2	3	4	5	6
Try to persuade others of the importance of a new idea or solution?	1	2	3	4	5	6
Push ideas forward so that they have a chance to become implemented?	1	2	3	4	5	6
Take the risk to support new ideas?	1	2	3	4	5	6
Implement changes that seem to be beneficial?	1	2	3	4	5	6
Work the bugs out of new approaches when applying them to an existing process, technology, product or service?	1	2	3	4	5	6
Incorporate new ideas for improving an existing process, technology, product or service into daily routines?	1	2	3	4	5	6

Entrepreneurial intention development: The contribution of specialized entrepreneurship academic programs

Carolina Llorente-Portillo, John Alver Dobson, Niyan Kwame Omari Fraser, and Laura Gómez-Urquijo*

Abstract: Entrepreneurship Education (EE) programming is being developed at tertiary-level academic institutions, to develop the next generation of entrepreneurs. We collected data from undergraduate students from the Western region of Tecnológico de Monterrey in Mexico (N=25). The aim was to measure entrepreneurial intention by exposing the sample to a new educational structure that engages students in entrepreneurial activities. The Entrepreneurship program is highly specialized with a maximum of 25 students. This allows for students to receive individualized

* **Carolina Llorente-Portillo** (corresponding author, c.llorentep@deusto.es) is a PhD Candidate at the University of Deusto (Spain) under the fellowship program of the European Commission MSCA –Marie Skłodowska-Curie Actions. She holds a Master's degree in Sustainable Management and Eco-innovation from the Rennes School of Business (France) and a bachelor degree in International Business from EAFIT (Colombia).

John Alver Dobson (jdobson@clarku.edu), DBA, is Associate Professor at Clark University (USA) and teaches courses on the Entrepreneurship & Innovation minor. He is the founder of the DYME institute, which uses problem-based learning approaches to help students develop their entrepreneurial skills.

Niyan Kwame Omari Fraser (niyan.fraser@tec.mx), PhD, is Professor of Entrepreneurship at the School of Business of the Tecnológico de Monterrey in Mexico where he teaches courses on Entrepreneurship and Innovation.

Laura Gómez-Urquijo (Laura.gomez@deusto.es), PhD, is Full Professor of Economics of the European Union at the University of Deusto (Spain) where she holds a Jean Monnet Chair on EU Economic and Legal Integration for People.

More information about the author(s) is available at the end of this article.

attention aiding in the development of their entrepreneurial projects. Tecnológico de Monterrey is number 4 in The Princeton Review's Top Undergraduate Schools for Entrepreneurship Ranking 2023. The school uses process-based approaches to EE. Guided by the Theory of Planned Behavior (TPB), we assessed changes in the students' attitudes toward entrepreneurship, perceived behavioral control, and intentions to become an entrepreneur. Using a seven-point Likert scale, the data was collected using anonymous online links at two points during the semester: the beginning of the semester (T1) and the end of the 1st Period (T2). The data was analyzed with SPSS software and the Friedman Calculator. Our research findings indicate a high score at T1. There was a slight change at T2, but the change was not statistically significant. Consequently, we introduce and review other approaches to Entrepreneurship Education that might be more effective. Noteworthy is that the sample is immersed in an entrepreneurial university context, both within and outside the academic setting, which fosters a strong motivation among students to contribute societal value through entrepreneurial endeavors.

I. Introduction

Entrepreneurship is an important driver in world economies. It is essential for stimulating economic activity and driving economic development. Entrepreneurs through the development of new businesses and improving value-added for existing businesses help increase employment and generate wealth that lifts themselves, their families, and the communities out of poverty (Wu and Gu 2017; Neck, Greene, and Brush 2014; Besterfield-Sacre, Zappe, Shartrand and Hochstedt 2013; Mäkimurto-Koivumaa, Väänänen and Belt 2013; Tessema-Gerba 2012; Weber 2012; Blenker 2011; Gallant 2010). The establishment of new business ventures necessitates significant strategic decision-making. Cooper (1981) and Kuratko and Hodgetts (2014) provide broad-based wealth creation through value-added activities (Elia, Marguerita, Secundo, and Moustaghfir 2011; Lumpkin and Gregory 1996). To expedite the development of entrepreneurs, higher education institutions worldwide have begun to develop Entrepreneurship Education (EE) programs to stimulate and encourage the development of effective entrepreneurs (Nabi, Liñan, Fayolle, Krueger and Walmsley 2017; Thurik, Stam and Audretsch 2013; Greene and Saridakis 2008; Kuratko 2005).

EE is a powerful tool; the World Economic Forum (2009) describes education as the fundamental basis for economic and social development, and Weber (2012) identifies EE as the driving force behind such advancement

in this process. Courses offered in EE programs have two purposes. First, the design focuses on the required competencies, knowledge, skills, and capabilities needed for students to successfully pursue entrepreneurship. Secondly, EE could transform students, allowing them to view entrepreneurship from a different perspective and see the potential that can be derived from engagement in entrepreneurship. EE has the power of, and benefits from, transformational elements associated with EE and the fact that it allows for personal growth and transformational experiences (McGuigan 2016). Students can gain a new worldview that incorporates entrepreneurial thinking, passion, autonomy, and agency which can be applied in all dimensions of their personal and professional spheres. The overall intent of these types of courses is to increase entrepreneurship amongst students, by facilitating the development of entrepreneurial attitude and intention in the anticipation that this will give students the confidence to start engaging in entrepreneurship. These new entrepreneurs will tackle pressing problems in their own lives and their communities (Gedeon 2014).

The development of EE programs has evolved and seen significant growth within the past eight decades; beginning in 1947 at Harvard University, being present in the University of Southern California's and Babson College's MBA and Undergraduate programs in the mid-1970s and, from the late 1980s, due to increased interest, expanding across the US and to other countries (Kuratko and Morris 2019). Today, there is a substantially greater presence of EE across the world, with thousands of colleges and universities offering entrepreneurship majors and minors (Fairlie 2013), and schools worldwide are offering annually a vast array of courses to cater to the educational needs of millions of students (Dobson and Muhammad 2022).

The focus of EE has changed over time. Kuratko and Morris (2019) affirm that the first EE courses offered at Harvard University were centered on cultivating the entrepreneurial mindset among students. Also, the increased EE offerings of the 1980s saw the focus moving away from teaching students to become entrepreneurs to the understanding of entrepreneurship in the small business management context, with the hope that students would acquire the knowledge and skills necessary for initiating and managing a prosperous business venture. In the late 1990s, the focus of EE courses again changed, this time away from the promotion of the dynamics involved in entrepreneurship and the effective management of small businesses (Weber 2012). This new focus was on nurturing the development of capabilities in creative thinking and innovative problem-solving which could be applied in a corporate context (Plaschka and Welsh 1990; Chamard 1989); a focus that was geared towards turning students into

more marketable employees for these existing companies (Kourilsky 1995). In more recent times, Kuratko and Morris (2019) say that the focus has again changed, with the present-day focus of EE courses being to give students the knowledge and skills necessary to establish cutting-edge, rapidly expanding, and scalable ventures based on innovative ideas. Due to the emergence of high-tech companies, the belief here is that this focus would lead to the development of scalable, high-potential ventures derived from technological innovation and viable business ideas.

The evolved foci and goals of EE programs are well-intended, moving parallel to the changing landscapes of the business economy. Government policies and academic institutions are actively developing and expanding EE programs since these programs are seen as a method for fostering entrepreneurial engagement. However, Dobson and Muhammad (2022) confirm that these efforts have not resulted in a corresponding increase in new ventures. In a meta-review of 73 studies that covered more than 37,000 students, Bae, Qian, Miao and Fiet (2014) found that EE did not yield statistically significant effects on entrepreneurship activity. The research outcomes from various studies have proposed potential explanations as to why this may be the case. Kourilsky (1995) noted that there was a lack of teaching methodologies in entrepreneurship, suggesting an opportunity to develop innovative programs that could increase the knowledge, skills, and abilities of nascent entrepreneurs. Naia, Baptista, Januário, and Trigo (2015) found that EE programs have grown in the absence of universally accepted teaching and learning approaches, which leaves significant discrepancies between research and practical application in EE. Weber (2012) explained that EE courses offered by universities are no longer designed to promote entrepreneurship and instead are designed to develop students' corporate thinking, meaning that the focus of EE courses is no longer to create entrepreneurs who can establish new business ventures but is now to provide students with a skill set that will turn them into more desirable employees. Previous studies done by Plaschka and Welsh (1990), and Chamard (1989) show that EE programs do not focus on the creation of students who possess entrepreneurial and growth mindsets and innovative thinking.

In response to the literature that suggests that EE has no impact on student intentions, this research is designed to unpack some of the underlying causes and help identify alternative ways to teach so that we can improve the effectiveness of EE. Therefore, to gain a deeper comprehension of the gap between EE and entrepreneurial intention, we studied students at the Tecnológico de Monterrey who were enrolled in the Bachelor of Arts in Entrepreneurship degree. Past research has shown that individuals are not

inherently born as entrepreneurs but rather can develop entrepreneurial skills and traits through education, emphasizing the vital role of education in fostering entrepreneurial skills and how entrepreneurship is taught. This paper is structured in six parts. Following this introduction, Section Two will focus on the contextual framework including the examination of relevant literature and the establishment of a theoretical framework used in this study. Section Three will present a review of the research methodology, methods used in the design, and the hypotheses of the study. Section Four will present the results. Section Five will present a discussion, with practical and theoretical contributions, and Section Six will be a conclusion accompanied by the study's constraints and potential fields for future research.

II. Contextual framework

II.1. *Application of the theory of planned behavior in the entrepreneurial intention*

The Theory of Planned Behavior (TPB) is a theory that predicts human behavior (Ajzen 1985). TPB indicates that if you aim to enhance a particular behavior, it is necessary to increase in intention. Ajzen's (1985) research identifies three factors that influence one's intention to engage in action: *attitudes, subjective norms, and perceived behavioral control (PBC)*. This theory is widely recognized and broadly used to explicate individuals' actions over a range of fields, such as social sciences, finance, and linguistics (Mykolenko, Ippolitova, Doroshenko, and Strapchuk 2022). Likewise, Do Paço, Ferreira, Raposo, Rodrigues, and Dinis (2011) argue that the TPB is a significant model that focuses on intentions and plays a crucial role in explaining the educational process (Do Paço et al. 2011). Originally derived from the field of psychology by Ajzen, this model has been applied to the context of entrepreneurship by Kolvereid (1996). In terms of the EE research context, if you want students to engage in new venture creation, you need to ensure that the EE programs increase students' intention to become entrepreneurs.

Subsequently, we delineate the three variables as conceptualized within the framework of the Theory of Planned Behavior, providing a comprehensive exposition of their roles:

Attitudes encompass the significant beliefs that individuals hold in their cognition, which are linked to positive behavior. The attitude that one possesses is the result of a previous evaluation of experiences and anticipations of future possible outcomes. In the context of EE, a student's attitude as it

relates to the evaluation of entrepreneurship as a viable career choice, the convictions that he or she holds based on an evaluation of previous experiences, and the benefits that can be potentially gained from taking the action.

Subjective Norms are the general beliefs of a group of people who represent the individual's peer group or social network. In the context of an entrepreneurship student, he or she will consider what others think of people becoming entrepreneurs. The student will wonder if his or her social peers will perceive entrepreneurship as a favorable and esteemed career path, or will the social peers see this option as something negative. This variable can be seen as social or peer pressure, which, in turn, can impact a student's inclination to pursue entrepreneurship.

Perceived Behavioral Control (PBC) serves as a potent intermediary between intention-behavior and the relationship of attitude and norms with intention. When a person considers his or her behavior to be under control and has the capability of doing business, the person can be successful if choosing to be an entrepreneur. These social pressures are contrasted against one's willingness to comply (Krueger, Reilly, and Carsrud 2000). Studies have shown that levels of PBC exert the most significant influence on the enhancement of intention and eventual action (Fishbein 2007).

Research has shown that an increase in intention can stimulate the propensity to act. Increasing the three factors – attitudes, subjective norms, and PBC – will lead to increased entrepreneurial intention, resulting in increased levels of entrepreneurial action (Azjen 1991). This is illustrated below in Figure 1.
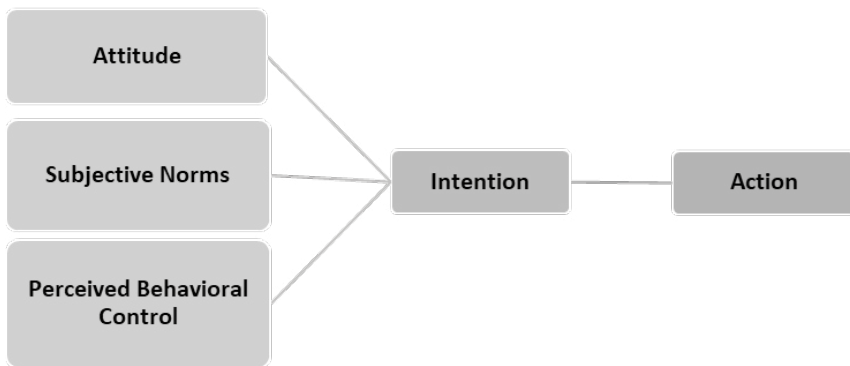
Figure 1

Adapted from Theory of Planned Behavior Ajzen,1985

II.2. *Entrepreneurship education approaches*

EE has become a topic of interest to academic researchers, policymakers, academic institutions, and students. This interest has led to more research being carried out on aspects related to the existence of EE in academic settings. The focal points of EE research have varied; Fernández-Nogueira, Arruti, Markuerkiaga, and Saenz (2018) analyzed university ecosystems in Spain. Avila-Merino (2019) investigated the influence of extracurricular activities on students in UK Business School, whereas Eryanto, Swaramarinda, and Nurmalasari (2019) looked at the influence of EE that was developed as a facet of professional training in Indonesia. Research on EE has explored various activities that are representative of EE including business plans, business models, simulations, games, lectures, and case studies. Despite the varied research that exists, none of the studies have identified how entrepreneurs are created. The efforts that have been made towards investments in EE at universities have failed to develop actual entrepreneurs. The issue is academic because the pedagogical framework focuses on teaching students about entrepreneurship instead of on helping students embrace the entrepreneurial spirit (Dobson, Castro-Nieto, Dobson, Moros-Ochoa 2019). Those programs focus on hypothetical coursework instead of action learning through concrete experiences that are designed to develop entrepreneurial problem-solving skills (Dobson and Dobson 2023).

There are different types of programs related to EE. Based on a review of EE-related programs, Liñán (2004) proposed an entrepreneurship taxonomy, presenting different approaches used in EE. In his findings, it was observed that most available programs primarily utilized theory-based approaches, emphasizing the cultivation of students' understanding of entrepreneurship in the realm of small business management. However, he also identified the existence of process-based approaches that centered on educating students about the practical steps involved in launching a business. These process-based approaches encompassed topics such as formulating business models, developing business plans, exploring potential funding sources, and understanding legal structures. Details about these approaches are presented below in Table 1.

Building upon the Liñán (2004) taxonomy, Dobson et al. (2019) incorporated the theory-based and process-based approaches into one taxonomy, a Process/Theory-based learning approach, because the focus is placed on writing hypothetical business plans and models. Introducing the steps to starting a business. The syllabus for these types of courses tends to focus on a series of sequential stages required to start a business. It often

begins with writing a vision and mission statement ending with an exit event such as selling the business. Through this approach, students can demonstrate their knowledge of the entrepreneurial process including entrepreneurial traits and events of opportunity recognition (Dobson et al. 2019). In comparison, Problem-based courses focus activities on active learning where students take responsibility for their learning. This involves inquiry-based learning (Kolb and Kolb 2008) in which students do not know if their ideas are going to work (Dobson et al. 2019). Under the problem-solving approach, students engage in experiences where they reflect, conceptualize, and experiment allowing for the development of entrepreneurial skills through entrepreneurial actions. Dobson et al. (2019) presented a comparison between the Process- and Problem-based learning approaches highlighting teaching methodologies, student roles, activities, learning outcomes, and types of assessments. Table 2 compares the two approaches of EE allowing for a deeper understanding of the methods allowing faculty to reflect on how best to put these approaches into practice.

Table 1

Entrepreneurship Education Taxonomy in Universities by Liñán (2004)

Type	Methodology	Contents and Characteristics
Education for entrepreneurial awareness	Theory-Based Learning	This type of program focuses on teaching general knowledge about entrepreneurship, which is very common in university academic programs, where the courses that students take are not compulsory. The objective is to promote general knowledge about small businesses, self-employment, and entrepreneurship.
Education for Start-Up	Process-Based Learning	The objective is to promote the legalization of business models that people have been evaluating for a while. The objective of this programing is much more practical and promotes the formalization of the business plan (e.g., financing, legal regulations, formalization of the Start-Up) and the development of entrepreneurial skills, as a fundamental part of the understanding, development, and start-up of the studied enterprise.

Table 2

Process-based vs Problem-based approaches (Dobson et al., 2019)

Course type	Hypothetical-based Courses	Concrete Experience Courses
	Process-based	Problem-based
Assumptions of the Nascent Entrepreneur Learner	Start a hypothetical new venture. Courses teach about the process of starting a new venture.	Solve (market) problems. Active self-directed learning-students decide on how to develop their ideas. Concrete experiences are essential.
Teaching Methods	Theoretical lecturing.	Concrete experiential learning (Dobson & Dobson, 2022).
Role of the Student	Passively taken through a linear process of how to start a hypothetical business or develop a hypothetical business model in relation to management.	a self-directed learner who constructs their nonlinear journey of entrepreneurship and actively seeks experiences to become self-determined in their learning.
Activities	Write a hypothetical business plan, conduct marketing analysis, assess financial feasibility, read case studies, and use simulations.	1.identify and analyse a real problem; 2. determine prior knowledge of the underlying and related concepts to solve the problem; 3. identify and address knowledge gaps related to solving the problem; 4. outline and evaluate possible solutions; 5. attempt to solve the problem; and 6. report the findings. 7. Repeat and Iterate to improve the outcome. (Dobson & Dobson, 2023).
Learning Outcomes	Learning about entrepreneurship.	How to learn to be an entrepreneur.
Assessments	Summative and formative assessments based on predetermined best practices of teacher-centric activities.	Time spent working on own venture, self-reflection, journaling, incorporating feedback to improve their idea, iterating the business idea, and demonstrating learning.

Crispin, Dibben, Hoell, McAuley, and Miles (2018), in their study analyzing various university EE programs in the Australasia region, identified three alternative approaches: a "teaching" approach which incorporates academic-based courses; a "try" approach, which incorporates participatory experiential projects and consultation-driven methods that allow students to "try" entrepreneurship; and an approach which combines aspects of both the "teaching" and "try" approaches, combining the best elements of both approaches. Information about these approaches is presented in Table 3:

Table 3

Approaches to Entrepreneurship Education
in Australasian Universities (Crispin et al., 2018)

EE Approach Type	Characteristics of the EE Approach
Teaching about Entrepreneurship	Programs incorporating this approach typically build on the "foundations of entrepreneurship" and business planning classes. Entrepreneurship theories and concepts are provided to many students in an efficient manner. These programs use the traditional lecture, textbook, and test approach. Instructors lecture on the topics, reinforce the materials provided in textbooks, and use tests to assess the students' learning.
Trying Entrepreneurship	Programs using this approach incorporate an active learning approach to entrepreneurship which allows nascent entrepreneurs (entrepreneurs who engage in creating new ventures) an opportunity to decide if they have an interest in being proactive and taking the risk to use innovation to exploit opportunities. These programs are based on a very active hands-on approach which focuses on Jones's (2011) 4Cs of entrepreneurship education, where students (1) conceive, (2) create, (3) capture, and (4) critique value in engaging and reflective activities or "trying entrepreneurship". Under this approach, student learning assessment is often more subjective.
Teaching and Trying Entrepreneurship	Programs use a blended approach that incorporates the best elements of the Teaching and Trying approaches. Under this approach, students are first taught core entrepreneurship and business fundamentals, and then they "try" entrepreneurship, either by applying their knowledge in consulting with small businesses on real problems, or by becoming involved in starting new enterprises. These experiences reinforce the "taught" knowledge and allow students to reflect on what they need to know and provide students with additional classes that help to reinforce their skill and knowledge deficiencies. For example, a marketing student who takes a class in international business to understand the process of exporting.

From their research findings, Crispin et al. (2018) found that in the Australasia region, the most prevalent learning approach used is the "teaching" approach, which presents the question of the intended goals of EE programs in this region and the impact academic institutions want to create through their students.

Drawing upon the foundational research conducted by Dobson et al. (2019), as well as previous research conducted by Peterman and Kennedy (2003), Souitaris, Zerbinati, and Al-Laham (2007), and Oosterbeek, Van Praag, and Ijsselstein (2010), which illuminate the heterogeneity in teaching methodologies and their consequent differential impacts on student outcomes, this study underscores the imperative for an in-depth examination of these variances. It articulates the need for educational strategies to be meticulously tailored, to optimize learning effectiveness. This discourse catalyzes the call for augmented research into EE, with a specific focus on elucidating the multifaceted roles played by various stakeholders within the academic entrepreneurship ecosystem in the design and delivery of training programs aimed at university students. Moreover, the pursuit of pedagogical innovation within entrepreneurship education emerges as paramount. This encompasses a comprehensive understanding of extant educational paradigms, the anticipatory needs of emergent generations, and the development of pedagogies that are congruent with the contextual realities and exigencies confronting students. Such an approach is pivotal in fostering an entrepreneurial ethos and enhancing entrepreneurial intentions, notably through the integration of problem-based learning methodologies.

EE has been thoroughly examined across various cultural contexts, underscoring the need for tailored pedagogical approaches. Studies like those by Moriano, Gorgievski, Laguna, Stephan, and Zarafshani (2012) explore the Theory of Planned Behavior's predictors across nations such as Germany, India, and Spain, finding universal effects of attitudes and perceived behavioral control on entrepreneurial intentions, with subjective norms varying by culture. Research has evolved from teaching how to start businesses to recognizing entrepreneurial opportunities, including digital ventures, reflecting a shift towards experiential learning as highlighted by Ferreira (2020). This emphasizes the importance of a blended learning approach. Lastly, the role of EE in developing entrepreneurial competencies is crucial for long-term success. Lans, Verstegen, and Mulder (2011) highlight the importance of identifying opportunities and leveraging social networks and resources effectively. A systematic literature review by Shabbir, Batool, and Mahmood (2022) highlights this evolution, revealing an

increasing focus on outcome-oriented factors of entrepreneurship education, such as fostering innovative mindsets and practical skills among students

Given the importance of entrepreneurial activity to world economies, EE programs must ensure that students' intention increases for students to act and to encourage new venture creation. It is therefore essential that academic institutions are aware of the different learning approaches applied in EE programs and understand the impact that these approaches can potentially have on intent. This research emanates from the DYME Institute and various universities as an integral component of an established research line in the field of entrepreneurship. Its objective is to study entrepreneurial intention within the academic context, using the Theory of Planned Behavior and EE as theoretical frameworks. Understanding what occurs within the classroom regarding entrepreneurial intention helps academics grasp the foundation of the subject and enables them to implement more effective and tailored strategies to meet students' entrepreneurial development needs. This implies that academics gain a clear insight into the strengths and challenges students face concerning entrepreneurship, allowing them to design more focused and relevant educational programs. Improving the quality of entrepreneurship education contributes to the development of skills and competencies necessary for entrepreneurial success, thus positively impacting the academic sphere and the formation of future entrepreneurs.

III. Research methodology

III.1. University context

This research study was conducted at Tecnológico de Monterrey (Tec de Monterrey), an esteemed educational institution founded in Mexico in 1943 under the visionary leadership of Don Eugenio Garza Sada and a collective of entrepreneurial individuals who established a non-profit association known as Enseñanza e Investigación Superior, A.C. As a private, non-profit organization, Tecnológico de Monterrey is deeply committed to delivering high-quality higher education in the country. It operates autonomously and remains unaffiliated with any political or religious entities. The university and its various campuses receive substantial support from civil associations comprising a distinguished group of influential leaders from across Mexico. These civil associations share a common dedication to the advancement of excellence in higher education. Annually, the board members of these associations convene to establish the strategic objectives that will guide the university's major decisions and initiatives, aligning with its overarching

mission of driving societal and national development. Through this research project, conducted in adherence to formal and rigorous academic standards, Tec de Monterrey aims to contribute valuable insights to the field of education and advance the knowledge base to enhance educational practices and benefit both local communities and the nation at large.

Tec de Monterrey is a well-recognized Mexican university, with twenty-six main campuses throughout the country, which has recently implemented a new educational approach. Also, it is part of the international rankings, for example, in the Princeton Review's Top Undergraduate Schools for Entrepreneurship Ranking 2023, where it is ranked in 4th place. Hence, it is deemed a highly significant university to be included in the examination of entrepreneurship and the programs they cultivate.

The undergraduate program of the business school at Tec de Monterrey is designed for students to experience all areas of business before deciding on the area they would like to specialize in. This program lasts for eight semesters. Students take these various courses, along with a choice of general educational courses, in the first three semesters of the program. During the third semester, students select their degree majors, which they then begin in the fourth semester and end in the eighth semester of the program. Each semester is divided into three periods, each period lasting for five weeks, and students take two to three courses per period. The degree of focus for this research study – the Bachelor of Arts in Entrepreneurship – is offered at select campuses of the university.

III.2. *About the program and its participants*

The Bachelor of Arts in Entrepreneurship at Tec de Monterrey is a specialized program where the focus is on providing individualized attention to students to help with the development of their entrepreneurial projects. As a result, the program accepts a maximum of 25 students to maintain this individual attention. While it is not as common to use a small sample size it is a valid research method (Scheaffer, Mendenhall III, Ott, and Gerow 2011, 60-63; Yin 2013). The new educational model consists of two types of courses: Subjects and Blocks. A Subject is a set of content and learning activities whose aim is to provide students with theoretical and practical training which is generally linked to a discipline. In some cases, several disciplines could be incorporated. The Subject is taught by one professor. A Block, on the other hand, is a training unit that is comprised of modules and challenges, which together are aimed at the development of mastery levels of sub-competencies that are associated with disciplinary competencies – knowledge, skills,

attitudes, and values considered necessary for professional practice – and transversal competencies – competencies that are useful for the life of the graduate which have a direct impact on the quality of the exercise of the profession. The challenge is carried out in collaboration with a Training Partner, which is an existing company that the university partners with that is typically looking for help in business development or business expansion. Each module as well as the challenge is handled by a different professor, resulting in Blocks being taught by multiple professors. The subjects are independent of the blocks that are studied in parallel during the same academic period. Students take one Subject and one Block over the five-week duration of each period. It is noteworthy that student participants in the class experienced two types of EE teaching methodologies: theory-based and process-based.

To conduct this research, 25 students enrolled in the 4th semester of the Bachelor of Arts in Entrepreneurship program in the Western Region of Tec de Monterrey were studied. The idea behind structuring the program in this way was to create an immersive and holistic experience for the students; the institution wanted students to be able to benefit from having more one-on-one relationships with the professors, where students felt comfortable enough to discuss their projects, obtain advice, experiment, and overall, not be afraid to engage in the entrepreneurship process. In addition, students would be able to engage in self-reflection and achieve personal development, gaining a deeper understanding of who they are as entrepreneurs. The environment created allows students to network and develop an entrepreneurial family, in a sense, involving other students, professors, and alumni. These goals would easily be accomplished by having a small size, in comparison to the larger groups of the other business school undergraduate degrees, where this dynamic, according to the students of the other programs, is not present. The focus of the 4th semester, which is when students officially begin the Bachelor of Arts in Entrepreneurship, is on Opportunity. It is noteworthy that student participants in the program's courses experienced two types of EE teaching methodologies: theory-based and process-based. Table 4 shows the courses students took during the 4th semester and the associated learning objectives.

In compliance with ethical standards, this study underwent a comprehensive ethical review to ensure the welfare of the student participants. We meticulously designed our research protocols to eliminate any form of coercion. The voluntary nature of participation was emphasized, and students were informed they could withdraw at any time without any consequences. Informed consent was obtained from each participant, ensuring they were fully aware of the study's purpose, procedures, and potential impacts. Anonymity and confidentiality were upheld rigorously to encourage open and honest responses.

Table 4

The 4th Semester Courses and Associated Learning Objectives of the Bachelor of Arts in Entrepreneurship Program at Tecnológico de Monterrey

Course Name	Period Offered	Course Type	Learning Objectives
High-Impact Exploration	1	Block	to detect entrepreneurial opportunities through the analysis of market trends found in technological and prospective observatories. to perform micro and macro analyses of markets. to support the information obtained with the use of data analysis tools. to establish strengths, weaknesses, opportunities, and threats in the context of a company using specialized methodologies.
Corporate Entrepreneurship Opportunities	1	Subject	to understand the basic concepts of Corporations and Family Business. to gain knowledge and understanding of the business environment of Corporations and Family Businesses. to properly identify opportunities for Corporate Entrepreneurship. to detect in a timely, accurate and simple way situations that allow innovation, and boost competitiveness, seeking to ensure sustainable growth and permanence in the market.
Evaluation and Communication of Opportunities	2	Block	to evaluate opportunities within current trends as a line for the flourishing of companies. to evaluate opportunities through impact measurement methodologies. to seek to avoid resorting to entrepreneurship out of necessity. to prevent sacrificing the impact and level of innovation that can be achieved by the urgency of keeping the company alive. to develop a relational capital strategy with the main stakeholders considering benefits and risks. to argue the key points of an entrepreneurial project, through oral and written language, according to the interest of the audience and the objectives of the communication process.

Course Name	Period Offered	Course Type	Learning Objectives
Innovation in the Value Chain	2	Subject	to identify innovative opportunities in an organization's value chain. to propose entrepreneurship through the reconfiguration of the organization's resources, taking social megatrends, demographic factors, and technological factors as a reference.
Opportunity and Solution	3	Block	to analyze opportunities, determining desirability, viability, and feasibility. to define solutions that a company can implement, based on selected opportunities. to validate proposed solutions.
Entrepreneurial Leadership	3	Subject	to gain a conceptual and practical understanding of entrepreneurship ecosystems, stakeholders, and entrepreneurial leaders. to be able to incorporate the human talent appropriate to the needs of an entrepreneurial project.

The data was collected via an anonymous link sent to the students. This survey used a seven-point Likert scale designed to test the variable found in the TPB. The data was collected at the beginning of the semester (T1) and the end of Period 1 (T2), enabling us to assess the influence of the courses taken during the period on students' entrepreneurial attitude, perceived behavioral control, and intentions as the students progressed through the courses. Following the previous publication by Mykolenko et al. (2022) and as part of the scope of this research, we considered the two independent variables that are more willing to indicate the potential towards the intention – attitudes and PBC – to construct our hypotheses (See figure 2).

As part of this study, we analyzed the correlation between the independent variables (attitude towards entrepreneurship and insight of behavioral control) to the dependent variable (intention to become an entrepreneur) prior to the start (T1) and after their exposure (T2) in the academic entrepreneurial environment. The methodology of this investigation is under the theoretical framework of the TPB. Conversely, subjective norms, which constitute a third component of the TPB model, often exhibit no significant influence on entrepreneurial intentions (Barba-Sánchez 2018). This case is explained by the following variables: the attitude towards entrepreneurial conduct, perceived autonomy in implementing entrepreneurial behavior, and the intention to adopt an entrepreneurial role.

III.3. *Hypotheses*

This research is based on 5 hypotheses, which include:

H1: Prior to the period (T1), students' attitudes will be correlated with the intention to become an entrepreneur.

H2: Prior to the period (T1), students' perceptions of behavioral control will be correlated with the intention to become an entrepreneur.

H3: At the end of the period (T2), students' attitudes will be correlated with the intention to become an entrepreneur.

H4: At the end of the period (T2), students' perceptions of behavioral control will be correlated with the intention to become an entrepreneur.

H5: At the end of the period (T2), there will be no statistical change in students' attitudes, perceptions of behavioral control, and intentions to become an entrepreneur.

These hypotheses are illustrated below in Figure 2:
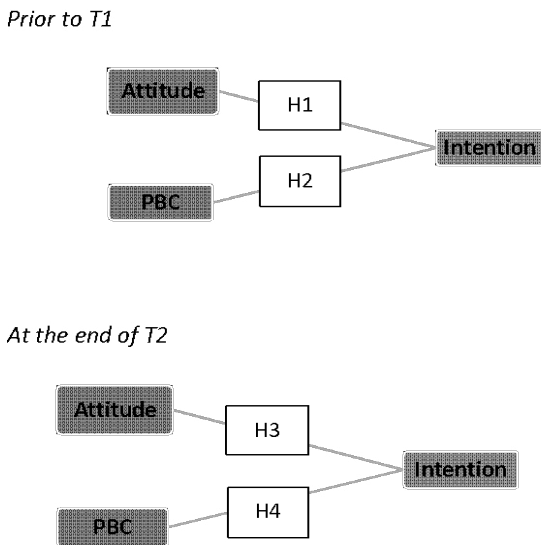
Figure 2

Research Hypotheses

III.4. About the methodological instrument

Students responded to five questions that measured their attitudes toward entrepreneurship. Specifically, participants were posed the following: *A career as an entrepreneur is attractive*; *If I have the opportunity and resources, I'd like to start a business*; *Being an entrepreneur would entail great satisfaction for me*; and *Among various options, I would rather be an entrepreneur*. They were asked to indicate responses using a 7-point scale (1 = completely disagree and 7 = completely agree).

In terms of PBC, participants were asked to indicate responses on a 7-point scale (1 = completely disagree and 7 = completely agree): *I am ready to start a viable business*; *I can control the process of creating a new business*; *I know the practical details necessary to start a business*; *I know how to develop an entrepreneurial project*; *If you tried to start a business, you would have a high probability of succeeding*; *I have enough knowledge to be a successful entrepreneur*; *I have the necessary skills to be a successful entrepreneur*; and *I have the necessary skills to be a successful entrepreneur*.

And the last variable was entrepreneurial intention with five statements that were assessed. They indicated responses on a 7-point scale (1 = completely disagree and 7 = completely agree): *My professional goal is to become an entrepreneur*; *I will make every effort to start and run my own business*; *I have very seriously thought of starting a business*; and *I have a strong intention to start a business someday*. For the within-group comparison, responses were averaged into indices of entrepreneurial intention at T1 (α = .70) and T2 (α = .72).

Dobson et al., (2019); Dobson, Jacobs, and Dobson (2017); and Do Paço et al., (2011) applied and validated the survey instrument used to test the sample in this research. Cronbach's alpha was used to test reliability (α). Next, the statistical description (Table 5) of the variables at each time (T1, T2) was presented. Then, the data was analyzed using the Shapiro-Wilk test (Table 6). A Spearman correlation test (Table 7) was used to confirm whether there was a relationship between the study variables (H1, H2, H3, H4). Finally, a Friedman test (Table 8) was used to identify the statistical significance of the changes in the independent variables (Attitudes and PBC) and the dependent variable (intention) (H5) over time.

To get the descriptive data results, we based our methodology on the literature and applied SPSS software (Hinton, McMurray, and Brownlow 2014). We used the Shapiro-Wilk test to measure the normality, the Spearman correlation for the variable intention, and the Friedman calculation (Subramanian 2018; Thomas and Santha 2018; Ajayan and Santha 2018), which measures the continuous distribution of the origin of non-parametric statistics and was selected because there were two points of data collection.

IV. Results

In our analysis, responses were aggregated to calculate Cronbach's Alpha (α) for various constructs: attitudes toward entrepreneurship at T1 ($\alpha = .94$) and T2 ($\alpha = .65$); Perceived behavioral control (PBC) at T1 ($\alpha = .91$) and T2 ($\alpha = .77$); and Entrepreneurial intention at T1 ($\alpha = .70$) and at T2 ($\alpha = .72$). This analysis revealed a discernible decline in the reliability of scales from T1 to T2 within this specific cohort. Notably, while initial responses suggested a high level of confidence among participants at T1, the statistical analysis indicated a lack of consistency in these perceptions at T2. The observed decrease in Cronbach's Alpha values from T1 to T2 signified a reduction in participants' self-reported perceptions across the measured variables, highlighting a statistically significant shift in expectations and self-assessment over the study period.

The initial analysis of the dataset involved descriptive statistical measures, as detailed in Table 5, utilizing SPSS software for the normality tests. This table presents a comparative overview of the pre- and post-evaluation changes across the studied variables. Specifically, the attitude towards entrepreneurship recorded a slight decrease, from a mean of 6.90 at the outset of the study (T1) to 6.88 at its conclusion (T2), though this variation is not statistically significant. Conversely, the perceived behavioral control (PBC) witnessed a modest increase in its mean value, from 5.76 at T1 to 6.10 at T2. Additionally, it was observed that for PBC, the median is between 5 and 6 at both T1 and T2. Similarly, for entrepreneurial intention, responses remained consistent around a mean of 6 at both observation points. This analysis underscores subtle shifts in the variables, indicating nuanced changes in students' perceptions over the study period.

Table 5

Descriptive Statistics for Attitude, PBC, and Intention

Outcomes	T 1		T2	
	M	SD	M	SD
Attitude	6.90	0.30	6.88	0.38
PBC	5.76	1.26	6.10	0.73
Entrepreneurial Intention	6.78	0.64	6.80	0.49

In Table 6, we selected Shapiro-Wilk as the normality test, since our sample is not greater than 30. The normality test identified that the only

normal variable is PBC at T1 and T2. Therefore, the treatment of the data was run using a correlation for non-parametric tests. The degrees of freedom were 25 and the level of significance (p-value) for most of the variables was greater than 0.05, which means that they are normal. However, the subjective norm variable in each T was not normal, with significance values less than 0.001.

Table 6

Test of Normality

Normality Tests			
	Shapiro-Wilk		
	statistic	gl	Sig.
AttitudeT1	,270	25	<,001
AttitudeT2	,476	25	<,001
PBCT1	,906	25	,025
PBCT2	,975	25	,776
IntentionT1	,505	25	<,001
IntentionT2	,675	25	<,001

Table 7 presents the Spearman correlation. For the group that was evaluated, it can be affirmed that there is some relationship between the variables:

Table 7

Spearman's Correlations at T1 and T2

	Spearman's correlations	Dependent Variable	
		Intention	
		T1	T2
Independent Variables	**Attitude**	0.326	0.423*
	PBC	0.385*	0.238

* The correlation is significant at the level 0.05 (bilateral).

Based on Spearman's correlation (Table 7) we were able to identify the level of correlation between the variables at each point in data collection. The data analysis indicates a strong correlation between Attitude and Intention at T2. Interestingly, there is a correlation between PBC and Intention at T1, but the correlation decreases at T2. A positive association existed between the independent variables and the dependent variable, indicating a positive relationship between these constructs. Therefore, the attitude concerning the intention increased once exposed to the courses (T2), and when identifying the realities once immersed in the courses, the correlation of PBC with respect to the intention decreased (T2). Thus, with Spearman's correlation, we were able to determine the following:

> H1: Prior to the period (T1), students' attitudes will be correlated with the intention to become an entrepreneur – There is not enough evidence to accept this, therefore this study does not reveal it.

> H2: Prior to the period (T1), students' perception of behavioral control will be correlated with the intention to become an entrepreneur – Accepted.

> H3: At the end of the period (T2), students' attitudes will be correlated with the intention to become an entrepreneur – Accepted.

> H4: At the end of the period (T2), students' perception of behavioral control will be correlated with the intention to become an entrepreneur – There is not enough evidence to accept this, therefore this study does not reveal it.

> H5: At the end of the period (T2), there will be no statistical change in students' attitudes, perception of behavioral control, and intention to become an entrepreneur – Accepted.

The analysis employed the Friedman test, a non-parametric statistical test that extends the Wilcoxon test to evaluate data from repeated measures on the same subjects across more than two time points. This method is particularly suited for groups comprising three or more matched subjects, as detailed in Table 8. According to the Friedman Test Calculator (2021), the test scrutinizes the variables' distribution by analyzing the data's range at each measurement point. Its objective is to ascertain whether the variables exhibit a consistent distribution from a common origin. From the analysis of the data spanning from T1 to T2, the outcomes derived from the Friedman Test Calculator indicated that the variations observed in the variables under study did not reach statistical significance at the $p < .05$ level, as illustrated below:

Table 8

Friedman Calculation of the Variables at T1 and T2

Variables	T1 – T2	
	X2r	p-value
Attitude	0.8167	.36616
PBC	0.2667	.60558
Intention	0.8167	.36616

Below, in Figure 3, data showing the impact of hypothetical-based courses on students' attitudes, PBC, and entrepreneurial intention was presented as a flatline. From T1 to T2 the scores are statistically similar across all measures, indicating that taking an EE course has no discernible impact on students' intentions to pursue an entrepreneurial path.
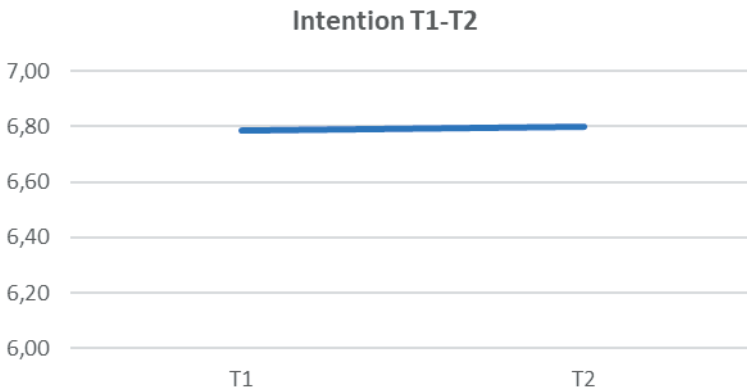
Figure 3

Pre- and Post-Changes in Student Entrepreneurial Intention

Even though the courses experienced both theory-based and process-based teaching methodologies, the results showed higher self-confidence at the beginning with a high intention (T1). However, the courses allowed participants to have a greater understanding in a way that a statistically significant change is not evident.

Based on the data analysis derived from the student surveys at the beginning and end of the first period, results indicated subtle yet significant

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shifts in attitudes, PBC, and entrepreneurial intention. These shifts suggest that even within a limited timeframe, the EE program can influence key psychological constructs related to entrepreneurship. This empirical evidence addresses how changes in student perceptions, as captured through the surveys, can inform the continuous improvement of the program's structure and execution. Furthermore, the correlation between attitudes and PBC with entrepreneurial intention underscores the importance of these constructs in shaping the entrepreneurial ecosystem within the university. By closely examining these changes, we can better understand the specific aspects of the entrepreneurship education program that are most effective, as well as areas that may require further refinement. This approach aligns with a deeper exploration of how the identified elements impact program development.

V. Discussion

The results of this study, based on a sample from Tec de Monterrey, are not generalizable to the entire Mexican population. However, they provide valuable insights for the university to continue developing strategies for EE. By examining the impact of EE on students' entrepreneurial intentions within the specific context of the institution, strengths and areas for improvement can be identified. This study represents a step towards optimizing strategic decision-making and fostering enhancements in educational programs. The small sample size, inherent to the customized course structure aimed at facilitating direct engagement between instructors and students, underscores the tailored approach to teaching and learning in entrepreneurship. This research contributes to the field, offering a framework for future studies within such personalized learning environments. While the results may not be applicable on a national scale, they contribute to the growth and development of future entrepreneurs within the student community at Tec de Monterrey. Furthermore, this study's findings may serve as an initial reference for broader and more representative research in the future.

The study identifies valuable opportunities for refining EE programs through detailed statistical analysis encompassing Descriptive Statistics, Normality Tests, Spearman's Correlations, and Friedman's Calculations. It highlights how subtle adjustments in attitudes, PBC, and intentions, stemming from educational interventions, can significantly enhance the effectiveness of educational programs. This approach does not point to flaws in current practices but instead illuminates pathways for innovation and continuous improvement, encouraging a reflective and adaptive review of pedagogical

strategies. This work contributes to the field, prompting a collaborative effort to explore and expand the boundaries of teaching and learning entrepreneurship.

This research helps expand our understanding of the role that the academic entrepreneurial environment has on students' attitudes, perceived levels of behavioral control, and intentions to become an entrepreneur. It appears that combining both theory-based and process-based courses has no statistically reliable change in student intention. It also appears that there is dissonance in teaching approaches that focus on coursework that relies on hypothetical assumptions about the viability of a business idea, learning about other experiences, and the stated goal of EE to develop the next generation of entrepreneurs. It is required to change the assumption that university students are job seekers instead of the next professional with an innovative mindset to create new business models that change behavioral consumption in the market. To begin this change in the academic entrepreneurial environment, scholars and administrative managers must change the way they conceive entrepreneurship and not be afraid to implement new andragogy learning approaches in the academic environment that boost students who trust in the academic environment and choose the university as a safe place to make mistakes while they are learning to track their entrepreneurial paths.

During the period researched, the students' attitudes, PBC, and intentions about entrepreneurship did not change. While there was a slight increase in intention to become an entrepreneur, this change was not statistically significant. We accepted hypotheses H2, H3 and H5. Universities, entrepreneurship courses, and entrepreneurship programs are being challenged by a new generation of students, and university directors, deans, provosts, and professors must work collaboratively and cooperatively to respond to the changes that entrepreneurship requires within the university and meet the new needs of each academic context. Dobson et al. (2019) contemplated the educational approaches used in EE programs as the main issue in the ineffectiveness of developing entrepreneurs, indicating that hypothetical coursework removes the excitement and uncertainty of real entrepreneurship and replaces it with the triviality of business plans and models, which do not reflect how entrepreneurs learn to become entrepreneurs. If the purpose of EE programs is to increase entrepreneurial intentions and ensure creativity, innovation, and the creation of new ventures, programs must be structured in a way that will guarantee that students indeed learn how to become the entrepreneurs that world economies require.

The factors of the TPB can be used to analyze entrepreneurial programs; in the context of this study, attitudes and PBC. Students must have positive

attitudes about entrepreneurship and for this to occur, they must have a deeper experience of the process of entrepreneurship and the contextual factors in which it operates. Developing a more favorable attitude towards entrepreneurship could also be stimulated by a student's group or network. It is vital for students to have the capacity to proficiently communicate and establish connections with peers and mentors, as this enables them to exchange ideas and seek valuable advice. Universities must help to establish these networks – ones consisting of, for example, university professors and others in the university ecosystem, business advisers, mentors, external entrepreneurs, and university alumni – while encouraging students' informal networks consisting of family members, friends, and peers. The role of these networks is for the students to learn more about the realities of entrepreneurship, obtain feedback on potential ideas, make connections, and ultimately acquire a potentially positive outlook on what it is like to be an entrepreneur.

Previous research on the TPB has shown PBC levels to have the strongest influence on increased intention. In the context of EE, it is important that students, in simple terms, believe that they can engage in entrepreneurship. Participation in entrepreneurship courses can change how the students perceive the control of their behavior with regards to entrepreneurship – they have control over their ideas; they have control over their business models; and they have control over the projects that they want to develop. Since existing literature has shown that universities are essentially creating job seekers who use their skills in employment within existing companies, EE programs need to identify student needs based on the "current reality". Considering the importance of entrepreneurship to the enhancement of world economies, through business creation and job creation, students must understand the existence of entrepreneurship both in the context of corporations and in the context of small businesses. For students to efficiently engage in entrepreneurship, students must receive all the knowledge, tools, and skills necessary to function as entrepreneurs and problem solvers in any capacity.

In thinking about the elements above, it is essential to keep updating and working on the syllabus, enhancing activities and methodological teaching to consider how students' entrepreneurial intentions can be increased, which is the case for Tec de Monterrey, working on proposed new methods implemented by professors in class. Hence, it is imperative to comprehend the context to fully grasp the significance and implications of the sample. We noticed that the students in this study began with high entrepreneurial intentions. These students decided to select this degree. They wanted to participate in the EE programs, which demonstrated the interest of the students to become

entrepreneurs and learn how to be entrepreneurs, which explains the high mean at T1 in the entrepreneurial intention variables. Besides the undergraduate business school, where students are required to take entrepreneurship courses at any point during the first three semesters, elective courses in entrepreneurship are also offered to the other schools of the institution including, for example, Engineering, Creative Studies (such as Architecture and Communication), and Law. Non-business school students select these elective courses because they identify entrepreneurship as being important to them and their future careers. Taking elective courses is one way of incorporating entrepreneurship into student learning. However, other schools of the institution can consider the learnings acquired by the business school and use this information to develop EE options that could benefit their students and help them obtain the knowledge, skills, and competencies that they require.

Entrepreneurship takes different forms and students want content that relates to their career goals. Communication is key – we need to listen to the students and identify and outline what they are looking for. In understanding the students and what they are seeking, we will be able to ensure that EE programs are structured in a way that provides these, creating courses based on the different entrepreneurship scenarios available. In the case of Tec de Monterrey, we acknowledged that the methodologies being used are good and appropriate because there is no change, the students keep their entrepreneurial intention from the beginning of the period until the completion of the courses in the first period. However, there is a need for more action-oriented methodologies – methodologies that are more "realistic". Implementing problem-based learning could potentially generate a significant change in entrepreneurial intention through increased positive attitudes and PBC levels. Combined educational approaches could generate the required increased entrepreneurial intentions within students – it just requires continuous review and incorporation of students' views and needs.

The results not only shed light on the initial efficacy of the EE program but also prompt a reevaluation of its components in light of the minimal changes detected between the commencement (T1) and the conclusion (T2) of the period. Through this exploration, we aim to contribute to the ongoing dialogue on optimizing EE to foster robust entrepreneurial intentions among students within a highly entrepreneurial academic ecosystem.

VI. Conclusion

In conclusion, the TPB is a well-known and tested tool to measure the intention to become an entrepreneur. In this sample, we were able to find the

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correlation in two cases (H2 and H3). In this study, it was found that students' perceptions of behavioral control (H2) were positively correlated with their intentions to pursue entrepreneurship. Furthermore, at the conclusion of the study period, students' attitudes were also found to be positively correlated with their intentions to become entrepreneurs (H3). Also, the Friedman Calculator let us evaluate the statistical change from T1 to T2, the results show that the variables studied did not statistically significantly change with a value of $p < 0.05$. The findings from this research study show that a combined theory- and process-based educational approach in class did not statistically change student entrepreneurial intention; this was despite previous research showing this combined approach incorporates the best elements of both approaches, where students learn about entrepreneurship and engage in the entrepreneurial process. For this reason, Tec de Monterrey is actively focused on augmenting the entrepreneurial ecosystem for students, encompassing both the educational environment within the classroom and the external opportunities available to them, which promotes, in the students, the desire to create value for society through entrepreneurship.

Throughout the study's duration, the research participants' entrepreneurial intentions remained essentially unchanged. It might be helpful for the program to make some necessary adjustments to courses to increase entrepreneurial intention. It is important to explore whether university-based EE is creating entrepreneurs. Further research should explore how higher-education institutions are evoking the entrepreneurial mindset through effective EE approaches, using the findings as a model or guide. Additional areas of research should focus on the impact of EE programs that employ active learning with concrete experiences for students (Dobson and Dobson 2022), and the impact of EE programs that incorporate the blended approach at the undergraduate level in universities on entrepreneurial intention; with the elements of the Theory of Planned Behavior – Attitudes, Subjective Norms, and PBC – all being explored. This could provide us with an investigation into the "right" balance of theory and practice if we are to effectively create and develop entrepreneurial students.

Limitations

There are limitations to this research since the sample corresponds to students in a personalized program. Therefore, the results of this study are not extrapolatable to the population of Mexican university students. Also, as the study was for a short period of five weeks, we are not certain if there would have been a different impact for the entire semester. We are in the

process of collecting data to track the long-term impact of these courses; for example, what the difference would be in entrepreneurial intention if students were followed for an entire semester. A further limitation is that we only looked at a subset of the students in the Bachelor of Arts in Entrepreneurship degree. As a result, it would be interesting to increase our sample size and repeat the study to have an overview of the impact of the entrepreneurship degree at this university, exploring whether there is an overall statistical change in the entrepreneurial intention of the students.

Future research

The findings from this study underscore the imperative for expansive research endeavors within the realm of Entrepreneurship Education (EE). A nuanced exploration is warranted to comprehend the multifaceted roles of stakeholders within the university's entrepreneurial ecosystem. These actors, through various capacities, contribute to the conceptualization, development, and implementation of academic entrepreneurship training programs tailored for university students. Such research is pivotal in delineating the dynamics and influences that shape the effectiveness and reach of EE initiatives.

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About the authors

CAROLINA LLORENTE-PORTILLO (corresponding author, c.llorentep@deusto.es; ORCID iD: https://orcid.org/0000-0002-2350-5891;) is a PhD Candidate at University of Deusto (Spain) under the fellowship program of the European Commission MSCA –Marie Skłodowska-Curie Actions–. She holds a master in Sustainable Management and Eco-innovation from Rennes School of Business

(France) and a bachelor degree in International Business from EAFIT (Colombia). Member of the research group EDISPe –Social Development, Economy and Social Innovation for people– from University of Deusto, which is recognized with Category B label by the Basque Government. Collaborator of the Academic Entrepreneurship Program of the Pontificia Universidad Javeriana (Colombia) and of the DYME Institute (USA). Her experience allows to identify business risks and opportunities, propose strategies and implement improvements to obtain sustainable academic and business environments.

JOHN ALVER DOBSON (jdobson@clarku.edu: ORCID iD: https://orcid.org/0000-0002-7183-4526), DBA, is the founder of the DYME institute, which uses problem-based learning approaches to help students develop their entrepreneurial skills. He has a Doctorate from the University of Manchester (UK) and a master's degree in Development Management from the London School of Economics. He is currently associate professor at Clark University and teaches courses on the Entrepreneurship & Innovation minor. He teaches and travels widely and has taught at various global settings such as Canada, China, Colombia, France, Honduras, Mexico, Malaysia, Nepal, Spain, The Philippines, Uganda, & the UK. Through the DYME institute, he has worked with many universities to help develop their entrepreneurship program. He hosts an annual faculty development workshop at Clark, where he brings faculty from around the world to learn about the DYME methodology of Teaching and Learning entrepreneurship.

NIYAN KWAME OMARI FRASER (niyan.fraser@tec.mx, ORCID iD: https://orcid.org/0000-0002-6858-8379) is an academic with research interests in the areas of Entrepreneurship Education and Social Entrepreneurship Education, as well as multidisciplinary areas related to Entrepreneurship Education. He is currently a professor at Tecnológico de Monterrey in Mexico where he teaches courses on Entrepreneurship and Innovation. In addition, he is also a business mentor, advisor, coach, and consultant, helping small businesses to develop and expand on their current operations. He loves the Opportunity stage of the entrepreneurial process and helps others to work on the determination of their business ideas. His current research is focused on the impact of Social Entrepreneurship Education, looking at different aspects of student subsequent behavior. He has a Doctorate degree from the University of Tasmania in Australia and a Master's degree from Jönköping University in Sweden.

LAURA GÓMEZ-URQUIJO (Laura.gomez@deusto.es: ORCID iD: https://orcid.org/0000-0002-4489-3598) holds a Jean Monnet Chair on EU Economic and Legal Integration for People at the University of Deusto granted by the European Commission. She is Full Professor of Economics of the European Union at the University of Deusto, Spain, where she has performed, among others, the following duties: Head of the Department of Economics at the Faculty of Law, Vice-Dean of the Faculty of Law and Director of the UNESCO Chair for Human Resources Training in Latin America. She has been principal researcher in research projects funded by international, national and regional public entities

(European Commission, Spanish Ministry of Foreign Affairs, Basque Government, Diputación Foral de Bizkaia). She takes part of the research group EDISPe (Economics, Development and Social Innovation for People) and has published more than 50 research contributions on EU policies and its social impact in academic journals, books and conferences.

Factors influencing international students' perceived value and satisfaction at private universities in Malaysia

Pui-Yee Chong, Andrew Jia-Yi Kam, and Siew-Yean Tham*

Abstract: It is critical to investigate the major factors that influence the perceived value and satisfaction of international students in Malaysia, as the country has seen a decrease in international students since 2017 and strives to become an international education hub. This research aims to: (1) ascertain the level of satisfaction experienced by international students attending private universities (PrUs) in the Klang Valley; (2) identify factors and present a model that measures their influence on the perceived value and satisfaction of international students; and (3) propose policy recommendations to key stakeholders. An empirical study was conducted using a quantitative research methodology via physical survey using structured questionnaires. A total of 502 surveys from international students were collected from twelve private universities in the Klang Valley. The partial least

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* **Pui-Yee Chong** (corresponding author, pychong@uniten.edu.my), PhD, is a senior lecturer at the College of Continuing Education, Universiti Tenaga Nasional/National Energy University (Uniten), Malaysia.

Andrew Jia-Yi Kam (andrew@ukm.edu.my), PhD, is Associate Professor in Economics, Senior Fellow and Head of Latin American Studies at the Institute of Malaysian and International Studies (IKMAS), Universiti Kebangsaan Malaysia (UKM), Malaysia.

Tham Siew Yean (tham_siew_yean@iseas.edu.sg) is a Visiting Senior Fellow at ISEAS-Yusof Ishak Institute, Singapore, and Emeritus Professor at Universiti Kebangsaan Malaysia (UKM), Malaysia.

More information about the author(s) is available at the end of this article.

squares structural equation modelling technique was employed to assess the measurement and structural model in validating the study model. Based on the empirical findings, the external environment, image, academic and non-academic constructs positively influence perceived value, which affects satisfaction. Results also confirm that the post-behavioural intentions of satisfied international students are word-of-mouth recommendations and loyalty. The results provided new perspectives on attracting and retaining international students to study in Malaysia. Theoretical, policy and practical implications are discussed.

Keywords: International education; international students; student satisfaction; perceived value; post behavioural intention; private universities.

I. Introduction

Kuala Lumpur, Malaysia's capital city, is ranked 28th globally and sixth in Asia's most affordable study destination in the recent QS Best Student Cities Ranking 2023.[1] Besides affordability, the criteria for this ranking include university rankings, student mix, desirability, employer activity, and student voice. The indicators measuring these six criteria are comprehensive, such as the number and performance of universities ranked in the QS World University Rankings in the city, the ratio of population and students in the city, the number of international students enrolled in the city, the safety and pollution level, the number of respondents who wish to study in the city, youth employment, employers' perceptions of graduates produced by universities in the city, tuition fees, costs of living, and ratings on the city's friendliness, sustainability, diversity, and preference of students to continue living in the city after graduation. Malaysia's aspiration to become an international education hub has made great strides as the country moved from the 12th to the 9th in 2014 in a list of top study destinations according to UNESCO's International Student Mobility Survey.[2] The country has transitioned from a sending to a receiving country, as the number of inbound international students tripled from 47,928 (2007)[3] to 136,293 (2017).[4] Several policy documents highlight Malaysia's aspirations: Ninth and

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[1] Sandhya Menan, "KL, Asia's Most Affordable Study Hub," The Star, 2022, https://www.thestar.com.my/news/nation/2022/06/30/kl-asias-most-affordable-study-hub.

[2] ICEF Monitor, "Malaysia Competing for a Greater Share of International Students," ICEF Monitor, 2016, http://monitor.icef.com/2016/08/malaysia-competing-greater-share-inernational-students/.

[3] Ministry of Higher Education Malaysia, *Higher Education Indicator 2007* (Putrajaya: Ministry of Higher Education Malaysia, 2008), https://www.mohe.gov.my/muat-turun/statistik

[4] Ministry of Higher Education Malaysia, *Higher Education Statistics 2017* (Putrajaya: Ministry of Higher Education Malaysia, 2018), https://www.mohe.gov.my/muat-turun/statistik

Eleventh Malaysia Plan (2016-2020),[5,6] National Higher Education Strategic Plan,[7] and Malaysia Education Blueprint for Higher Education 2015-2025.[8] The Ministry of Education has established dedicated departments such as Education Malaysia and Education Malaysia Global Services (EMGS) to promote and manage international students.

Countries hosting international students gain economic, social, cultural, political, and academic benefits.[9] Hence, many countries aspire to be education hubs by expanding their higher education sectors. China's higher education sector attracted 492,185 international students in 2018, and it is now the second-largest host country after the US.[10] Japan has declared its target to host 300,000 international students by 2027.[11] South Korea hopes to enrol 200,000 international students by 2023;[12] in 2019, about 130,000 international students studied in Taiwan.[13]

The Middle East has three education hubs: Dubai International Academic City, Qatar Education City, and Bahrain Higher Education City. Newer education hubs, such as Botswana Education Hub and Medine Education Village in Mauritius,[14] have also emerged in Africa. In ASEAN alone, there

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[5] Economic Planning Unit, *Ninth Malaysia Plan 2006-2010* (Putrajaya: Prime Minister Department Malaysia, 2006), https://www.ekonomi.gov.my/sites/default/files/2020-03/RMK9.pdf

[6] Economic Planning Unit, *Eleventh Malaysia Plan 2016-2020* (Putrajaya: Prime Minister Department Malaysia, 2015), https://www.ekonomi.gov.my/sites/default/files/2020-02/Buku%20RMKe-11.pdf

[7] Ministry of Higher Education Malaysia, *National Higher Education Stategic Plan : Laying The Foundation Beyond 2020* (Putrajaya: Ministry of Higher Education Malaysia, 2007).

[8] Ministry of Education Malaysia, *Malaysia Education Blueprint 2015-2025 : Higher Education* (Putrajaya: Ministry of Education Malaysia, 2015), https://doi.org/10.5923/j.ijis.20120206.05.

[9] Jane Knight, *Higher Education in Turmoil* (Rotterdam: Sense Publishers, 2008).

[10] Yuzhuo Cai, "China's 2020 Target: Reshaping Global Mobility Flows," European Association for International Education, 2020, https://www.eaie.org/blog/china-2020-target-reshaping-global-mobility-flows.html.

[11] Magdalena Osumi, "Japan Aims to up Number of International Students to 300,000 by 2027," The Japan Times, 2022, https://www.japantimes.co.jp/news/2022/06/23/national/international-students-increase-plan/.

[12] ICEF Monitor, "South Korea: Record Growth in International Student Enrolment," 2018, https://monitor.icef.com/2018/02/south-korea-record-growth-international-student-enrolment/.

[13] Taiwan Ministry of Education, "International Students Come Together to Taiwan, Where the One-Hundred Thirty Thousand Overseas Student Mark Has Been Passed," 2021, https://english.moe.gov.tw/cp-117-25416-d8868-1.html.

[14] WES, "Established and Emerging Hubs for International Education in Africa and the Middle East," WES Research and Advisory Services, 2015, https://wenr.wes.org/2015/06/established-emerging-hubs-international-education-africa-middle-east.

are several: Singapore has twelve international branch campuses;[15] Thailand and Indonesia have invited foreign universities to open international branch campuses and conduct transnational education programmes.[16],[17]

With increasing competition, can Malaysia sustain its position in attracting international students? International enrollment has steadily increased from 27,872 in 2002 to 136,710 in 2017, marking a 390 percent increase.[18],[19] Before the COVID-19 pandemic, there was a gradual fall in enrolment, with 131,514 and 93,569 international students enrolling in 2018[20] and 2019,[21] respectively, reflecting a 29 percent decrease. It is, therefore, vital to uncover factors influencing international students' perceived value and satisfaction. In addition, the targets set by the Ministry of Higher Education are 100,000, 150,000, and 200,000 by 2010, 2015, and 2020, respectively, were not achieved.[22] The target to attract 250,000 by 2025 seems ambitious, given there were only 87,235 in 2021.[23] The recent policy document for private higher education in Malaysia indicated one of the challenges faced by these providers is the declining number of international students.[24] Hence, assessing the level of satisfaction of international students and uncovering factors influencing international students' perceived value and satisfaction helps to understand the decrease in international student enrolment. In addition, the findings will greatly assist higher education

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[15]   Angela Yung Chi; Hou et al., "A Comparative Study of International Branch Campuses in Malaysia, Singapore, China, and South Korea: Regulation, Governance, and Quality Assurance," *Asia Pacific Education Review* 19, no. 4 (2018): 543–55, https://doi.org/10.1007/s12564-018-9550-9.

[16]   The Nation, "Academics Support Plan to Allow Foreign Universities in SEZs," The Nation, 2017, https://www.nationthailand.com/business/30316109.

[17]   THE World University Rankings, "Western Universities Mull Indonesian Branch Campuses," THE World University Rankings, January 28, 2019, https://www.timeshighereducation.com/news/western-universities-mull-indonesian-branch-campuses.

[18]   Ministry of Higher Education Malaysia, *Higher Education Indicator 2007*.

[19]   Ministry of Higher Education Malaysia, *Higher Education Statistics 2017*.

[20]   Ministry of Education Malaysia, *Higher Education Statistics 2018* (Putrajaya: Ministry of Education Malaysia, 2019), https://www.mohe.gov.my/muat-turun/statistik.

[21]   Ministry of Higher Education Malaysia, *Higher Education Statistics 2019* (Putrajaya: Ministry of Higher Education Malaysia, 2020), https://www.mohe.gov.my/muat-turun/statistik.

[22]   Ministry of Higher Education Malaysia, *National Higher Education Stategic Plan : Laying The Foundation Beyond 2020*.

[23]   Ministry of Higher Education Malaysia, *Higher Education Statistics 2021* (Putrajaya: Ministry of Higher Education Malaysia, 2022), https://www.mohe.gov.my/muat-turun/statistik.

[24]   Ministry of Education Malaysia, *Way Forward for Private Higher Education Institutions: Education As an Industry 2020-2025*, vol. 1 (Putrajaya: Ministry of Education Malaysia, 2020).

policymakers and private universities (PrUs) in strategizing their marketing efforts to attract and retain international students in Malaysia. This will ultimately help improve future enrolment and growth, enabling the country to achieve its aspirations.

Despite hosting international students for nearly two decades, there are only a few studies on international student satisfaction in Malaysia. The investigation of the relationship and the concept of perceived value to satisfaction in higher education is equally scant.[25,26,27] Past studies on international student satisfaction used service quality as an antecedent to satisfaction without considering the contribution of perceived value.[28,29] Interestingly, the study on image construct still does not confirm whether it is the antecedent[30] or outcome[31] of satisfaction. Investigating the antecedents of Word-of-Mouth (WoM) and loyalty is still unclear. Satisfaction,[32] perceived value and service quality,[33] and loyalty[34] affect

[25] Kumudini Sriyalatha Mallika Appuhamilage and Hiroshi Torii, "The Impact of Loyalty on the Student Satisfaction in Higher Education," *Higher Education Evaluation and Development* 13, no. 2 (2019): 82–96, https://doi.org/10.1108/heed-01-2019-0003.

[26] Helena Alves, "The Measurement of Perceived Value in Higher Education: A Unidimensional Approach," *Service Industries Journal* 31, no. 12 (2011): 1943–60, https://doi.org/10.1080/02642069.2011.550042.

[27] Ling; Lin et al., "Let's Make It Better: An Updated Model Interpreting International Student Satisfaction in China Based on PLS-SEM Approach," *PLoS ONE* 15, no. 7 (2020): 1–13, https://doi.org/10.1371/journal.pone.0233546.

[28] Faizan et al., "Does Higher Education Service Quality Effect Student Satisfaction, Image and Loyalty?: A Study of International Students in Malaysian Public Universities," *Quality Assurance in Education* 24, no. 1 (2016): 70–94, https://doi.org/http://dx.doi.org/10.1108/QAE-02-2014-0008.

[29] Milad Kalantari Shahijan, Sajad Rezaei, and Vinitha Padmanabhan Guptan, "Marketing Public and Private Higher Education Institutions: A Total Experiential Model of International Student's Satisfaction, Performance and Continues Intention," *International Review on Public and Nonprofit Marketing* 15, no. 2 (2018): 205–34, https://doi.org/10.1007/s12208-018-0198-2.

[30] Shahijan, Rezaei, and Guptan.

[31] Faizan et al., "Does Higher Education Service Quality Effect Student Satisfaction, Image and Loyalty?: A Study of International Students in Malaysian Public Universities."

[32] Ali Gholipour Soleimani and Hannaneh Einolahzadeh, "The Influence of Service Quality on Revisit Intention: The Mediating Role of WOM and Satisfaction (Case Study: Guilan Travel Agencies)," *Cogent Social Sciences* 4, no. 1 (2018): 1–14, https://doi.org/10.1080/23311886.2018.1560651.

[33] Bushra K. Mahadin and Mamoun N. Akroush, "A Study of Factors Affecting Word of Mouth (WOM) towards Islamic Banking (IB) in Jordan," *International Journal of Emerging Markets* 14, no. 4 (2019): 639–67, https://doi.org/10.1108/IJOEM-10-2017-0414.

[34] Mohsin Abdur Rehman et al., "The Influence of Course Experience, Satisfaction, and Loyalty on Students' Word-of-Mouth and Re-Enrolment Intentions," *Journal of Marketing for Higher Education* 32, no. 1 (2020): 259-277, https://doi.org/10.1080/08841241.2020.1852469.

WoM. Antecedents of loyalty include satisfaction,[35] service quality,[36] and image.[37] The services received by international students tested in the past examined only academic and non-academic constructs.[38,39,40] The academic construct includes course content, lecturer, teaching delivery, assessment, library, laboratory facilities, and others directly related to teaching and learning. While non-academic comprise student administrative services, financial assistance, accommodation, food, sports, clubs, and recreation facilities. The external living environment outside of campus was not examined. This study expands the current literature by providing a theoretical framework and empirical evidence for a more exhaustive determinant of perceived value and the interrelationship of constructs between perceived value, satisfaction, post-behavioural intention, loyalty, and WoM in a single model.

This research aims to: (1) ascertain the level of satisfaction experienced by international students attending private universities (PrUs) in the Klang Valley; (2) identify factors and present a model that measures their influence on the perceived value and satisfaction of international students; and (3) propose policy recommendations to key stakeholders.

II. Literature review and theoretical framework

Consumer and marketing theories were adopted for the study as international students are viewed as consumers of higher education

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[35] Appalayya Meesala and Justin Paul, "Service Quality, Consumer Satisfaction and Loyalty in Hospitals: Thinking for the Future," *Journal of Retailing and Consumer Services* 40, no. July 2016 (2018): 261–69, https://doi.org/10.1016/j.jretconser.2016.10.011.

[36] Taqdees Fatima, Shahab Alam Malik, and Asma Shabbir, "Hospital Healthcare Service Quality, Patient Satisfaction and Loyalty: An Investigation in Context of Private Healthcare Systems," *International Journal of Quality and Reliability Management* 35, no. 6 (2018): 1195–1214, https://doi.org/10.1108/IJQRM-02-2017-0031.

[37] Elitza Iordanova, "Tourism Destination Image as an Antecedent of Destination Loyalty : A Case of Linz, Austria," *European Journal of Tourism Research*, 2017, 214–32.

[38] Faizan et al., "Does Higher Education Service Quality Effect Student Satisfaction, Image and Loyalty?: A Study of International Students in Malaysian Public Universities."

[39] Mohammed Hasan; Lujain and Masri; Ridzuan, "Factors Influence the Satisfaction of International Students at Private Universities in Malaysia," *International Journal of Science and Research (IJSR) ISSN (Online Index Copernicus Value Impact Factor* 4, no. 8 (2015): 136–42.

[40] Seyama Sultana and Abdul Momen, "International Student Satisfaction and Loyalty: A Comparative Study of Malaysian and Australian Higher Learning Institutions," *Journal of Intercultural Management* 9, no. 1 (2017): 101–42, https://doi.org/10.1515/joim-2017-0005.

services.[41,42] The framework of this study was built on consumer satisfaction theory, satisfaction model,[43] equity theory, and the literature on international students' satisfaction.

II.1. Satisfaction

Customer satisfaction is a term used to describe customers' appraisal of the outcome of a purchase or service experience,[44] based on consumer satisfaction theory.[45] International students will evaluate their experience based on their entire duration of study and living experience. This includes receiving academic, non-academic services on campus, services received off-campus, expenses incurred, for example, tuition fees and other living costs. This study used the overall accumulative performance evaluation to measure satisfaction and not a transaction-specific satisfaction evaluation. This accumulated assessment or overall satisfaction evaluation is consistent with the European Customer Satisfaction Index (ECSI) adopted in this study.[46] There are debates on whether students should be treated as customers.[47] Due to the stiff competition in the higher education sector, the operation of universities has also evolved to be business-like, providing better services to attract students. While students pay fees, and they too demand a certain level of education quality.[48] Therefore, students can be treated as customers, and universities strive to satisfy their students by providing quality education.

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[41] Melodi Guilbault, "Students as Customers in Higher Education: Reframing the Debate," *Journal of Marketing for Higher Education* 26, no. 2 (2016): 132–42, https://doi.org/10.1080/08841241.2016.1245234.

[42] Riina Koris et al., "Student-Customer Orientation at a Higher Education Institution: The Perspective of Undergraduate Business Students," *Journal of Marketing for Higher Education* 25, no. 1 (2015): 29–44, https://doi.org/10.1080/08841241.2014.972486.

[43] Michael D. Johnson et al., "The Evolution and Future of National Customer Satisfaction Index Models," *Journal of Economic Psychology* 22, no. 2 (2001): 217–45, https://doi.org/10.1016/S0167-4870(01)00030-7.

[44] Claes Fornell, "A National Customer Satisfaction Barometer: The Swedish Experience," *Journal of Marketing* 56, no. 1 (1992): 6–21.

[45] Scott G. Dacko, *The Advanced Dictionary of Marketing : Putting Theory to Use* (New York: Oxford University Press, 2008).

[46] Enrico; Ciavolino and Jens J. Dahlgaard, "ECSI - Customer Satisfaction Modelling and Analysis: A Case Study," *Total Quality Management and Business Excellence* 18, no. 5 (2007): 545–54, https://doi.org/10.1080/14783360701240337.

[47] Guilbault, "Students as Customers in Higher Education: Reframing the Debate."

[48] Aye Mengistu Alemu and Jason Cordier, "Factors Influencing International Student Satisfaction in Korean Universities," *International Journal of Educational Development* 57, no. June (2017): 54–64, https://doi.org/10.1016/j.ijedudev.2017.08.006.

Satisfaction models are embedded in systems of cause-and-effect relationships. As a result, they become the focal point in a chain of relationships that extends from the antecedents to overall customer satisfaction,[49] as found in the Swedish Customer Satisfaction Barometer (SCSB),[50] American Customer Satisfaction Index (ACSI),[51] Norwegian Customer Satisfaction Barometer (NCSB)[52] and European Customer Satisfaction Index (ECSI).[53,54] These models use constructs that measure: first, the drivers of satisfaction, which comprise expectation, perceived quality (product and service), perceived value, and image; second, satisfaction; and third, the outcomes being customer complaints and loyalty. Different constructs are used in these models as they have evolved and improved over time.[55] This study used the adapted version of the ECSI tested by Brown and Mazzarol[56] and Alves and Raposo[57] in their study on student satisfaction in higher education. The WoM construct is included in this study due to the nature of educational services; for instance, when obtaining a degree, the chances of re-enrolling/repurchasing for another degree or Master's degree are lower. Hence, capturing the construct of loyalty alone is inadequate to reflect the outcome of satisfaction. This study examined perceived service quality, image, value, satisfaction, WoM, and loyalty constructs.

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[49] Claes Fornell et al., "The American Customer Satisfaction Index : Nature, Purpose and Findings," *Journal of Marketing* 60, no. 4 (1996): 7–18, https://doi.org/10.2307/1251898.

[50] Fornell, "A National Customer Satisfaction Barometer: The Swedish Experience."

[51] Fornell et al., "The American Customer Satisfaction Index : Nature, Purpose and Findings."

[52] Tor Wallin; Andreassen and Bodil; Lindestad, "Customer Loyalty and Complex Services: The Impact of Corporate Image on Quality, Customer Satisfaction and Loyalty for Customers with Varying Degrees of Service Expertise," *International Journal of Service Industry Management* 9, no. 1 (1998): 7–23, https://doi.org/https://doi.org/10.1108/09564239810199923.

[53] Jan A.; Eklöf and Anders H.; Westlund, "The Pan-European Customer Satisfaction Index Programme - Current Work and the Way Ahead," *Total Quality Management* 13, no. 8 (2002): 1099–1106, https://doi.org/10.1080/09544120200000005.

[54] Eklöf and Westlund.

[55] Johnson et al., "The Evolution and Future of National Customer Satisfaction Index Models."

[56] Robert M. Brown and Timothy William Mazzarol, "The Importance of Institutional Image to Student Satisfaction and Loyalty within Higher Education," *Higher Education* 58, no. 1 (2009): 81–95, https://doi.org/10.1007/s10734-008-9183-8.

[57] Helena Alves and Mário Raposo, "Conceptual Model of Student Satisfaction in Higher Education," *Total Quality Management and Business Excellence* 18, no. 5 (2007): 571–88, https://doi.org/10.1080/14783360601074315.

II.2. *Perceived value*

The assessment of customer satisfaction is based on their perceived value according to equity theory, where satisfaction is achieved when consumers perceive the ratio of their outcome to input as equitable.[58,59] Hence, perceived value is defined as the consumers' overall evaluation of what they receive in relation to what they pay for or value for money.[60,61] Value for money is achieved when less money and/or non-monetary costs are sacrificed against the quality of services received.[62]

Perceived value can be measured by multiple antecedents based on the functional value of the products or services[63,64] and tailored to industry type.[65,66] The antecedent of the perceived value of this study includes perceived service quality (academic and non-academic services and external environment) and image.

II.3. *Academic services, non-academic services, and external living environment*

Service quality refers to the 'what' and 'how' in service delivery. The 'what' refers to the services being delivered, and the 'how' refers to the

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[58] Ruth N.; Bolton and James H.; Drew, "A Multistage Model of Customers' Assessments of Service Quality and Value," *Journal of Consumer Research* 17, no. 4 (1991): 375–84.

[59] Gordon H.G. McDougall and Terrence Levesque, "Customer Satisfaction with Services: Putting Perceived Value into the Equation," *Journal of Services Marketing* 14, no. 5 (2000): 392–410, https://doi.org/10.1108/08876040010340937.

[60] Valarie A. Zeithaml, "Consumer Perceptions of Price, Quality and Value : A Means-End Model and Synthesis of Evidence," *Journal of Marketing* 52, no. 3 (1988): 2–22, https://doi.org/10.2307/1251446.

[61] Kai Kristensen, Anne Martensen, and Lars Gronholdt, "Customer Satisfaction Measurement at Post Denmark: Results of Application of the European Customer Satisfaction Index Methodology," *Total Quality Management* 11, no. 7 (2000): 1007–15, https://doi.org/10.1080/09544120050135533.

[62] Zeithaml, "Consumer Perceptions of Price, Quality and Value : A Means-End Model and Synthesis of Evidence."

[63] Parasuraman, Valarie A.; Zeithaml, and Leonard L. Berry, "SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality," *Journal of Retailing* 64, no. 1 (1988): 5–6, https://doi.org/10.1016/S0148-2963(99)00084-3.

[64] Raquel Sánchez-Fernández and M. Ángeles Iniesta-Bonillo, "The Concept of Perceived Value: A Systematic Review of the Research," *Marketing Theory* 7, no. 4 (2007): 427–51, https://doi.org/10.1177/1470593107083165.

[65] Johnson et al., "The Evolution and Future of National Customer Satisfaction Index Models."

[66] Paul G. Patterson and Richard A. Spreng, *Modelling the Relationship between Perceived Value, Satisfaction and Repurchase Intentions in a Business-to-business, Services Context: An Empirical Examination*, International Journal of Service Industry Management, vol. 8, 1997, https://doi.org/10.1108/09564239710189835.

manner in which they are being delivered.[67,68] Perceived service quality for this study includes academic and non-academic services delivered by the university and services received off-campus. International students receive academic services from their universities, including course content, lecturer, teaching delivery, assessment, library, and laboratory facilities. While on campus, they consume non-academic services, including administrative services, financial assistance, accommodation, food, sports, clubs, and recreation facilities. The international students' experience may not be confined to campus but instead part of a community outside campus. They use services like transportation, healthcare, community, safety, employment, and others. These three service constructs are consistent with the extant research[69,70,71] Previous studies on international students' satisfaction tested the direct relationship between service quality and satisfaction without considering perceived value.[72,73,74,75,76,77] Empirical studies by Alves and

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[67] Christian; Grönroos, "A Service Quality Model and Its Marketing Implications," *European Journal of Marketing* 18, no. 4 (1984): 36–44, https://doi.org/10.1108/EUM0000000004784.

[68] McDougall and Levesque, "Customer Satisfaction with Services: Putting Perceived Value into the Equation."

[69] Shahira El Alfy and Abdulai Abukari, "Revisiting Perceived Service Quality in Higher Education: Uncovering Service Quality Dimensions for Postgraduate Students," *Journal of Marketing for Higher Education* 30, no. 1 (2020): 1–25, https://doi.org/10.1080/08841241.2019.1648360.

[70] Mahmoud Abdulai Mahmoud et al., "Culture and Country Choice of International Students: Evidence from Ghana," *Journal of Marketing for Higher Education* 30, no. 1 (2020): 1–20, https://doi.org/10.1080/08841241.2019.1688444.

[71] Audhesh K. Paswan and Gopala Ganesh, "Higher Education Institutions: Satisfaction and Loyalty among International Students," *Journal of Marketing for Higher Education* 19, no. 1 (2009): 65–84, https://doi.org/10.1080/08841240902904869.

[72] Fares; Djafri, Meguellati; Achour, and Kachkar; Omar, "The Impact of Service Quality, Student Satisfaction, and University Reputation on Student Loyalty: A Case Study of International Students in IIUM, Malaysia," *Information Management & Business Review* 5, no. 12 (2014): 584-590.

[73] Faizan et al., "Does Higher Education Service Quality Effect Student Satisfaction, Image and Loyalty?: A Study of International Students in Malaysian Public Universities."

[74] Yet Mee; Lim, Ching Seng; Yap, and Teck Heang; Lee, "Destination Choice, Service Quality, Satisfaction, and Consumerism: International Students in Malaysian Institutions of Higher Education," *African Journal of Business Management* 5, no. 5 (2011): 1691–1702, https://doi.org/10.5897/AJBM10.610.

[75] Lujain and Ridzuan, "Factors Influence the Satisfaction of International Students at Private Universities in Malaysia."

[76] Chee Hui; Ong, "Determinants of International Student's Satisfaction in UUM 2014" (Universiti Utara Malaysia, 2014).

[77] Sultana and Momen, "International Student Satisfaction and Loyalty: A Comparative Study of Malaysian and Australian Higher Learning Institutions."

Raposo[78] and Lai et al.[79] found a positive relationship between education service quality and perceived value. However, Brown & Mazzarol[80] found no relationship between a university's service quality and perceived value. Both studies were not tested solely on international students.

This study aims to test the relationship between service quality (which includes academic services (Aca), non-academic services (NonAca), and external living environment (ExtEnv)) and perceived value (PV). The following hypotheses are formulated for testing:

- H1: There is a positive relationship between Aca and PV.
- H2: There is a positive relationship between NonAca and PV.
- H3: There is a positive relationship between ExtEnv and PV.

II.4. Image

Image is associated with the brand and reputation of an institution.[81] It likewise refers to students' perceptions of their university in an educational context.[82,83] The image of a university, which is a reflection of excellence in its quality of education, influences the evaluation of students on their overall

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[78] Alves and Raposo, "Conceptual Model of Student Satisfaction in Higher Education."

[79] M. M. Lai et al., "Assessing Antecedents and Consequences of Student Satisfaction in Higher Education: Evidence from Malaysia," *Journal of Marketing for Higher Education* 25, no. 1 (2015): 45–69, https://doi.org/10.1080/08841241.2015.1042097.

[80] Brown and Mazzarol, "The Importance of Institutional Image to Student Satisfaction and Loyalty within Higher Education."

[81] Fred; Selnes, "An Examination of the Effect of Product Performance on Brand Reputation, Satisfaction and Loyalty," *European Journal of Marketing* 27, no. 9 (1993): 19–35, https://doi.org/http://dx.doi.org/10.1108/MRR-09-2015-0216.

[82] Purificación Alcaide-Pulido, Helena Alves, and Belén Gutiérrez-Villar, "Development of a Model to Analyze HEI Image: A Case Based on a Private and a Public University," *Journal of Marketing for Higher Education* 27, no. 2 (2017): 162–87, https://doi.org/10.1080/08841241.2017.1388330.

[83] Osama K. Haniya and Hamdan Said, "Influential Factors Contributing to the Understanding of International Students' Choice of Malaysian Higher Education Institutions: Qualitative Study with a Focus on Expected Benefits," *Tuning Journal for Higher Education* 9, no. 2 (2022): 63–97, https://doi.org/10.18543/tjhe.1966.

perceived value and subsequent satisfaction level.[84,85,86] International students perceive that the image of a reputable brand, prestige, and recognition of qualifications will improve their marketability and future employment.[87,88,89] A university's image can be enhanced by providing high-quality education and having its programmes recognised internationally.[90] This can contribute to improvements in a university's ranking.[91] LeBlanc and Nguyen[92] and Brown and Mazzarol[93] have confirmed that image is a driver of value among tertiary students. The following hypothesis is thus proposed for testing:

• H4: There is a positive relationship between Image and PV.

[84] Rodney; Arambewela and John; Hall, "A Comparative Analysis of International Education Satisfaction Using SERVQUAL," *Journal of Services Research* 6 (2006): 141–63, https://dro.deakin.edu.au/articles/journal_contribution/A_comparative_analysis_of_international_education_satisfaction_using_servqual/20540052

[85] Chiu Mei Chee et al., "Country of Origin and Country of Service Delivery Effects in Transnational Higher Education: A Comparison of International Branch Campuses from Developed and Developing Nations," *Journal of Marketing for Higher Education* 26, no. 1 (2016): 86–102, https://doi.org/10.1080/08841241.2015.1103352.

[86] Asuncion Beerli; Palacio, Gonzalo Diaz; Meneses, and Pedro J. Perez; Perez, "The Configuration of the University Image and Its Relationship with the Satisfaction of Students," *Journal of Educational Administration* 40, no. 5 (2002): 486–505, https://doi.org/10.1108/09574090910954864.

[87] Wei-Loon; Koe and Saring; Siti Noraisah, "Factors Influencing the Foreign Undergraduates' Intention to Study at Graduate School of a Public University," *Jurnal Kemanusiaan* 19 (2012): 57–68.

[88] Maria Pereda, David Airey, and Marion Bennett, "Service Quality in Higher Education : The Experience of Overseas Students," *Journal of Hospitality, Leisure, Sport and Tourism Education* 6, no. 2 (2007): 55–67, https://doi.org/10.3794/johlste.62.160.

[89] Koe and Siti Noraisah, "Factors Influencing the Foreign Undergraduates' Intention to Study at Graduate School of a Public University"; Pereda, Airey, and Bennett, "Service Quality in Higher Education : The Experience of Overseas Students."

[90] Sultana and Momen, "International Student Satisfaction and Loyalty: A Comparative Study of Malaysian and Australian Higher Learning Institutions."

[91] Rodney; Arambewela and John; Hall, "A Model of Student Satisfaction : International Postgraduate Students from Asia," *European Advancces in Consumer Research* 8 (2008): 129–35, https://doi.org/43008804.

[92] Gaston LeBlanc and Nha Nguyen, "Listening to the Customer's Voice: Examining Perceived Service Value among Business College Students," *International Journal of Educational Management* 13, no. 4 (1999): 187–98, https://doi.org/10.1108/09513549910278106.

[93] Brown and Mazzarol, "The Importance of Institutional Image to Student Satisfaction and Loyalty within Higher Education."

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II.5. *Perceived value and satisfaction*

Perceived value is the antecedent of satisfaction.[94] Several studies have demonstrated a correlation between perceived value and satisfaction[95,96,97] with similar results in the university context.[98,99] The evaluation of perceived value is based on the services received compared to the expenses incurred by international students in the host country, including tuition and living costs. Those international students who believe they have gained value for their money are more satisfied than those who are not. When the perceived value of international students increases, their satisfaction level also increases, leading to the following hypothesis:

• H5: There is a positive relationship between PV and SAT.

II.6. *Word-of-mouth and loyalty*

Satisfaction and post-behavioral intention have a positive relationship.[100,101,102,103] Satisfied international students will demonstrate

[94] McDougall and Levesque, "Customer Satisfaction with Services: Putting Perceived Value into the Equation."

[95] J.Joseph Cronin, Michael K Brady, and G.Tomas M Hult, "Assessing the Effects of Quality, Value, and Customer Satisfaction on Consumer Behavioral Intentions in Service Environments," *Journal of Retailing* 76, no. 2 (2000): 193–218, https://doi.org/10.1016/S0022-4359(00)00028-2.

[96] Fornell et al., "The American Customer Satisfaction Index : Nature, Purpose and Findings."

[97] Johnson et al., "The Evolution and Future of National Customer Satisfaction Index Models."

[98] Irene Trullas et al., "Student-Perceived Organizational Support and Perceived Employability in the Marketing of Higher Education," *Journal of Marketing for Higher Education* 28, no. 2 (2018): 266–81, https://doi.org/10.1080/08841241.2018.1488334.

[99] Fernando de Oliveira Santini et al., "Student Satisfaction in Higher Education: A Meta-Analytic Study," *Journal of Marketing for Higher Education* 27, no. 1 (2017): 1–18, https://doi.org/10.1080/08841241.2017.1311980.

[100] Khurram Sharif and Norizan Mohd Kassim, "Non-Academic Service Quality: Comparative Analysis of Students and Faculty as Users," *Journal of Marketing for Higher Education* 22, no. 1 (2012): 35–54, https://doi.org/10.1080/08841241.2012.705793.

[101] Johnson et al., "The Evolution and Future of National Customer Satisfaction Index Models."

[102] Brown and Mazzarol, "The Importance of Institutional Image to Student Satisfaction and Loyalty within Higher Education."

[103] A Turkyilmaz and C Ozkan, "Development of a Customer Satisfaction Index Model - An Application to the Turkish Mobile Phone Sector," *Industrial Management Data Systems* 107, no. 5–6 (2007): 672–87, https://doi.org/10.1108/02635570710750426.

positive post-behavioural intention, such as loyalty in choosing the same institution and country for further studies.[104] Accordingly, they will be more likely to suggest the university and host country to others through positive WoM recommendations.[105,106] This is consistent with the theory of planned behavior, where consumers strongly intend to engage in future behavior, such as being loyal and willing to share experiences with others.[107] It is hypothesized:

- H6: There is a positive relationship between SAT and WoM
- H7: There is a positive relationship between SAT and Loyalty

The literature was used to identify the dimensions of each construct[108] and verified by a preliminary study based on interviews with 20 international students while including additional variables.[109] A proposed Malaysia International Students' Satisfaction Model (MISS-Model) was developed from the extant literature based on the satisfaction model, consumer satisfaction theory, and equity theory.[110] The MISS-Model comprises four constructs as the drivers of perceived value: Internal Environment - Academic (Aca); Internal Environment - Non-Academic (NonAca); External Environment (ExtEnv); and Image. These four constructs are hypothesized to influence international students' perceived value (PV) and satisfaction (SAT). The hypothesized model also examined the relationship of post-behavioural intentions of satisfaction being: WoM recommendation and loyalty. The framework indicates 57 dimensions (Table 1) influencing international students' perceived value, satisfaction, and post-behavioural intentions. The seven hypotheses were tested as depicted in the conceptual framework in Figure 1.

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[104] Alves and Raposo, "Conceptual Model of Student Satisfaction in Higher Education."

[105] Paswan and Ganesh, "Higher Education Institutions: Satisfaction and Loyalty among International Students."

[106] Shafaei; Azadeh and Abd Razak; Nordin, "International Postgraduate Students' Cross-Cultural Adaptation in Malaysia: Antecedents and Outcomes," *Research in Higher Education* 57, no. 6 (2016): 739–67, https://doi.org/10.1007/s11162-015-9404-9.

[107] Dacko, *The Advanced Dictionary of Marketing : Putting Theory to Use*.

[108] Pui Yee Chong, "Internationalisation of Higher Education : Proposed Framework on International Students' Satisfaction." *Pertanika Journal of Social Sciences and Humanities* 23, no. Special Issue (2015): 73–90.

[109] Pui Yee Chong, Siew Yean Tham, and Andrew Jia Yi Kam, "Verifying International Students' Satisfaction Framework for the Development of MISS-Model in Malaysia," *Pertanika Journal of Social Sciences and Humanities* 26, no. January (2018): 1–18.

[110] Pui Yee Chong, "Internationalisation of Higher Education : Proposed Framework on International Students' Satisfaction."

Table 1

Dimensions Influencing International Students' Perceived Value and Satisfaction

Internal Environment: Academic	Internal Environment: Non-Academic	External Environment
Course content	Orientation	Friends
Course material	Student administration services	Relatives
Course delivery	In-Campus accommodation	Society or community
Course assessment	Transportation	Discrimination
Lecturer	Healthcare	Safety & security
Class size	Financial assistance	Language
Computer & laboratory	Sports & recreation	Culture
Library	Clubs & societies	Weather/Climate
Internet	Counselling services	Food
Classroom	Career guidance	Proximity to home country
Admission requirement	Care & belongingness	Legal Framework (visa)
Medium of instruction	**Food on campus**	Employment opportunity
Engagement with other students	**Safety & security**	Migration opportunity
Academic support	**Practice of religion**	*Practice of religion*
	Diversity of student population	*Accommodation*
	Location of campus	*Public transportation*
	Physical building & environment	*Healthcare*
		Places of attraction
		Government-to-Government relationship (G2G)
		Industrial training

Image	Perceived Value
Brand & prestige	Fee
Recognition of qualification	Cost of living (Food, Accommodation, Transportation, Healthcare, etc.)
University ranking	*Personal international experience & exposure*

Note: A total of 39 dimensions have been identified from the literature review, and another 18 dimensions (in bold and italics font) were identified through interviews.

Source: Data from Literature Review and Interviews.
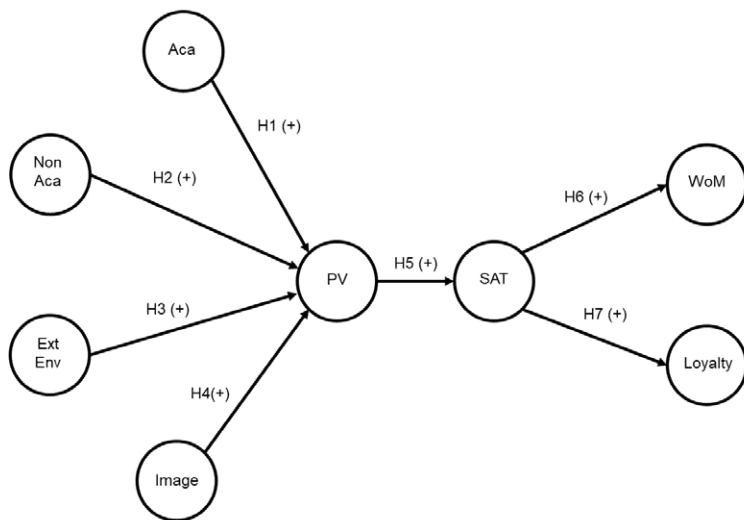
Figure 1
Conceptual framework

III. Methods

III.1. Participants and procedure

The sample is based on international student enrolment in Malaysia. According to the data, 70% of international students are enrolled in private institutions of higher education (PrHEIs), with 89 percent of these students enrolled in undergraduate programmes (87 percent of which are in Selangor and Kuala Lumpur), and 44 percent studying at PrUs.[111] There are four types of PrHEI: PrUs, university colleges, international branch campuses (IBC), and colleges. A list of PrUs that offer degree programmes in the Klang Valley was sourced from the Malaysian Qualifications Agency (MQA) website. Twenty-five PrUs were invited to participate in the survey, 13 of which accepted and granted permission for surveys to be conducted within their institutions, including one institution that did not complete the survey.

Purposive sampling was used, targeting those international undergraduate students who have at least completed the first year of their respective degree programmes. This ensured that they were credible respondents with

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[111] Ministry of Higher Education Malaysia, *Higher Education Statistics 2017*.

sufficient experience to give responses on learning and living in Malaysia. The total number of international students enrolled in 2016 at PrU in Selangor and Kuala Lumpur was 35,237. The estimated population, accounting for 70 percent of those enrolled in degree programmes, was 24,667. Based on this estimation, the proposed sample size, according to Krejcie and Morgan,[112] was 379 respondents. The calculation was based on a population of 30,000 with a 95 percent confidence level and a 5 percent margin of error. According to the power table (Cohen, 1992 in Hair, 2016),[113] to run the analysis of this PLS-SEM model it needs a sample size of 228 to detect R^2 values of approximately 0.1 with a significance level of 1% and a statistical power of 80%. There were 958 surveys distributed, and 630 were collected, leading to a 66 percent response rate from the 12 participating PrUs.

III.2. Measures

Based on the review of the literature and the information gathered from interviews in the preliminary investigation, a survey questionnaire was developed. This preliminary study involved two studies, firstly a review of primary and secondary literature on international students and students' satisfaction. Primary literature comprises works authored by the original researchers, whereas secondary literature consists of works that have been evaluated and analysed by other authors. A total of forty two primary literature and thirty two secondary literature were reviewed. The findings of the review revealed that studies on international students can be categorised into five themes: (i) factors that influence the choice of study destination, (ii) international students' experience and expectations, (iii) challenges, problems and adjustment faced by international students, (iv) perspective on service quality, and (v) factors that influence satisfaction. These five themes formed contributing factors to international students' satisfaction. These overlaps of variables are subsequently categorised into five constructs that influence international students' satisfaction. The constructs include: (1) Internal Environment-Academic, (2) Internal Environment Non-Academic, (3) External Environment, (4) Image, and (5) Perceived Value with 39 dimensions.[114]

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[112] Robert V Krejcie and Daryle W Morgan, "Determining Sample Size for Research Activities," *Educational and Psychological Measurement* 38, no. 1 (1970): 607–10, https://doi.org/10.1177/001316447003000308.

[113] Joseph Hair F. Jr. et al., *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, 2nd Editio (California: Sage Publications, 2016).

[114] Pui Yee Chong, "Internationalisation of Higher Education : Proposed Framework on International Students ' Satisfaction."

The second study was conducted to verify the five constructs and 39 dimensions through interviews with 20 international students from 14 nationalities at 11 private universities located in the Klang Valley, Malaysia. This verification process is needed because the literature reviewed in the first study is limited in the context of Malaysia. The outcome of the study has verified and confirmed the 39 dimensions in measuring international students' satisfaction and 18 new dimensions were suggested by interviewees (Table 1).

Table 2

Summary of Items for Dimensions of All Constructs

Constructs	Dimensions	Number of Items
Internal Environment: Academic	A1. Course/Syllabus/Subject	4
	A2. Course/Subject Material	5
	A3. Course Delivery	6
	A4. Course Assessment	5
	A5. Admission Requirement	2
	A6. Lecturer	9
	A7. Engagement with Other Students	4
	A8. Laboratory & Computer Lab Facilities	4
	A9. Library Facilities	4
	A10. Internet Access and Connection	3
	A11. Classroom/Lecture Hall	2
	A12. Academic Support	2
Internal Environment: Non-Academic	B1. Student Administration Services (e.g. International Office/Registrar office/ Student Affairs/Finance Department)	8
	B2. Orientation	3
	B3. On-Campus Accommodation	3
	B4. Transportation (provided by the university)	5
	B5. Food on the Campus	2
	B6. Healthcare on the Campus	3
	B7. Safety & Security on the Campus	2
	B8. Financial Assistance	4
	B9. Sports & Recreation	3
	B10. Clubs & Society	4
	B11. Career Guidance	2
	B12. Care & Belongingness	5
	B13. Diversity of Student Population	3
	B14. Location of Campus	4
	B15. Physical Building & Environment on the Campus	2

Constructs	Dimensions	Number of Items
External Environment	C1. Social Support (Relatives & Friends) C2. Society & Community C3. Safety & Security in Malaysia C4. Discrimination C5. Language & Communication C6. Culture C7. Food C8. Public Transportation (outside the campus) C9. Healthcare (outside the campus) C10. Location of Malaysia C11. Attraction of Malaysia C12. Government & Legal Framework C13. Industrial Training/Internship	6 6 2 3 5 3 2 4 3 3 6 8 2
Image	D1. Brand D2. Recognition D3. Ranking & Rating	5 2 2
Perceived Value	E1. Fee E2. Cost of Living E3. Other Value Gained	3 4 4
Post Behavioural	F1. WoM F2. Loyalty	4 5
Overall Satisfaction	Single-item question	1

Source: Survey questionnaire.

Subsequently, items were developed for each dimension; the survey questionnaire was pre-tested on 10 international students to test the comprehension of the items and pilot-tested on 45 international students at a private university in Malaysia. The final survey questionnaire has 48 dimensions and 186 items (Appendix 2 Survey Questionnaire) tested for validity and reliability with Cronbach's alpha scores of 0.7 and above.[115,116] The detail on scale development is reported in Chong,[117] and a summary of

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[115] John W. Creswell, *Educational Research : Planning, Conducting, and Evaluating Quantitative and Qualitative Research*, 3rd Edition (New Jersey: Pearson Education, 2008).

[116] Nancy L.; Leech, Karen C.; Barrett, and George A; Morgan, *SPSS for Intermediate Statistics : Use and Interpretation*, 2nd Edition (New Jersey: Lawrence Erlbaum Associates, 2005).

[117] Pui Yee Chong, "Measuring International Students' Satisfaction : The Development of Survey Instrument," in *Global Conference On Business And Economics Research (GCER) 2017* (Serdang: Universiti Putra Malaysia, 2017), 112–19, https://doi.org/ISBN 978-983-2408-56-7.

items for dimensions of all constructs is shown in Table 2. Respondents' demographic information which includes age, gender, country of origin, marital status, religion, duration in Malaysia, language used in home country, institution of learning, field of study, duration in the current university, year of study, sponsorship and results in CGPA was also included in the survey questionnaire.

III.3. *Statistical techniques*

Data examination was conducted; cases with more than 10 percent missing values were deleted, and outliers were kept as items had passed a five percent trimmed mean score.[118] Usable surveys were thus obtained from 502 respondents, which is higher than the proposed 379, thereby increasing the sample size. SPSS version 24 was used to run a descriptive analysis, and SmartPLS version 3.0 software was used to evaluate the path modelling of the hypothesized MISS-Model. PLS-SEM was used because of the complexity of the reflective-reflective hierarchical component model. There were 186 reflective indicators as lower-order components and 48 higher-order dimensions, and four exogenous constructs, which include Aca, NonAca, ExtEnv, and Image to PV, where PV, SAT, Loyalty, and WoM are the endogenous variables.

IV. Results

IV.1. *Respondents' demographic profile*

About 70 percent were males, and 30 percent were females. The profile of these respondents, with a mean age of 22.88, (SD 3.055) reflected the study population.[119,120,121] On average, respondents have lived and studied in their institution for more than 2 years, as the data shows: living in Malaysia (mean 2.67, SD 1.259), studying in the institution (mean 2.29, SD 1.062),

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[118] Julie Pallant, *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using SPSS*, 5th Edition (Berkshire: McGraw-Hill, 2013).

[119] Ministry of Higher Education Malaysia, *Higher Education Statistics 2015* (Putrajaya: Ministry of Higher Education Malaysia, 2016), https://www.mohe.gov.my/muat-turun/statistik.

[120] Ministry of Higher Education Malaysia, *Higher Education Statistics 2016* (Putrajaya: Ministry of Higher Education Malaysia, 2017), https://www.mohe.gov.my/muat-turun/statistik.

[121] Ministry of Higher Education Malaysia, *Higher Education Statistics 2017*.

and in their year of study (mean 2.63, SD 0.731). Half of those who responded were in their second year of study, and the other half were in their third and final year. Given the duration of the study, the respondents would have accumulated enough experience to offer reliable input on their study experience on campus and living in Malaysia. Respondents came from 56 countries in eight regions. The highest number of respondents were from Indonesia (13.7 percent), followed by Yemen (11.2 percent), Nigeria (7.8 percent), Sudan (7.4 percent), and Bangladesh (6.8 percent). According to the Ministry of Higher Education Malaysia,[122,123,124] these top five nations were also among the top 10 source countries for international students in Malaysia. The majority were Muslims (71 percent), with the balance including Christians (13.4 percent), Buddhists (7 percent), and Hindus (1.6 percent).

IV.2. *Level of satisfaction*

The descriptive statistics indicated that 94.4 percent of respondents were at least satisfied studying and living in Malaysia, comprising: those who were Satisfied (64.15 percent); Very Satisfied (25.1 percent); and Extremely Satisfied (5.2 percent). Approximately 4.8 percent of the respondents were Dissatisfied, and less than 1 percent responded as Very Dissatisfied. The mean satisfaction score is 3.291, with a standard deviation of 0.6739, indicating that respondents are relatively satisfied, leaning more towards the "satisfied" category, and the majority of respondents had similar levels of satisfaction.

IV.3. *Assessment of measurement model*

Overall, the results of the six measurement models: (i) Aca, (ii) NonAca; (iii) ExtEnv; (iv) Image; (v) PV; and (vi) Post Behavioural intention (PB) passed the evaluation on the Outer Loadings, Cronbach's Alpha (CA), Composite Reliability (CR), Average Variance Extracted (AVE), Cross-Loading, Fornell-Larcker and Heterotrait-monotrait Ratio of Correlations (HTMT). Internal consistency reliability, convergent validity, and discriminant validity have all been sufficiently established by the tests. However, four items from each of the Aca and NonAca constructs, nine from

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[122] Ministry of Higher Education Malaysia, *Higher Education Statistics 2015*.

[123] Ministry of Higher Education Malaysia, *Higher Education Statistics 2016*.

[124] Ministry of Higher Education Malaysia, *Higher Education Statistics 2017*.

the ExtEnv construct, and two from the Post Behavioural intention construct have outer loading below 0.70. The treatment of these items (whether to keep or remove them) was based either on statistical grounds, such as improving the CA and CR scores or using content validity as supported by the literature and empirical findings from the interviews. Accordingly, five items were deleted, and the other 14 items were kept for content validity reasons. The final number of items is 181, measuring 50 dimensions in the MISS-Model. The detailed results of the measurement model are found in Appendix 1.

IV.4. *Assessment of structural model*

An assessment of the structural model showed that all four constructs that predict PV were not critically correlated because all the constructs have a variance inflation factor (VIF) below 3.3,[125] with the corresponding scores being: Aca (2.718), NonAca (2.562), ExtEnv (1.822), and Image (3.127). Thereafter, bootstrapping, with 5,000 subsamples, a 1-tailed test, and a 0.05 confidence interval, was conducted to examine the significance of the relationships.[126] The results from the path co-efficient estimates showed that all seven paths of relationship were found to have t-value $\geq$ 1.645, thus were significant at the 0.05 level of significance. The four constructs Aca ($\beta = 0.162$, p<0.002), NonAca ($\beta = 0.103$, p<0.024), ExtEnv ($\beta = 0.387$, p<0.000), and Image ($\beta = 0.173$, p<0.000) were positively related to PV. The path coefficient for construct PV ($\beta = 0.207$, p<0.000) was positively related to SAT. The results of the effects, or post-behavioural intention of satisfaction, SAT ($\beta = 0.234$, p<0.000; $\beta = 0.214$, p<0.000), were positively related to both WoM and Loyalty, respectively. A summary of the results is found in Table 3.

Figure 2 depicts the hypothesized MISS-Model. In the figure, the R^2 of PV is 0.525, indicating that the four constructs; Aca, NonAca, ExtEnv, and Image, explained 52 percent of PV. A score of 0.50 is considered a moderate level of predictive accuracy[127]. The effect size is based on Cohen's guideline,[128] where values of 0.02, 0.15, and 0.35 represented small, medium, and large effects, respectively. Based on the results of the analysis, ExtEnv (0.123) had

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[125] Adamantios Diamantopoulos and Judy A. Siguaw, "Formative versus Reflective Indicators in Organizational Measure Development: A Comparison and Empirical Illustration," *British Journal of Management* 17, no. 4 (2006): 263–82, https://doi.org/10.1111/j.1467-8551.2006.00500.x.

[126] Joseph F; Hair et al., *A Primer On Partial Least Squares Structural Equation Modeling (PLS-SEM)* (California: Sage Publications Inc., 2017).

[127] Hair et al.

[128] Jacob Cohen, *Statistical Power Analysis for the Behavioral Sciences*, 2nd ed. (Hillsdale, NJ: Erlbaum, 1988).

close to a medium effect size in producing the R^2 for PV, while Image (0.035), Aca (0.020), and NonAca (0.007) had a small effect size. The results also indicated that PV (0.045) had a small effect on SAT, and SAT (0.058, 0.048) had a small effect size on WoM and Loyalty, respectively. Q^2 values measured the predictive relevance of the model - when the value is greater than zero,[129] a model has predictive relevance for certain endogenous constructs. The results showed that all four endogenous constructs have Q^2 values of greater than zero, PV (Q^2=0.344), SAT (Q^2=0.039), WoM (Q^2=0.050), and Loyalty (Q^2=0.041), PV had medium, and the others constructs have small predictive accuracy. This also indicates that the model had sufficient predictive relevance.

In summary, the above results answer the first and second objectives of the study. First, it has been identified that international students at PrUs are satisfied with their education and living experience in Klang Valley. Second, factors and dimensions influencing international students' perceived value and satisfaction were determined. All seven hypothesized relationships are positive and significant. Therefore, the hypothesized MISS-Model has been empirically tested and confirmed as a suitable model for measuring international students' satisfaction and their post-behavioural intention in Malaysia.

Table 3

Path Coefficient of MISS-Model

Hypothesis	Construct	Path-Coefficient (β)	t-value (1.645)	p-value (0.05)	Results	
H1	Aca → PV	0.162	2.905	0.002	Significant	Supported
H2	NonAca → PV	0.103	1.977	0.024	Significant	Supported
H3	ExtEnv → PV	0.387	7.603	0.000	Significant	Supported
H4	Image → PV	0.173	3.414	0.000	Significant	Supported
H5	PV → SAT	0.207	4.016	0.000	Significant	Supported
H6	SAT → WoM	0.234	4.950	0.000	Significant	Supported
H7	SAT → Loyalty	0.214	4.683	0.000	Significant	Supported

Note: *significant at p<0.10 (t>1.28); **significant at p<0.05 (t>1.645); ***significant at p<0.01 (t>2.33); ns = not significant.

Source: Survey data.

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[129] Hair et al., *A Primer On Partial Least Squares Structural Equation Modeling (PLS-SEM)*.
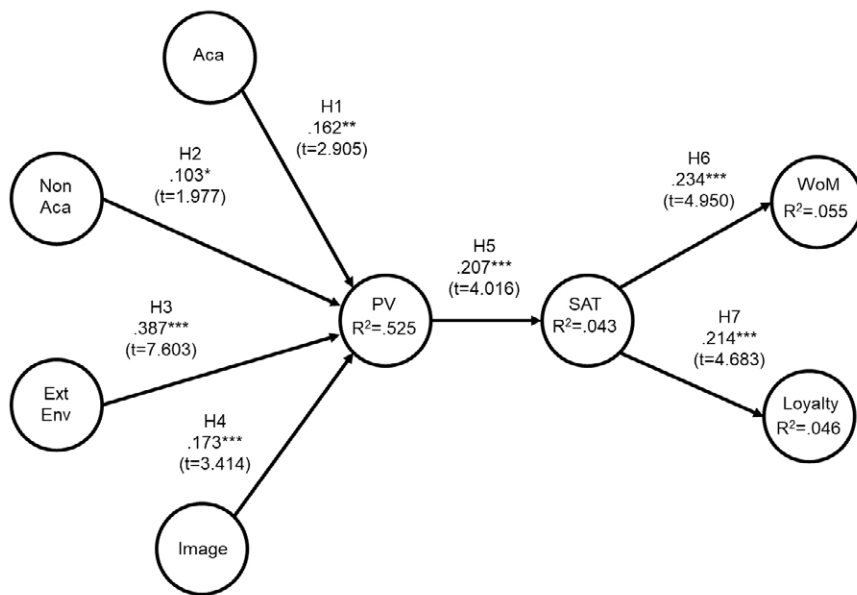
Figure 2

Path Coefficient and Coefficient
of Determination of Hypothesized Model

Note: *significant at p<0.10 (t>1.28); **significant at p<0.05 (t>1.645); ***significant at p<0.01 (t>2.33); ns = not significant.

Source: Findings from survey data.

V. Discussions

Overall, the study's findings revealed that international students were satisfied with their studies at PrUs while living in Klang Valley. Lujain & Ridzuan[130] also found that international students were moderately satisfied. In contrast, Chinese students were somewhat dissatisfied with their experience studying in Malaysia, according to Lim et al.[131] Results from this study indicated that international students were satisfied, in contrast to other

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[130] Lujain and Ridzuan, "Factors Influence the Satisfaction of International Students at Private Universities in Malaysia."

[131] Lim, Yap, and Lee, "Destination Choice, Service Quality, Satisfaction, and Consumerism: International Students in Malaysian Institutions of Higher Education."

studies[132],[133],[134] indicating problems, challenges, and adjustment difficulties experienced by international students in Malaysia. This is because the respondents in this study were at least second-year students and have settled in and adjusted to the culture and other changes affecting their living and studying in Malaysia. Additionally, they found social support from Malaysian and international friends of the same and different nationalities with whom they form friendships[135] through clubs and societies both inside and outside of their campus. They have also become familiar with the teaching and learning systems of their institutions, which has an influence on their level of satisfaction. Seventy percent of respondents were from Muslim countries, which aided in their adaptation to the culture of Malaysia, where Muslims make up more than sixty percent of the population. This situation has demonstrated the theory of perceived cultural proximity, in which similar religious and cultural values have facilitated their adaptation of lifestyle in Malaysia. As fee-paying students, international students viewed themselves as customers and expected to receive high-quality academic and living experience at reasonable cost that is value-for-money. The result also suggests that PrUs in the Klang Valley have provided students with the quality education they anticipated, and that Malaysia is perceived as a host country with a quality living environment. The accumulated experiences of international students indicate that Malaysia, as an affordable study destination, has provided international students with the exposure, environment, and quality of life they seek while studying abroad. This is an encouraging sign for Malaysia's aspiration to become an international education hub. According to Tribal i-graduate's global international student satisfaction survey, Malaysia compares favourably to other mature study destination such as the UK and the US, with 89% and 92% satisfaction levels, respectively. This research also found that Malaysia had the same

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[132] Masoumeh Alavi and Syed Mohamed Shafeq Mansor, "Categories of Problems among International Students in Universiti Teknologi Malaysia," *Procedia - Social and Behavioral Sciences* 30 (2011): 1581–87, https://doi.org/10.1016/j.sbspro.2011.10.307.

[133] Baharak; Talebloo and Roselan; Baki, "Challenges Faced by International Postgraduate Students during Their First Year of Studies," *International Journal of Humanities and Social Science* 3, no. 13 (2013): 138–45.

[134] Mohd. Yusoff; Yusliza and Chelliah Shankar, "Adjustment in International Students in Malaysian Public University," *International Journal of Innovation, Management and Technology*, 1, no. 3 (2010): 275–78.

[135] Mohd. Yusoff; Yusliza, "Self-Efficacy, Perceived Social Support, and Psychological Adjustment in International Undergraduate Students in a Public Higher Education Institution in Malaysia," *Journal of Studies in International Education* 16, no. 4 (2012): 353–71, https://doi.org/10.1177/1028315311408914.

satisfaction level as Singapore, at 89%. This neighbouring country, which shares social and geographical characteristics with Malaysia, is likewise a rising contender in international education.

The study indicated that the external environment was the strongest construct influencing their perceived value, which is consistent with other studies.[136,137] The study found that the strongest determinants were community, language and communication, and the attractions of Malaysia. International students generally found the Malaysian community friendly, helpful, and easy to live with. Relationships with the local community were facilitated because language was not a barrier. Many locals speak English, which helped foster communication with neighbours and other service providers, including transport providers, retail assistants, and food operators, thus easing their adjustment to living in the country. As a multicultural society, Malaysia provides the environment for them to practice their religion, participate in festivities, and visit local attractions. Hence, besides studying, these external living environment attributes improved their perceived value and subsequent satisfaction levels.

Extant studies have shown the impact of image on perceived value.[138,139,140] This study also supports this relationship, as image is the second strongest construct to perceived value. The image of a university is informed by its brand strength, ranking, and the recognition of its degrees. International students perceived their institutions as possessing a good reputation while featuring among the best PrUs in Malaysia in delivering quality education. The results also indicated that recognition of qualifications, both locally and internationally, was an important factor in how they perceived the image of their university.

The third strongest construct is Internal Environment - Academic. The strongest contributing dimensions were lecturers, followed by course delivery, course material, assessment, and course content, which are all

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[136] Rodney; Arambewela and John; Hall, "The Interactional Effects of the Internal and External University Environment, and the Influence of Personal Values, on Satisfaction among International Postgraduate Students," *Studies in Higher Education* 38, no. 7 (2011): 972–88, https://doi.org/10.1080/03075079.2011.615916.

[137] Constanza Bianchi and Judy Drennan, "Inward Internationalization of Services: Exploring Satisfaction and Dissatisfaction of Overseas Students in Australia," 2011, http://eprints.qut.edu.au/47711/.

[138] Hsiao Yun Lu and Wann Yih Wu, "Factors Associated with Medical Travel Behaviours: The Input–Process–Output Perspective," *Current Issues in Tourism* 21, no. 3 (2015): 243–58, https://doi.org/10.1080/13683500.2015.1072503.

[139] Brown and Mazzarol, "The Importance of Institutional Image to Student Satisfaction and Loyalty within Higher Education."

[140] Alves and Raposo, "Conceptual Model of Student Satisfaction in Higher Education."

causally linked to teaching and instruction. International students viewed these as more important than academic facilities such as laboratories, library, internet, classroom, and other educational support services. This is consistent with extant studies conducted in Malaysia[141,142] and other countries.[143,144]

The weakest relationship to PV among the four constructs was: Internal Environment - Non-Academic. Extant research revealed that many international students were dissatisfied with non-academic services on their campuses, such as bureaucratic administration processes,[145] insufficient recreational facilities,[146] poor service quality, and behaviour of support staff.[147,148] This study has shown that international students frequently engage with the International and Registrar's Office, Student Affairs, and Finance Department. Students perceived and assessed the value of these departments based on their experiences of service quality, including reliability and efficiency, and their ability to solve student problems. Other services such as reliable transportation, dedicated counsellors for international students, healthcare services, financial support, active clubs, and societies also influenced their perceived value. A comprehensive orientation programme helped them to familiarize with their campus and Malaysian culture.

The strongest dimensions within the perceived value construct were other value gained, cost of living, and fees payable by students. These results indicate that international students enjoyed their quality of life, gained valuable

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[141] Rajab Azizah, Hamidah Abdul Rahman, and Shaari Roziana, "The International Students' Perception towards the Education Quality," *International Journal of Social Sciences and Humanity Studies* 3, no. 2 (2011): 49–58.

[142] Ernest Kok Seng; Lim, "A Qualitative Study of Factors Contributing to International Students' Satisfaction of Institutional Quality," *Asian Social Science* 9, no. 13 (2013): 126–31, https://doi.org/10.5539/ass.v9n13p126.

[143] Rodney; Arambewela, *Post-Choice Satisfaction of International Postgradaute Students from Asia Studying in Victorian Universities*., PhD Thesis (Victoria: Victoria University of Technology, 2003).

[144] Vincent O. Ikwuagwu, "International Student Satisfaction Levels with Student Support Services at Delaware State University" (Wilmington University, 2010).

[145] Gordon Slethaug and Jesilin Manjula, "The Business of Education : Improving International Student Learning Experiences in Malaysia," *World Journal of Social Sciences* 2, no. 6 (2012): 179–99.

[146] Alavi and Mansor, "Categories of Problems among International Students in Universiti Teknologi Malaysia."

[147] Baboucarr; Njie, Soaib; Asimiran, and Baki Roselan, "Perceptions of International Students on Service Quality Delivery in a Malaysian Public University," *Quality Assurance in Education* 20, no. 2 (2012): 153–63, https://doi.org/http://dx.doi.org/10.1108/QAE-11-2012-0046.

[148] Talebloo and Baki, "Challenges Faced by International Postgraduate Students during Their First Year of Studies."

living experience, and appreciated learning about Malaysia and its people. They were happy with their interactions with the community and many tourist attractions. Students perceived the quality of education and enjoyable life, at an affordable fee and cost of living, as good value for money during their study time in Malaysia. All of these dimensions are indicative of the impact of perceived values on satisfaction, as supported by other studies.[149,150]

The outcome of satisfaction was WoM and loyalty. The satisfied international students showed positive post-behavioural intention, word-of-mouth recommendations, and loyalty. This conclusion supported earlier research findings[151,152,153] that more satisfied students would most likely recommend and provide information about their university experience to prospective students. They tended to remain loyal and were more likely to choose the same university, and Malaysia as their destination, for future studies. However, Alves and Raposo[154] present different results, having found no relationship between satisfaction and WoM.

VI. Conclusion and implications

This study has three implications, categorised as theoretical, policy, and practical. This study contributes to the theory, adopting a cross-disciplinary approach using consumer satisfaction theory, equity theory and satisfaction model, and literature on international student satisfaction. Consequently, the constructs of perceived value, image, and post-behavioural intention, along with comprehensive dimensions, were incorporated into the model. These few constructs and dimensions were not tested in previous studies,[155,156] and

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[149] Alves and Raposo, "Conceptual Model of Student Satisfaction in Higher Education."

[150] Brown and Mazzarol, "The Importance of Institutional Image to Student Satisfaction and Loyalty within Higher Education."

[151] Sharif and Kassim, "Non-Academic Service Quality: Comparative Analysis of Students and Faculty as Users."

[152] Paswan and Ganesh, "Higher Education Institutions: Satisfaction and Loyalty among International Students."

[153] Grady Bruce and Rachel Edgington, "Factors Influencing Word-of-Mouth Recommendations by MBA Students: An Examination of School Quality, Educational Outcomes, and Value of the MBA," *Journal of Marketing for Higher Education* 18, no. 1 (2008): 79–101, https://doi.org/10.1080/08841240802100303.

[154] Alves and Raposo, "Conceptual Model of Student Satisfaction in Higher Education."

[155] Faizan et al., "Does Higher Education Service Quality Effect Student Satisfaction, Image and Loyalty?: A Study of International Students in Malaysian Public Universities."

[156] Lujain and Ridzuan, "Factors Influence the Satisfaction of International Students at Private Universities in Malaysia."

this study has established the relationship between them. This approach is superior to a mono-discipline approach in achieving a more holistic understanding of the issue.[157] Hence, it is recommended that cross-disciplinary approaches should be used in future studies of international students to capture multi-dimensions.

For Malaysia to remain competitive as an education hub, it needs to establish its image as a provider of quality education within a favourable living environment and not solely as an affordable destination. More efforts should be undertaken to promote Malaysia as a destination country that is politically stable, safe, and attractive within a multicultural society. Strengthening government-to-government bilateral ties and collaboration by increasing mutual recognition of qualifications would increase inbound student mobility. Many younger and smaller PrUs will need to devote time and resources to build their image and reputation. Hence, merging campuses may be beneficial as this could improve efficiency, increase resources, reduce redundancy, and accelerate image building.

PrUs should continue building their image and capacity. For newer or smaller universities, one of the strategies in building image includes forming a strategic partnership with foreign universities through the delivery of transnational programmes, such as joint or dual degree programmes. Established PrUs could continue to strengthen and expand global recognition of their degree programmes, including professional accreditations. By improving their ranking, universities will further enhance their image through increased information and awareness among students, parents, and sponsors. Additionally, establishing alumni chapters in sending countries may also promote the image of a university.

PrUs need to continuously build their administrative and academic capacity through competency development programmes for lecturers and support staff. Competencies in English, communication, and multicultural skills are essential when dealing with international students. PrUs should commit to constantly improving and upgrading their teaching facilities, including science and computer laboratories and libraries. Pastoral care is essential to guide international students in their adjustment to a new environment. Other efforts include building internationally orientated campuses accommodating diverse nationalities and ethnicities. Therefore, universities should attract and recruit international students from diverse countries by highlighting the benefits of learning in a multi-national

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[157] Klein Julie; Thompson, "Prospects for Transdisciplinarity," *Futures* 36, no. 4 (2004): 515–26, https://doi.org/10.1016/j.futures.2003.10.007.

environment. Finally, by engaging the local community, providing greater opportunities for international students would improve their total study experience abroad.

To summarize, these results show that the four constructs - academic, non-academic, external environment, and image - influenced perceived value and, thus, satisfaction. Increasing international students' perceived value and satisfaction requires improving the supporting ecosystem. This involves the campus environment and services from institutions, together with the entire community, business, and government policy, in providing a satisfying living experience for international students, which in turn will make Malaysia an attractive international education destination.

Overall, this study found that international students were satisfied with their studies at PrUs while living in the Klang Valley. Lujain & Ridzuan[158] also found that international students were moderately satisfied. In contrast, Chinese students were somewhat dissatisfied with their experience studying in Malaysia, according to Lim et al.[159] Results from this study indicated that international students were satisfied, in contrast to other studies.[160,161,162]

This study only investigated respondents from the PrUs in the Klang Valley; thus, the results may only represent international students from these institutions. As such, it is recommended the study be extended to a broader sampling frame that includes all types of PrHEIs beyond Klang Valley. The model only tested the direct relationship among constructs; hence, identifying moderating factors, such as the personality of international students, may be considered for future studies. Finally, a comparative study among different regions of top-sending countries may reveal new dimensions of the relationships in each construct arising from socio-cultural differences.

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[160] Alavi and Mansor, "Categories of Problems among International Students in Universiti Teknologi Malaysia."

[161] Talebloo and Baki, "Challenges Faced by International Postgraduate Students during Their First Year of Studies."

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Ethical conventions

There are no individual, institutional, or sites mentioned in the manuscript. The first author conducted this research for her Ph.D. at Universiti Kebangsaan Malaysia (UKM). During the data collection in 2016, obtaining ethical committee approval for a study that does not involve testing or experimenting on human beings was not compulsory. However, all the necessary protocols of research ethics were observed, including:

1. Institutions' consent was obtained prior to data collection as permission was sought from participating institutions; attached is the file.
2. Participation from respondents was voluntary; they were informed of the objectives, duration, data confidentiality, and anonymity.
3. Researcher collected the data in person at respective campuses. Some institutions managed the survey through their International Office.
4. There is no risk to the safety of respondents as surveys were conducted on campuses.
5. No monetary incentives were given to respondents. However, they were given a packet of drinks and snacks when filling out the survey.
6. A report was given to each institution after the data analysis to comply with data transparency.

About the authors

CHONG PUI YEE (corresponding author; pychong@uniten.edu.my) is a senior lecturer at the College of Continuing Education, Universiti Tenaga Nasional/National Energy University (Uniten). She obtained a Ph.D. and B.Soc.Sc. from Universiti Kebangsaan Malaysia (UKM) (National University of Malaysia) and a M.Sc. in Information Technology from Universiti Putra Malaysia. She has taught communication and creative thinking courses since 2007. Her research interest covers the internationalization of higher education and education marketing. The specific area of investigation includes international student and staff mobility, access, and quality of higher education in Malaysia. She is the recipient of the Teaching Excellence Awards in 2020, Uniten, and Silver Medal for developing the Creative Thinking course on Massive Open Online Course (MOOC) at the International e-Content Development (eCONDEV 2021) Competition. She engaged in consultancy work for the World Bank and the Ministry of Higher Education for the KPT-CAP project in 2021. Prior to joining

the academic, she worked in the industry for ten years, assuming different functions, including corporate communication, group marketing services, procurement, and human resources.

ANDREW JIA YI KAM (andrew@ukm.edu.my) is Associate Professor in Economics and Senior Fellow at Institute of Malaysian and International Studies (IKMAS), Universiti Kebangsaan Malaysia (UKM). He is also Head of Latin American Studies at IKMAS. He has a PhD in economics from Australian National University (ANU). He researches and publishes mainly in international trade, industrialization and economic growth. He was a recipient of the Chevening Scholarship in 2005, the Australian Endeavour Postgraduate Fellowship in 2008 and the Malaysian Fulbright Scholarship in 2016.

THAM SIEW YEAN (tham_siew_yean@iseas.edu.sg) is a Visiting Senior Fellow at ISEAS-Yusof Ishak Institute, Singapore, and Emeritus Professor at Universiti Kebangsaan Malaysia (UKM). She was formerly Professor and Director at Institute of Malaysian and International Studies (IKMAS), UKM. Her research interests and publications cover trade in goods and services, including SMEs in e-commerce, foreign direct investment (FDI), and Belt and Road initiatives as well as related ASEAN issues in these areas. As part of her research in services, she also covers trade in higher education services, which covers the mobility of students, academic staff, and FDI in this sector. Her research also covers issues pertaining to access and quality of higher education in Malaysia. She has a PhD in Economics from University of Rochester, USA.

Annexes

1) *Assessment of Measurement Model*

APPENDIX 1 : ASSESSMENT OF MEASUREMENT MODEL

Table 4

Results of Assessment for Internal Consistency and Convergent Validity for Internal Environment : Academic Construct

Factor	Item	Outer Loading	CA	CR	AVE	Convergent Validity (AVE>0.5)
A01 Course	A1.1_CourseRelevant	0.840	0.854	0.901	0.696	YES
	A1.2_CourseKnowledgeInterest	0.864				
	A1.3_CourseIntlStd	0.845				
	A1.4_CourseUpToDate	0.786				
A02Material	A2.1_MaterialHelpsToUnstd	0.814	0.841	0.888	0.613	YES
	A2.2_MaterialUsefulRelevent	0.823				
	A2.3_MaterialInteresting	0.807				
	A2.4_MaterialAccessible	0.718				
	A2.5_MaterialIntlStd	0.747				
A03Delivery	A3.1_DeliveryMixMethod	0.712	0.827	0.874	0.537	YES
	A3.2_Delivery2WayCom	0.754				
	A3.3_DeliveryInteresting	0.757				
	A3.4_DeliveryExplainExample	0.801				
	A3.5_DeliveryWorkStudOtherCountries	0.652				
	A3.6_DeliveryClassSizeAppropriate	0.711				
A04Assessment	A4.1_AssessmtContent	0.758	0.796	0.860	0.551	YES
	A4.2_AssessmtDiffMethods	0.689				
	A4.3_AssessmtWellScheduled	0.799				
	A4.4_AssessmtGradedFairly	0.757				
	A4.5_AssessmtFback	0.704				
A05AdmReq	A5.1_AdmissionHighReq	0.826	0.597	0.832	0.712	YES
	A5.2_AdmissionAllowsExempt	0.861				
A06Lecturer	A6.1_LecturersGoodTeachg	0.839	0.910	0.927	0.613	YES
	A6.2_LecturersQualifiedKnowledgeable	0.803				
	A6.3_LecturersMotivate	0.771				
	A6.4_Lecturers_GoodEng	0.768				

…continuation	Item					
A07Enggmt	A6.5_Lecturers_Reliable	0.764				
	A6.6_Lecturers_FairEql	0.794				
	A6.7_Lecturers_OpenMinded	0.727				
	A6.8_Lecturers_HelpfulKindCaring	0.795				
	A7.1_Engagement_GrpWkMsian	0.755	0.695	0.814	0.522	YES
	A7.2_Engagement_HelpfmMsian	0.717				
	A7.3_Engagement_GrpWkIntlStud	0.718				
	A7.4_Engagement_HelpfmIntlStud	0.698				
A08Lab	A8.1_LabCompLab_UptoDate	0.878				
	A8.2_LabCompLab_Equipped	0.902	0.873	0.913	0.725	YES
	A8.3_LabCompLab_Capacity	0.809				
	A8.4_LabCompLab_OpHr	0.811				
A09Lib	A9.1_LibStaffKnowledgeable	0.791				
	A9.2_LibConduEnv	0.839	0.821	0.882	0.652	YES
	A9.3_LibAdeResource	0.834				
	A9.4_LibDownldOnline	0.763				
A10Internet	A10.1_InternetCon	0.867				
	A10.2_InternetAlwaysAvai	0.917	0.846	0.907	0.763	YES
	A10.3_InternetHighSpd	0.838				
A11Classroom	A11.1_ClassrmHallComf	0.925	0.831	0.922	0.855	YES
	A11.2_ClassrmHallEquipped	0.925				
A12AcaSupp	A12.1_AcdSppt_ExtraClass	0.884	0.680	0.862	0.757	YES
	A12.2_AcdSppt_InternshpPlacemt	0.856				

Note : The full explanation of items is found in the survey questionnaire in Appendix 2.

Source : Survey data

Table 5 Comparison on the Assessment of Internal Consistency and Convergent Validity for Low Loading Item for Internal Environment : Academic Construct

Factor	Low Loading Item	Results if All Items are Kept		Results if Item is Deleted		Decision is Base on Improvement of Reliability Score AND/OR Content Validity
		CA	CR	CA	CR	
A03Delivery	A3.5 (0.653)	0.827	0.874	0.813	0.870	To Keep
A04Assessment	A4.2 (0.689)	0.796	0.860	0.772	0.854	To Keep
A06Lecturer	A6.9 (0.477)	0.901	0.920	0.910	0.927	To Delete
A07Enggmt	A7.4 (0.697)	0.695	0.814	0.645	0.813	To Keep

Note : The full explanation of items is found in the survey questionnaire in Appendix 2.

Source: Survey data

Table 6   Cross Loading of Factors for Internal Environment : Academic Construct

	A01Course	A02Material	A03Delivery	A04Assessmen	A05AdmReq	A06Lecturer	A07Engmnt	A08Lab	A09Lib	A10Internet	A11Classroom	A12AcaSupp
A1.1_CourseRelevant	**0.840**	0.554	0.511	0.533	0.290	0.437	0.399	0.257	0.291	0.231	0.275	0.199
A1.2_CourseKnowledgeInterest	**0.864**	0.632	0.567	0.577	0.399	0.484	0.440	0.271	0.347	0.335	0.287	0.223
A1.3_CourseIntStd	**0.845**	0.601	0.537	0.542	0.329	0.476	0.374	0.227	0.347	0.277	0.259	0.226
A1.5_CourseUpToDate	**0.786**	0.573	0.521	0.511	0.370	0.469	0.409	0.310	0.333	0.294	0.252	0.213
A2.1_MaterialHelpsToUnstd	0.599	**0.814**	0.570	0.541	0.388	0.492	0.447	0.297	0.328	0.344	0.287	0.232
A2.2_MaterialUsefulRelevant	0.616	**0.823**	0.591	0.545	0.421	0.472	0.434	0.266	0.297	0.310	0.301	0.212
A2.3_MaterialInteresting	0.531	**0.807**	0.521	0.459	0.449	0.519	0.420	0.256	0.300	0.288	0.282	0.321
A2.4_MaterialAccessible	0.446	**0.718**	0.460	0.441	0.264	0.398	0.417	0.299	0.378	0.316	0.289	0.188
A2.5_MaterialIntStd	0.572	**0.747**	0.538	0.523	0.394	0.456	0.373	0.266	0.352	0.319	0.314	0.269
A3.1_DeliveryMyMethod	0.487	0.535	**0.712**	0.467	0.369	0.506	0.377	0.306	0.289	0.335	0.260	0.244
A3.2_Delivery2WayCom	0.552	0.529	**0.754**	0.592	0.348	0.504	0.380	0.250	0.354	0.341	0.320	0.231
A3.3_DeliveryInteresting	0.442	0.532	**0.757**	0.525	0.378	0.563	0.439	0.333	0.333	0.316	0.309	0.333
A3.4_DeliveryExplainExample	0.543	0.580	**0.801**	0.592	0.347	0.532	0.466	0.358	0.332	0.325	0.305	0.257
A3.5_DeliveryWorkStudOtherCountries	0.371	0.347	**0.652**	0.397	0.226	0.369	0.398	0.310	0.288	0.262	0.256	0.226
A3.6_DeliveryClassSizeAppropriate	0.402	0.464	**0.711**	0.531	0.341	0.396	0.400	0.343	0.330	0.338	0.380	0.195
A4.1_AssessmtContent	0.576	0.516	0.583	**0.758**	0.379	0.504	0.414	0.331	0.329	0.350	0.325	0.133
A4.2_AssessmtDiffMethods	0.495	0.458	0.467	**0.689**	0.293	0.394	0.379	0.210	0.303	0.272	0.287	0.163
A4.3_AssessmtWellScheduled	0.525	0.526	0.563	**0.799**	0.419	0.533	0.404	0.330	0.396	0.412	0.363	0.286
A4.4_AssessmtGradedFairly	0.428	0.429	0.481	**0.757**	0.396	0.517	0.349	0.342	0.386	0.335	0.345	0.267
A4.5_AssessmtFback	0.382	0.451	0.538	**0.704**	0.436	0.498	0.404	0.343	0.372	0.332	0.286	0.368
A5.1_AdmissionHighReq	0.311	0.400	0.372	0.420	**0.826**	0.454	0.335	0.384	0.305	0.254	0.231	0.276
A5.2_AdmissionAllowExempt	0.390	0.431	0.405	0.458	**0.861**	0.476	0.388	0.328	0.332	0.366	0.347	0.284
A6.1_LecturersGoodTeachg	0.537	0.520	0.610	0.581	0.498	**0.839**	0.444	0.328	0.359	0.346	0.309	0.294
A6.2_LecturersQualifiedKnowledgeable	0.472	0.487	0.534	0.551	0.424	**0.803**	0.396	0.271	0.334	0.313	0.282	0.256
A6.3_LecturersMotivate	0.352	0.434	0.496	0.451	0.409	**0.771**	0.389	0.289	0.293	0.349	0.253	0.278
A6.4_Lecturers_Goodfng	0.340	0.399	0.474	0.441	0.435	**0.768**	0.320	0.269	0.326	0.339	0.311	0.339
A6.5_Lecturers_Reliable	0.476	0.506	0.536	0.523	0.479	**0.764**	0.364	0.317	0.323	0.350	0.344	0.268
A6.6_Lecturers_FairEd	0.440	0.466	0.470	0.526	0.441	**0.794**	0.364	0.300	0.340	0.347	0.232	0.282
A6.7_Lecturers_OpenMinded	0.410	0.432	0.449	0.508	0.361	**0.727**	0.406	0.286	0.371	0.325	0.306	0.305
A6.8_Lecturers_HelpfulKndCaring	0.457	0.493	0.541	0.548	0.394	**0.795**	0.458	0.343	0.394	0.385	0.324	0.303
A7.1_Engagement_GrpWkMoian	0.331	0.400	0.449	0.399	0.355	0.474	**0.755**	0.299	0.295	0.323	0.261	0.341
A7.2_Engagement_HelpfmMoian	0.265	0.351	0.406	0.321	0.284	0.378	**0.717**	0.324	0.290	0.236	0.198	0.295
A7.3_Engagement_GrpWkIntlStud	0.378	0.362	0.355	0.389	0.295	0.291	**0.718**	0.295	0.214	0.214	0.280	0.205
A7.4_Engagement_HelpfmIntlStud	0.434	0.427	0.400	0.406	0.302	0.297	**0.698**	0.271	0.326	0.299	0.305	0.156
A8.1_LabCompLab_UptoDate	0.357	0.372	0.399	0.401	0.373	0.373	0.344	**0.878**	0.520	0.365	0.438	0.298
A8.2_LabCompLab_Equipped	0.302	0.327	0.388	0.392	0.357	0.355	0.312	**0.902**	0.545	0.375	0.438	0.306
A8.3_LabCompLab_Capacity	0.161	0.181	0.295	0.286	0.287	0.252	0.313	**0.809**	0.495	0.265	0.371	0.296
A8.4_LabCompLab_OpHr	0.240	0.294	0.370	0.341	0.305	0.314	0.354	**0.811**	0.479	0.338	0.351	0.327
A9.1_LibStaffKnowledgeable	0.340	0.342	0.363	0.389	0.341	0.387	0.380	0.504	**0.791**	0.344	0.387	0.306
A9.2_LibCondEnv	0.328	0.345	0.365	0.393	0.295	0.368	0.375	0.548	**0.839**	0.405	0.383	0.319
A9.3_LibAdeResource	0.273	0.305	0.320	0.348	0.275	0.306	0.290	0.487	**0.834**	0.332	0.443	0.256
A9.4_LibDownldOnline	0.333	0.362	0.365	0.423	0.304	0.348	0.326	0.390	**0.763**	0.419	0.405	0.364
A10.1_InternetCon	0.385	0.381	0.429	0.474	0.326	0.410	0.374	0.330	0.433	**0.867**	0.430	0.256
A10.2_InternetAlwaysAval	0.314	0.370	0.397	0.410	0.323	0.391	0.330	0.351	0.395	**0.917**	0.438	0.302
A10.3_InternetHighSpd	0.181	0.297	0.309	0.312	0.324	0.348	0.269	0.370	0.393	**0.888**	0.412	0.344
A11.1_ClassrmHallSppt	0.295	0.333	0.397	0.390	0.335	0.335	0.341	0.455	0.467	0.480	**0.925**	0.407
A11.2_ClassrmHallEquipped	0.301	0.362	0.373	0.412	0.305	0.362	0.327	0.418	0.459	0.435	**0.925**	0.449
A12.1_AcdSppt_ExtraClass	0.260	0.314	0.326	0.319	0.308	0.352	0.311	0.284	0.347	0.263	0.403	**0.884**
A12.2_AcdSppt_InternshipPlacemt	0.187	0.225	0.262	0.250	0.267	0.290	0.294	0.344	0.396	0.333	0.403	**0.856**

Source: Survey data

Note : The full explanation of items is found in the survey questionnaire in Appendix 2.

Table 7

Results of Fornell-Larker for Internal Environment : Academic Construct

Factor	A01Course	A02Material	A03Delivery	A04Assessmen	A05AdmReq	A06Lecturer	A07Enggmt	A08Lab	A09Lib	A10Internet	A11Classroom	A12AcaSupp
A01Course	**0.834**											
A02Material	0.709	**0.783**										
A03Delivery	0.641	0.686	**0.733**									
A04Assessment	0.649	0.643	0.711	**0.743**								
A05AdmReq	0.417	0.493	0.461	0.521	**0.844**							
A06Lecturer	0.560	0.599	0.659	0.662	0.551	**0.783**						
A07Enggmt	0.487	0.534	0.559	0.525	0.429	0.503	**0.723**					
A08Lab	0.320	0.353	0.430	0.422	0.391	0.385	0.388	**0.851**				
A09Lib	0.396	0.421	0.439	0.483	0.377	0.438	0.427	0.599	**0.807**			
A10Internet	0.343	0.403	0.437	0.461	0.371	0.440	0.374	0.399	0.466	**0.875**		
A11Classroom	0.322	0.376	0.416	0.434	0.346	0.377	0.361	0.472	0.500	0.495	**0.925**	
A12AcaSupp	0.258	0.312	0.340	0.329	0.332	0.370	0.348	0.359	0.425	0.340	0.463	**0.870**

Note : (1) Diagonal elements shaded and highlight oin bold represent the square root of AVE. Off diagonal elements are simple bivariate correaltions between ocnstructs.

(2) The full explanation of items is found in the survey questionnaire in Appendix 2.

Source: Survey data

Table 8   Results of Heterotrait-Monotrait Ratio (HTMT) for Internal Environment : Academic Construct

Factor	A01Course	A02Material	A03Delivery	A04Assessment	A05AdmReq	A06Lecturer	A07Enggmt	A08Lab	A09Lib	A10Internet	A11Classroom	A12AcaSupp
A01Course	-											
A02Material	0.833	-										
A03Delivery	0.757	0.814	-									
A04Assessment	0.787	0.783	0.870	-								
A05AdmReq	0.580	0.691	0.650	0.751	-							
A06Lecturer	0.631	0.681	0.751	0.773	0.746	-						
A07Enggmt	0.632	0.698	0.736	0.706	0.661	0.625	-					
A08Lab	0.361	0.404	0.504	0.498	0.538	0.425	0.498	-				
A09Lib	0.470	0.508	0.531	0.595	0.537	0.505	0.564	0.706	-			
A10Internet	0.393	0.475	0.517	0.552	0.517	0.499	0.479	0.461	0.557	-		
A11Classroom	0.382	0.451	0.503	0.532	0.486	0.434	0.475	0.551	0.607	0.591	-	
A12AcaSupp	0.336	0.409	0.449	0.443	0.519	0.470	0.501	0.470	0.573	0.456	0.616	-

Note : The full explanation of items is found in the survey questionnaire in Appendix 2.

Source: Survey data

Table 9   Results of Assessment for Internal Consistency and Convergent Validity for Internal Environment : Non-Academic Construct

Factor	Item	Outer Loading	CA	CR	AVE	Convergent Validity (AVE>0.5)
B01_StudSupp	B1.1_StudAdmin_OpTime	0.686	0.930	0.942	0.673	YES
	B1.2_StudAdmin_StaffKnowledgeable	0.821				
	B1.3_StudAdmin_SolvProb	0.865				
	B1.4_StudAdmin_ReliableEfficient	0.881				
	B1.5_StudAdmin_GdComFback	0.854				
	B1.6_StudAdmin_GdEng	0.837				
	B1.7_StudAdmin_Care	0.854				
	B1.8_StudAdmin_PlaceCompt	0.745				
B02_Orttn	B2.1_OrttnAportPickUp	0.675	0.756	0.860	0.674	YES
	B2.2_OrttnLvgCampus	0.911				
	B2.3_OrttnLvgMsia	0.859				
B03_CAccom	B3.1_CampAccomAffordable	0.890	0.909	0.943	0.847	YES
	B3.2_CampAccomGdCondFac	0.933				
	B3.3_CampAccomLvgEnv	0.937				
B04_UniTrpttn	B4.1_UniTrpttnSrvcReliable	0.774	0.841	0.888	0.615	YES
	B4.2_UniTrpttnPlacesOutCamp	0.839				
	B4.3_UniInfraCycleWalk	0.799				
	B4.4_UniTrpttnOutCamp	0.823				
	B4.5_UniTrpttnParking	0.676				
B05_CFood	B5.1_FoodMeets	0.934	0.865	0.937	0.881	YES
	B5.2_FoodCourtComfEnv	0.944				
B06_CHCare	B6.1_HCareOnCampAvailable	0.907	0.922	0.951	0.866	YES
	B6.2_HCareOnCampCompetentDoc	0.949				
	B6.3_HCareOnCampRightTrmtMed	0.934				
B07_SecureSafe	B7.1_FeelSecureSafe	0.878	0.737	0.883	0.791	YES
	B7.2_BelongingsSafe	0.901				
B08_FinAssist	B8.1_FinAsstScholarship	0.884	0.914	0.939	0.795	YES
	B8.2_FinAsstDiscount	0.903				

…continuation

Factor	Item					YES
	B8.3_FinAsstStudyLoan	0.916				
	B8.4_FinAsstPTJob	0.862				
B09_SportRec	B9.1_SportsFacAvailable	0.909	0.913	0.945	0.852	YES
	B9.2_SportsFacGdCond	0.948				
	B9.3_LivelyCamp	0.912				
B10_ClubSoc	B10.1_ClubsSocieties	0.863	0.872	0.912	0.722	YES
	B10.2_ClubsSocietiesActiv	0.886				
	B10.3_IntlStudSociety	0.827				
	B10.4_IntlStudSocietyActiv	0.821				
B11_Career	B11.1_CareerGuidanceInfo	0.933	0.859	0.934	0.876	YES
	B11.2_CareerOppInfo	0.939				
B12_Care	B12.1_NeedsIntlStud	0.842	0.828	0.886	0.661	YES
	B12.2_CaresMe	0.844				
	B12.3_PICHelp	0.792				
	B12.4_Counseling	0.770				
B13_Diversity	B13.1_ManyIntlStuds	0.882	0.806	0.885	0.720	YES
	B13.2_IntlStudDiffCountries	0.852				
	B13.3_InterLocalIntlStud	0.811				
B14_Location	B14.1_NearPubTrpttn	0.812	0.838	0.892	0.674	YES
	B14.2_RoomRent	0.844				
	B14.3_NearLeisureAct	0.820				
	B14.4_CloseCity	0.805				
B15_Physical	B15.1_PhysicalCampEnv	0.924	0.831	0.922	0.856	YES
	B15.2_GoodBuildingInfra	0.926				

Note : The full explanation of items is found in the survey questionnaire in Appendix 2.

Source : Survey data

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Table 10   Comparison on the Assessment of Internal Consistency and Convergent Validity for Low Loading Item for Internal Environment : Non-Academic Construct

Factor	Low Loading Item	Results if All Items are Kept		Results if Item is Deleted		Decision is Based on Improvement of Reliability Score AND/OR Content Validity
		CA	CR	CA	CR	
B01_StudSupp	B1.1 (0.687)	0.930	0.942	0.931	0.944	To Keep
B02_Orttn	B2.1 (0.676)	0.756	0.860	0.809	0.913	To Keep
B04_UniTrpttn	B4.5 (0.676)	0.841	0.888	0.848	0.898	To Keep
B12_Care	B12.5 (0.549)	0.809	0.869	0.828	0.886	To Delete

Note : The full explanation of items is found in the survey questionnaire in Appendix 2.

Source : Survey data

Table 11   Cross Loading of Factors for Internal Environment : Non-Academic Construct

Items	B01StaffSupp	B02Ortm	B03CAccom	B04UniTrptm	B05CFood	B06_HCare	B07SecureSafe	B08EmAssist	B09SportRec	B10InClubSoc	B11Career	B11Care	B13Diversity	B14Location	B15Physical
B1.1_StudAdmn_OpTime	**0.686**	0.377	0.251	0.252	0.119	0.173	0.346	0.010	0.026	0.270	0.359	0.375	0.374	0.287	0.303
B1.2_StudAdmn_StaffKnowledgeable	**0.821**	0.372	0.310	0.281	0.090	0.244	0.391	0.119	0.076	0.245	0.435	0.287	0.290	0.277	0.289
B1.3_StudAdmn_SolvProb	**0.865**	0.403	0.346	0.305	0.132	0.313	0.407	0.168	0.148	0.302	0.481	0.295	0.308	0.323	0.312
B1.4_StudAdmn_ReliableEfficient	**0.881**	0.396	0.356	0.314	0.149	0.330	0.430	0.148	0.136	0.272	0.509	0.264	0.301	0.316	0.306
B1.5_StudAdmn_GdComfBack	**0.854**	0.415	0.365	0.369	0.117	0.319	0.408	0.200	0.144	0.296	0.530	0.301	0.305	0.295	0.250
B1.6_StudAdmn_Gdfing	**0.837**	0.400	0.341	0.353	0.138	0.293	0.435	0.187	0.147	0.288	0.493	0.271	0.294	0.325	0.291
B1.7_StudAdmn_Care	**0.854**	0.426	0.372	0.327	0.135	0.316	0.373	0.221	0.152	0.303	0.549	0.306	0.312	0.313	0.256
B1.8_StudAdmn_PlaceCompt	**0.745**	0.465	0.405	0.355	0.145	0.356	0.333	0.204	0.210	0.251	0.523	0.319	0.262	0.335	0.264
B2.1_OrtnAperfPickUp	0.316	**0.675**	0.341	0.195	0.158	0.125	0.255	0.129	0.029	0.188	0.277	0.240	0.222	0.245	0.116
B2.2_OrtnLvgCampus	0.446	**0.911**	0.462	0.360	0.303	0.279	0.313	0.204	0.261	0.339	0.433	0.304	0.286	0.334	0.291
B2.3_OrtnLvgMsia	0.445	**0.859**	0.478	0.436	0.292	0.252	0.289	0.261	0.266	0.273	0.367	0.272	0.241	0.278	0.267
B3.1_CampAccomAffordable	0.396	0.502	**0.890**	0.478	0.293	0.334	0.350	0.246	0.237	0.294	0.241	0.241	0.259	0.335	0.281
B3.2_CampAccomGdCondFac	0.382	0.457	**0.933**	0.490	0.425	0.397	0.292	0.309	0.290	0.250	0.195	0.195	0.161	0.283	0.297
B3.3_CampAccomLvgEnv	0.385	0.492	**0.937**	0.524	0.380	0.385	0.294	0.454	0.313	0.233	0.386	0.188	0.332	0.332	0.310
B4.1_UniTrptmSvcReliable	0.332	0.382	0.479	**0.774**	0.374	0.313	0.238	0.384	0.375	0.332	0.354	0.252	0.197	0.359	0.246
B4.2_UniTrptmPlacesOutCamp	0.306	0.349	0.380	**0.839**	0.330	0.334	0.230	0.390	0.450	0.420	0.397	0.279	0.190	0.399	0.341
B4.3_UniInfraCycleWalk	0.285	0.280	0.403	**0.799**	0.318	0.406	0.406	0.223	0.492	0.376	0.212	0.304	0.088	0.349	0.393
B4.4_UniTrptmOutCamp	0.250	0.299	0.427	**0.823**	0.425	0.288	0.233	0.445	0.392	0.338	0.219	0.315	0.155	0.312	0.347
B4.5_UniTrptmParking	0.357	0.321	0.430	**0.676**	0.335	0.377	0.322	0.418	0.343	0.318	0.335	0.206	0.176	0.345	0.396
B5.1_FoodMeets	0.161	0.293	0.419	0.395	**0.934**	0.338	0.288	0.389	0.432	0.300	0.304	0.192	0.206	0.312	0.300
B5.2_FoodCountConfEnv	0.135	0.300	0.382	0.456	**0.944**	0.387	0.337	0.424	0.501	0.347	0.324	0.245	0.248	0.344	0.382
B6.1_HCareOnCampAvailable	0.321	0.256	0.347	0.397	0.385	**0.907**	0.457	0.306	0.488	0.438	0.469	0.237	0.260	0.350	0.436
B6.2_HCareOnCampCompetentDoc	0.330	0.253	0.390	0.410	0.360	**0.949**	0.447	0.361	0.454	0.472	0.313	0.213	0.254	0.354	0.387
B6.3_HCareOnCampRightTrmtMed	0.356	0.265	0.393	0.411	0.336	**0.934**	0.463	0.377	0.418	0.394	0.477	0.232	0.268	0.344	0.382
B7.1_FeelSecureSafe	0.380	0.278	0.234	0.253	0.278	0.399	**0.878**	0.129	0.267	0.449	0.419	0.326	0.339	0.391	0.381
B7.2_BelongingSafe	0.464	0.338	0.325	0.311	0.314	0.469	**0.901**	0.241	0.250	0.381	0.471	0.273	0.341	0.357	0.402
B8.1_FinAsstScholarship	0.133	0.286	0.403	0.470	0.387	0.360	0.222	**0.864**	0.455	0.259	0.147	0.307	0.101	0.255	0.272
B8.2_FinAsstDiscount	0.189	0.277	0.364	0.446	0.392	0.305	0.219	**0.903**	0.414	0.259	0.290	0.072	0.080	0.227	0.272
B8.3_FinAsstJobOnCan	0.207	0.260	0.424	0.489	0.401	0.369	0.191	**0.916**	0.437	0.235	0.129	0.129	0.054	0.213	0.222
B8.4_FinAsstPTJob	0.174	0.257	0.408	0.470	0.366	0.298	0.121	**0.862**	0.431	0.241	0.110	0.110	0.092	0.283	0.227
B9.1_SportsFacAvailable	0.081	0.167	0.233	0.450	0.435	0.408	0.253	0.397	**0.909**	0.559	0.208	0.208	0.144	0.355	0.476
B9.2_SportsFacGdCond	0.154	0.224	0.316	0.507	0.472	0.480	0.268	0.480	**0.948**	0.569	0.379	0.220	0.128	0.398	0.479
B9.3_LiveInCamp	0.204	0.259	0.324	0.492	0.470	0.456	0.281	0.467	**0.912**	0.575	0.409	0.254	0.233	0.406	0.504
B10.1_ClubsSocieties	0.312	0.283	0.239	0.384	0.273	0.426	0.410	0.246	0.538	**0.863**	0.384	0.384	0.316	0.359	0.463
B10.2_ClubsSocietesActiv	0.333	0.295	0.299	0.429	0.319	0.469	0.431	0.261	0.558	**0.886**	0.376	0.376	0.384	0.394	0.490
B10.3_IntlStudSociety	0.207	0.247	0.153	0.318	0.269	0.259	0.370	0.176	0.495	**0.827**	0.387	0.387	0.355	0.416	0.396
B10.4_IntlStudSocietyActiv	0.288	0.304	0.248	0.385	0.311	0.328	0.364	0.255	0.496	**0.821**	0.358	0.358	0.351	0.434	0.429
B11.1_CareerGuidanceInfo	0.332	0.282	0.192	0.261	0.222	0.215	0.327	0.070	0.233	0.430	**0.933**	0.485	0.396	0.261	0.384
B11.2_CareerOptInfo	0.352	0.338	0.229	0.299	0.216	0.242	0.301	0.169	0.230	0.398	**0.939**	0.503	0.354	0.236	0.351
B11.3_JobFairInfo	0.355	0.373	0.387	0.387	0.220	0.448	0.449	0.213	0.239	0.426	0.476	**0.842**	0.429	0.429	0.399
B12.2_CaresMe	0.522	0.389	0.385	0.338	0.230	0.434	0.413	0.286	0.251	0.354	0.398	**0.844**	0.436	0.335	0.391
B12.3_PICHelp	0.437	0.378	0.334	0.461	0.400	0.378	0.372	0.387	0.467	0.428	0.372	**0.792**	0.335	0.444	0.379
B12.4_Counseling	0.417	0.299	0.238	0.317	0.230	0.390	0.393	0.199	0.364	0.496	0.473	**0.770**	0.451	0.367	0.437
B13.1_ManyIntlStuds	0.325	0.259	0.133	0.118	0.209	0.242	0.373	0.040	0.139	0.338	0.313	0.395	**0.882**	0.403	0.325
B13.2_IntlStudDiffCountries	0.285	0.223	0.091	0.133	0.175	0.195	0.314	0.020	0.261	0.328	0.270	0.358	**0.852**	0.440	0.313
B13.3_IntlLocalIntlStud	0.326	0.283	0.205	0.259	0.227	0.272	0.288	0.156	0.178	0.379	0.418	0.535	**0.811**	0.316	0.353
B14.1_NearPublTrptm	0.309	0.325	0.342	0.439	0.349	0.313	0.338	0.286	0.344	0.360	0.195	0.381	0.362	**0.812**	0.356
B14.2_RoomRent	0.280	0.278	0.261	0.395	0.322	0.318	0.327	0.228	0.404	0.422	0.217	0.408	0.372	**0.844**	0.428
B14.3_NearLeisureAct	0.284	0.234	0.254	0.344	0.293	0.311	0.373	0.229	0.374	0.406	0.250	0.382	0.342	**0.820**	0.407
B14.4_CloseCity	0.367	0.309	0.270	0.300	0.177	0.288	0.336	0.153	0.252	0.353	0.208	0.427	0.406	**0.805**	0.391
B15.1_PhysicalCampEnv	0.326	0.263	0.287	0.390	0.322	0.395	0.416	0.229	0.463	0.496	0.374	0.465	0.387	0.459	**0.924**
B15.2_GoodBuildingInfra	0.312	0.268	0.309	0.425	0.353	0.404	0.399	0.276	0.512	0.476	0.352	0.448	0.339	0.430	**0.926**

Source : Survey data

Note : The full explanation of items are found in the survey questionnaire in Appendix 2

Table 12   Results of Fornell-Larker for Internal Environment : Non-Academic Construct

Factor	B01Stud Supp	B02Ortrn	B03CAccom	B04Uni Trpttn	B05CFood	B06CHCare	B07Secure Safe	B08Fin Assist	B09Sport Rec	B10Club Soc	B11Career	B12Care	B13Diversity	B14Location	B15Physical
B01StudSupp	**0.821**														
B02Ortrn	0.496	**0.821**													
B03CAccom	0.421	0.526	**0.920**												
B04UniTrpttn	0.392	0.418	0.541	**0.784**											
B05CFood	0.157	0.316	0.426	0.454	**0.939**										
B06CHCare	0.361	0.277	0.405	0.439	0.387	**0.930**									
B07SecureSafe	0.476	0.347	0.316	0.318	0.334	0.490	**0.890**								
B08FinAssist	0.197	0.303	0.449	0.526	0.434	0.374	0.211	**0.892**							
B09SportRec	0.162	0.237	0.318	0.525	0.498	0.487	0.290	0.487	**0.923**						
B10ClubSoc	0.340	0.333	0.281	0.457	0.345	0.443	0.464	0.279	0.615	**0.850**					
B11Career	0.366	0.331	0.226	0.299	0.234	0.244	0.335	0.129	0.248	0.442	**0.936**				
B12Care	0.595	0.444	0.415	0.437	0.334	0.508	0.501	0.336	0.407	0.523	0.528	**0.813**			
B13Diversity	0.370	0.304	0.174	0.206	0.243	0.283	0.382	0.091	0.184	0.414	0.400	0.515	**0.849**		
B14Location	0.377	0.349	0.344	0.452	0.350	0.375	0.420	0.274	0.420	0.469	0.265	0.486	0.451	**0.821**	
B15physical	0.345	0.287	0.322	0.440	0.365	0.432	0.440	0.262	0.527	0.525	0.392	0.493	0.392	0.481	**0.925**

Note : (1) Diagonal elements shaded and highlight oin bold represent the square root of AVE. Off diagonal elements are simple bivariate correaltions between ocnstructs.

(2) The full explanation of items is found in the survey questionnaire in Appendix 2.

Source : Survey data

Table 13   Results of Heterotrait-Monotrait Ratio (HTMT) for Internal Environment : Non-Academic Construct

Factor	B01Stud Supp	B02Ortn	B03CAccom	B04Uni Trptn	B05CFood	B06CHCare	B07Secure Safe	B08Fin Assist	B09Sport Rec	B10Club Soc	B11Career	B12Care	B13Diversity	B14Location	B15Physical
B01StudSupp	-														
B02Ortn	0.586	-													
B03CAccom	0.456	0.629	-												
B04UniTrptn	0.441	0.505	0.619	-											
B05CFood	0.175	0.378	0.481	0.532	-										
B06CHCare	0.386	0.319	0.442	0.499	0.433	-									
B07SecureSafe	0.574	0.464	0.383	0.403	0.415	0.592	-								
B08FinAssist	0.211	0.350	0.491	0.601	0.487	0.407	0.253	-							
B09SportRec	0.168	0.257	0.346	0.597	0.558	0.529	0.354	0.531	-						
B10ClubSoc	0.373	0.400	0.311	0.529	0.396	0.486	0.580	0.309	0.688	-					
B11Career	0.413	0.411	0.255	0.351	0.270	0.274	0.424	0.143	0.278	0.512	-				
B12Care	0.675	0.552	0.477	0.521	0.392	0.581	0.640	0.384	0.465	0.612	0.627	-			
B13Diversity	0.429	0.386	0.197	0.242	0.286	0.323	0.497	0.108	0.210	0.490	0.473	0.621	-		
B14Location	0.428	0.437	0.394	0.535	0.408	0.427	0.536	0.312	0.476	0.551	0.313	0.583	0.554	-	
B15Physical	0.395	0.345	0.370	0.527	0.429	0.493	0.562	0.300	0.604	0.614	0.465	0.596	0.475	0.576	-

Note : The full explanation of items is found in the survey questionnaire in Appendix 2.

Source : Survey data

Table 14   Comparison on the Assessment of Internal Consistency and Convergent Validity for Low Loading Item for External Environment Construct

Factor	Low Loading Item	Results if All Items are Kept		Results if Item is Deleted		Decision is Based on Improvement of Reliability Score AND/OR Content Validity
		CA	CR	CA	CR	
C01_SocialSupp	C1.1 (0.672)	0.779	0.846	0.783	0.860	To Keep
C02_Community	C2.1 (0.678)	0.881	0.910	0.879	0.912	To Keep
C11_Attraction	C11.4 (0.624)	0.885	0.914	0.901	0.927	To Delete
C12_Government & Legal Framework	C12.1 (0.691) C12.2 (0.688)	0.841	0.878	0.870	0.920	To Keep

Note : The full explanation of items is found in the survey questionnaire in Appendix 2.

Source : Survey data

Table 15

Results of Assessment for Internal Consistency and Convergent Validity for External Environment Construct

Factor	Item	Outer Loading	CA	CR	AVE	Convergent Validity (AVE>0.5)
C01a_SuppInMsia	C1.1_FamilyRelatives	0.672	0.764	0.865	0.685	YES
	C1.2_BefriendMsians	0.905				
	C1.3_SuppHelpMsians	0.886				
C01b_SuppIS	C1.4_BefriendIntlStudDiffCountries	0.891	0.779	0.872	0.696	YES
	C1.5_SuppHelpIntlStudDiffCountries	0.871				
	C1.6_SuppHelpFromSameCountry	0.732				
C02_Community	C2.1_MsianFriendsNotSameUni	0.679	0.881	0.910	0.629	YES
	C2.2_BefriendMsianNeighbour	0.822				
	C2.3_InvttnMsianNeighbour	0.820				
	C2.4_FriendlyCommunity	0.856				
	C2.5_HelpfulCommunity	0.784				
	C2.6_JoinCommunityAct	0.785				
C03_Safety	C3.1_FeelSafeInMsia	0.924	0.800	0.909	0.833	YES
	C3.2_BelongingsSafeInMsia	0.901				
C04_Discrimination	C4.1_WelcomedAcceptedMsians	0.861	0.820	0.893	0.736	YES
	C4.2_SameTreatmt	0.901				
	C4.3_SameOpp	0.808				
C05_LanguaCom	C5.1_CanTalkMsianFriends	0.792	0.869	0.905	0.656	YES
	C5.2_CanTalkToLect	0.806				
	C5.3_TalkToMsians	0.858				
	C5.4_NoLanguageBarrier	0.792				
	C5.5_TalkMsianEng	0.800				
C06_Culture	C6.1_KnowMsianCulture	0.872	0.748	0.857	0.669	YES
	C6.2_UnstdMultiEthnic	0.852				
	C6.3_SimilarCulture	0.721				
C07_Food	C7.1_FindFood	0.900	0.741	0.885	0.794	YES
	C7.2_FindSpices	0.883				

To be continued…

...continuation

Construct	Item					
C08_PubTrpttn	C8.1_PubTrpttnAva	0.831	0.868	0.910	0.716	YES
	C8.2_PubTrpttnReliable	0.885				
	C8.3_PubTrpttnComfClean	0.860				
	C8.4_PubTrpttniFHH	0.808				
C09_HCare	C9.1_HCareInsurance	0.806	0.830	0.899	0.748	YES
	C9.2_HCareOffCampCompetentDoc	0.902				
	C9.3_HCareOffCampRightMed	0.882				
C10_Location	C10.1_MsiaNearCountry	0.934	0.932	0.956	0.880	YES
	C10.2_GoHomeFreq	0.952				
	C10.3_FamilyVisitFreq	0.928				
C11_Attraction	C11.1_ManyPlacesVisit	0.853	0.901	0.927	0.717	YES
	C11.2_Greenery	0.860				
	C11.3_CelebFest	0.828				
	C11.5_PlacesWorship	0.830				
	C11.6_PracticeReligionMsia	0.864				
C12a_Visa	C12.1_GdG2G	0.690	0.825	0.878	0.593	YES
	C12.2_StudyVisa	0.687				
	C12.3_TimeProcessVisa	0.831				
	C12.4_StaffProcessVisaGood	0.837				
	C12.5_VisaCostReasonable	0.789				
C12b_WorkMsia	C12.6_CanWorkStudy	0.849	0.825	0.895	0.740	YES
	C12.7_CanWorkAfterGrad	0.862				
	C12.8_CanMigrateMsia	0.869				
C13_InternOpp	C13.1_InternshipMsia	0.939	0.858	0.934	0.876	YES
	C13.2_EasyInternshipPlacemt	0.932				

Note : The full explanation of items is found in the survey questionnaire in Appendix 2.

Source : Survey data

Table 16   Cross Loading of Factors for External Environment Construct

Items	C01aSupp InMsia IS	C01bSupp IS	C02Comm unity	C03Safety	C04Discrn	C05Langua	C06Culture	C07Food	C08Pub Trptn	C09HCare	C10Location	C11Attraction	C12aVisa	C12bWork Msia	C13Item Opp
C1.1_FamilyRelatives	**0.672**	0.256	0.308	0.287	0.243	0.262	0.276	0.278	0.262	0.208	0.092	0.221	0.233	0.237	0.163
C1.2_BefriendMsians	**0.905**	0.388	0.544	0.481	0.307	0.474	0.356	0.353	0.246	0.361	0.268	0.211	0.371	0.298	0.242
C1.3_SuppHelpMsians	**0.886**	0.328	0.563	0.489	0.280	0.400	0.361	0.343	0.235	0.330	0.281	0.170	0.339	0.298	0.235
C1.4_BefriendDiffStudIs	0.410	**0.891**	0.228	0.298	0.277	0.212	0.377	0.351	0.387	0.450	0.025	0.487	0.352	0.099	0.184
C1.5_SuppHelpInStudIsDiffCountries	0.369	**0.871**	0.251	0.231	0.197	0.231	0.372	0.344	0.377	0.412	0.064	0.418	0.331	0.113	0.206
C1.6_SuppHelpFromSameCountry	0.188	**0.732**	0.177	0.147	0.197	0.409	0.253	0.236	0.301	0.338	0.070	0.407	0.295	0.114	0.149
C2.1_MsianFriendsNotSameUni	0.401	0.179	**0.679**	0.205	0.331	0.337	0.250	0.331	0.236	0.255	0.204	0.122	0.245	0.271	0.256
C2.2_BefriendMsianNeighbour	0.456	0.192	**0.822**	0.331	0.481	0.275	0.347	0.246	0.278	0.254	0.264	0.103	0.311	0.394	0.265
C2.3_InvtrbMsianNeighbour	0.475	0.122	**0.820**	0.412	0.533	0.188	0.336	0.252	0.203	0.228	0.303	0.052	0.299	0.470	0.334
C2.4_FriendlyCommunity	0.517	0.254	**0.856**	0.400	0.563	0.315	0.389	0.302	0.304	0.340	0.257	0.201	0.339	0.354	0.302
C2.5_HelpfulCommunity	0.501	0.259	**0.784**	0.373	0.539	0.377	0.369	0.302	0.316	0.329	0.225	0.222	0.380	0.344	0.270
C2.6_JoinCommunityAct	0.419	0.236	**0.785**	0.410	0.513	0.239	0.303	0.240	0.322	0.287	0.162	0.154	0.282	0.373	0.226
C3.1_FeelSafeInMsia	0.339	0.336	0.392	**0.924**	0.436	0.306	0.254	0.297	0.394	0.329	0.101	0.289	0.369	0.294	0.230
C3.2_BelongingSafeInMsia	0.268	0.228	0.438	**0.901**	0.538	0.197	0.218	0.211	0.358	0.277	0.126	0.119	0.320	0.329	0.218
C4.1_WelcomeAcceptedMsians	0.492	0.276	0.585	0.473	**0.861**	0.441	0.347	0.310	0.324	0.349	0.246	0.230	0.417	0.297	0.226
C4.2_SameTreatmt	0.433	0.178	0.523	0.457	**0.901**	0.297	0.350	0.307	0.289	0.288	0.334	0.111	0.391	0.307	0.206
C4.3_SameOpp	0.399	0.145	0.504	0.431	**0.808**	0.191	0.322	0.183	0.257	0.211	0.384	0.040	0.282	0.428	0.327
C5.1_CanTalkMsianFriends	0.470	0.376	0.345	0.170	0.336	**0.792**	0.372	0.366	0.267	0.319	0.142	0.374	0.370	0.171	0.193
C5.2_CanTalkToLect	0.379	0.466	0.322	0.223	0.259	**0.806**	0.437	0.430	0.429	0.415	0.125	0.500	0.454	0.188	0.205
C5.3_TalkToMsians	0.379	0.470	0.299	0.269	0.220	**0.858**	0.469	0.410	0.403	0.401	0.130	0.453	0.438	0.231	0.205
C5.4_NoLanguageBarrier	0.346	0.375	0.276	0.252	0.321	**0.792**	0.435	0.358	0.350	0.375	0.194	0.344	0.408	0.240	0.202
C5.5_TalkMsianEng	0.326	0.416	0.248	0.212	0.273	**0.800**	0.464	0.344	0.356	0.355	0.182	0.391	0.363	0.203	0.170
C6.1_KnowMsianCulture	0.326	0.359	0.367	0.256	0.302	0.491	**0.872**	0.468	0.442	0.339	0.222	0.405	0.358	0.302	0.280
C6.2_UnsdMultiEthnic	0.309	0.416	0.300	0.171	0.250	0.501	**0.852**	0.483	0.450	0.395	0.179	0.461	0.377	0.242	0.247
C6.3_SimilarCulture	0.356	0.208	0.413	0.209	0.434	0.317	**0.721**	0.437	0.383	0.321	0.482	0.151	0.393	0.324	0.313
C7.1_FindFood	0.384	0.292	0.292	0.230	0.273	0.459	0.547	**0.900**	0.433	0.421	0.222	0.375	0.371	0.228	0.239
C7.2_FindSpices	0.317	0.308	0.303	0.273	0.293	0.381	0.460	**0.883**	0.253	0.375	0.211	0.375	0.356	0.228	0.297
C8.1_PubTrptnAva	0.270	0.460	0.258	0.253	0.227	0.464	0.477	0.463	**0.831**	0.446	0.115	0.519	0.365	0.245	0.239
C8.2_PubTrptnReliable	0.245	0.384	0.297	0.361	0.275	0.363	0.425	0.358	**0.885**	0.463	0.111	0.438	0.354	0.289	0.235
C8.3_PubTrptnComfClean	0.205	0.324	0.251	0.387	0.257	0.338	0.404	0.333	**0.860**	0.422	0.055	0.420	0.307	0.187	0.208
C8.4_PubTrptnHH	0.269	0.271	0.392	0.403	0.394	0.343	0.453	0.317	**0.808**	0.457	0.213	0.305	0.364	0.254	0.232
C9.1_HCareInsurance	0.311	0.472	0.238	0.182	0.206	0.449	0.392	0.405	0.461	**0.806**	0.121	0.425	0.429	0.197	0.195
C9.2_HCareOfICampCompetentDoc	0.290	0.392	0.317	0.354	0.302	0.383	0.343	0.377	0.461	**0.902**	0.152	0.368	0.411	0.293	0.272
C9.3_HCareOfICampRightMed	0.359	0.390	0.371	0.323	0.359	0.370	0.384	0.380	0.490	**0.882**	0.182	0.325	0.405	0.285	0.239
C10.1_MsiaNearCountry	0.274	0.044	0.265	0.078	0.320	0.206	0.314	0.208	0.108	0.188	**0.934**	0.165	0.180	0.310	0.259
C10.2_GetHomeFreq	0.249	0.071	0.274	0.124	0.354	0.194	0.334	0.242	0.151	0.165	**0.952**	-0.025	0.287	0.266	0.266
C10.3_FamilyVisitFreq	0.240	0.056	0.300	0.143	0.359	0.133	0.341	0.235	0.154	0.143	**0.928**	-0.040	0.161	0.327	0.327
C11.1_ManyPlacesVisit	0.194	0.439	0.119	0.181	0.125	0.453	0.341	0.355	0.424	0.359	-0.033	**0.853**	0.391	0.081	0.133
C11.2_Greenery	0.166	0.461	0.147	0.213	0.132	0.416	0.356	0.358	0.441	0.369	-0.090	**0.860**	0.404	0.111	0.122
C11.3_CelebFest	0.166	0.461	0.147	0.208	0.194	0.416	0.385	0.349	0.398	0.369	-0.008	**0.828**	0.402	0.210	0.185
C11.4_PlacesWorship	0.215	0.434	0.148	0.203	0.098	0.435	0.384	0.346	0.346	0.332	0.006	**0.839**	0.303	0.162	0.162
C11.6_PracticeReligenMsia	0.197	0.469	0.158	0.181	0.112	0.465	0.371	0.409	0.441	0.389	-0.012	**0.864**	0.440	0.137	0.164
C12.1_G4G2G	0.243	0.338	0.231	0.213	0.220	0.414	0.384	0.298	0.441	0.346	0.074	0.473	**0.690**	0.298	0.260
C12.2_StudyVisa	0.259	0.463	0.179	0.147	0.166	0.489	0.369	0.371	0.321	0.395	0.045	0.564	**0.687**	0.180	0.193
C12.3_TimeProcessVisa	0.321	0.238	0.333	0.336	0.370	0.345	0.267	0.332	0.316	0.369	0.200	0.309	**0.831**	0.381	0.288
C12.4_StaffProcessVisaGood	0.318	0.255	0.348	0.373	0.391	0.345	0.286	0.285	0.324	0.375	0.128	0.530	**0.837**	0.402	0.279
C12.5_VisaCostReasonable	0.337	0.220	0.412	0.369	0.470	0.349	0.317	0.283	0.331	0.359	0.234	0.220	**0.789**	0.468	0.302
C12.6_CanWorkStudy	0.321	0.054	0.179	0.279	0.401	0.176	0.323	0.298	0.203	0.219	0.374	0.056	0.399	**0.849**	0.385
C12.7_CanWorkAfterGrad	0.294	0.186	0.395	0.385	0.288	0.295	0.326	0.276	0.290	0.320	0.210	0.232	0.410	**0.862**	0.413
C12.8_CanMigrateMsia	0.255	0.083	0.385	0.319	0.336	0.179	0.242	0.181	0.250	0.227	0.272	0.104	0.358	**0.869**	0.475
C13.1_InternshipMsia	0.252	0.226	0.300	0.210	0.373	0.255	0.287	0.330	0.275	0.258	0.235	0.236	0.354	0.451	**0.939**
C13.2_EasyToGetInternshipPlacemt	0.236	0.178	0.352	0.251	0.321	0.194	0.308	0.274	0.232	0.253	0.334	0.100	0.290	0.471	**0.932**

Note : The full explanation of items is found in the survey questionnaire in Appendix 2.

Source : Survey data

Table 17   Results of Fornell-Larker for External Environment Construct

Factor	C01aSupplnMsia	C01bSupplS	C02Community	C03Safety	C04Discri	C05Langua	C06Culture	C07Food	C08PubTrpttn	C09HCare	C10Location	C11Attraction	C12aVisa	C12bWorkMsia	C13InternOpp
C01aSupplnMsia	**0.828**														
C01bSupplS	0.396	**0.834**													
C02Community	0.585	0.264	**0.793**												
C03Safety	0.335	0.312	0.453	**0.912**											
C04Discri	0.518	0.239	0.630	0.530	**0.858**										
C05Langua	0.468	0.521	0.350	0.279	0.372	**0.810**									
C06Culture	0.403	0.405	0.437	0.260	0.397	0.538	**0.818**								
C07Food	0.394	0.377	0.334	0.281	0.317	0.473	0.567	**0.891**							
C08PubTrpttn	0.294	0.428	0.355	0.413	0.341	0.448	0.521	0.443	**0.846**						
C09HCare	0.371	0.482	0.359	0.333	0.336	0.462	0.431	0.447	0.530	**0.865**					
C10Location	0.271	0.061	0.298	0.123	0.367	0.190	0.351	0.243	0.147	0.176	**0.938**				
C11Attraction	0.237	0.524	0.184	0.230	0.157	0.512	0.422	0.430	0.499	0.429	-0.035	**0.847**			
C12aVisa	0.386	0.391	0.394	0.379	0.429	0.504	0.421	0.408	0.412	0.480	0.180	0.479	**0.770**		
C12bWorkMsia	0.337	0.129	0.464	0.340	0.395	0.256	0.370	0.253	0.290	0.300	0.328	0.157	0.453	**0.860**	
C13InternOpp	0.261	0.217	0.348	0.246	0.290	0.241	0.341	0.299	0.271	0.273	0.303	0.182	0.345	0.492	**0.936**

Note : (1) Diagonal elements shaded and highlight oin bold represent the square root of AVE. Off diagonal elements are simple bivariate correaltions between ocnstructs.

(2) The full explanation of items is found in the survey questionnaire in Appendix 2.

Source : Survey data

Table 18   Results of Heterotrait-Monotrait Ratio (HTMT) for External Environment Construct

Factor	C01aSupInMsia	C01bSupplS	C02Community	C03Safety	C04Discri	C05Langua	C06Culture	C07Food	C08PubTrpttn	C09HCare	C10Location	C11Attraction	C12aVisa	C12bWorkMsia	C13InternOpp
C01aSupInMsia	-														
C01bSupplS	0.497	-													
C02Community	0.696	0.314	-												
C03Safety	0.426	0.387	0.536	-											
C04Discri	0.639	0.288	0.731	0.658	-										
C05Langua	0.565	0.633	0.397	0.329	0.428	-									
C06Culture	0.534	0.521	0.543	0.335	0.514	0.663	-								
C07Food	0.522	0.490	0.411	0.363	0.399	0.586	0.760	-							
C08PubTrpttn	0.367	0.515	0.402	0.497	0.401	0.511	0.645	0.547	-						
C09HCare	0.457	0.599	0.415	0.405	0.397	0.545	0.549	0.570	0.623	-					
C10Location	0.308	0.074	0.329	0.143	0.428	0.213	0.432	0.292	0.162	0.200	-				
C11Attraction	0.293	0.626	0.203	0.263	0.171	0.575	0.506	0.525	0.562	0.498	0.041	-			
C12aVisa	0.479	0.492	0.456	0.462	0.510	0.596	0.538	0.523	0.486	0.582	0.202	0.561	-		
C12bWorkMsia	0.424	0.158	0.545	0.421	0.491	0.297	0.476	0.320	0.338	0.357	0.379	0.174	0.545	-	
C13InternOpp	0.319	0.263	0.401	0.297	0.354	0.278	0.429	0.377	0.313	0.323	0.340	0.204	0.408	0.586	-

Note : The full explanation of items is found in the survey questionnaire in Appendix 2.

Source : Survey data

Table 19   Results of Assessment for Internal Consistency and Convergent Validity for Image Construct

Factor	Item	Outer Loading	CA	CR	AVE	Convergent Validity (AVE>0.5)
D1_Brand	D1.1_GdNameMsia	0.839	0.908	0.931	0.731	YES
	D1.2_BestMsia	0.850				
	D1.3_QuaEdu	0.882				
	D1.4_BestProg	0.855				
	D1.5_ProudGrad	0.849				
D02_Recognition	D2.1_RecogHomeCountry	0.915	0.823	0.919	0.849	YES
	D2.2_RecogWorld	0.928				
D03_Ranking	D3.1_HiRankMsia	0.916	0.769	0.896	0.812	YES
	D3.2_HiRankWorld	0.886				

Source : Survey data

Note : The full explanation of items is found in the survey questionnaire in Appendix 2.

Table 20   Cross Loading of Factors for Image Construct

Items	D01 Brand	D02 Recog	D03 Ranking
D1.1_GdNameMsia	**0.839**	0.560	0.560
D1.2_BestMsia	**0.850**	0.432	0.595
D1.3_QuaEdu	**0.882**	0.482	0.571
D1.4_BestProg	**0.855**	0.464	0.535
D1.5_ProudGrad	**0.849**	0.599	0.567
D2.1_RecogHomeCountry	0.521	**0.915**	0.496
D2.2_RecogWorld	0.573	**0.928**	0.584
D3.1_HiRankMsia	0.649	0.577	**0.916**
D3.2_HiRankWorld	0.536	0.476	**0.886**

Source : Survey data

Note : The full explanation of items is found in the survey questionnaire in Appendix 2.

Table 21   Results of Fornell-Larker for Image Construct

Factor	D01_Brand	D02_Recog	D03_Ranking
D01_Brand	**0.855**		
D02_Recognition	0.595	**0.922**	
D03_Ranking	0.661	0.588	**0.901**

Note :
(1) Diagonal elements shaded and highlight oin bold represent the square root of AVE. Off diagonal elements are simple bivariate correaltions between ocnstructs.
(2) The full explanation of items is found in the survey questionnaire in Appendix 2.

Source : Survey data

Table 22   Results of Heterotrait-Monotrait Ratio (HTMT) for Image Construct

Factor	D01_Brand	D02_Recog	D03_Ranking
D01_Brand	-		
D02_Recognition	**0.685**	-	
D03_Ranking	**0.787**	0.732	-

Note : The full explanation of items is found in the survey questionnaire in Appendix 2.

Source : Survey data

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Table 23   Results of Assessment for Internal Consistency and Convergent Validity for Perceived Value Construct

Factor	Item	Outer Loading	CA	CR	AVE	Convergent Validity (AVE>0.5)
E01Fee	E1.1_GdInvestmt	0.866	0.872	0.921	0.796	YES
	E1.2_ReasonableFee	0.914				
	E1.3_ValueforMoney	0.896				
E02CoLiv	E2.1_LvgStudyCost	0.845	0.864	0.908	0.711	YES
	E2.2_FoodCost	0.857				
	E2.3_AccomCost	0.852				
	E2.4_TrspttnCost	0.818				
E03OVG	E3.1_LvgExp	0.848	0.886	0.921	0.745	YES
	E3.2_EnjoyQLife	0.876				
	E3.3_KnowMsia	0.864				
	E3.4_IntlExpo	0.865				

Note : The full explanation of items is found in the survey questionnaire in Appendix 2.

Source : Survey data

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Table 24   Cross Loading of Factors for Perceived Value Construct

Items	E01Fee	E02CoLiv	E03OVG
E1.1_GdInvestmt	**0.866**	0.532	0.491
E1.2_ReasonableFee	**0.914**	0.529	0.433
E1.3_ValueforMoney	**0.896**	0.529	0.435
E2.1_LvgStudyCost	0.519	**0.845**	0.501
E2.2_FoodCost	0.452	**0.857**	0.475
E2.3_AccomCost	0.514	**0.852**	0.451
E2.4_TrspttnCost	0.516	**0.818**	0.489
E3.1_LvgExp	0.478	0.515	**0.848**
E3.2_EnjoyQLife	0.459	0.504	**0.876**
E3.3_KnowMsia	0.440	0.494	**0.864**
E3.4_IntlExpo	0.371	0.447	**0.865**

Note : The full explanation of items is found in the survey questionnaire in Appendix 2.

Source : Survey data

Table 25   Results of Fornell-Larker for Perceived Value Construct

Factor	E01Fee	E02CoLiv	E03OVG
E01_Fee	**0.892**		
E02_CoLiv	0.594	**0.843**	
E03_OVG	0.508	0.569	**0.863**

Note : (1) Diagonal elements shaded and highlight oin bold represent the square root of AVE. Off diagonal elements are simple bivariate correaltions between ocnstructs.

(2) The full explanation of items is found in the survey questionnaire in Appendix 2.

Source : Survey data

Table 26 Results of Heterotrait-Monotrait Ratio (HTMT) for Perceived Value Construct

Factor	E01Fee	E02CoLiv	E03OVG
E01_Fee	-		
E02_CoLiv	0.684	-	
E03_OVG	0.576	0.648	-

Note : The full explanation of items is found in the survey questionnaire in Appendix 2.

Source : Survey data

Table 27   Table of Comparison on the Assessment of Internal Consistency and Convergent Validity for Low Loading Item for Post Behavioural Construct

Factor	Low Loading Item	Results if All Items are Kept		Results if Item is Deleted		Decision is Based on Improvement of Reliability Score AND/OR Content Validity
		CA	CR	CA	CR	
F02_Loyalty	F1.4 (0.645) F2.3 (0.638)	0.783	0.861	0.798	0.882	To Delete

Note : The full explanation of items is found in the survey questionnaire in Appendix 2.

Source : Survey data

Table 28   Results of Assessment for Internal Consistency and Convergent Validity for Post Behavioural Construct

Factor	Item	Outer Loading	CA	CR	AVE	Convergent Validity (AVE≥0.5)
F01 WoM	F1.1_TalkAbtMyUni	0.862	0.861	0.906	0.709	YES
	F1.2_InforToFriends	0.879				
	F1.3_RecomUni	0.867				
	F2.2_RecomMsia	0.753				
F02Loyalty	F1.5_PGStudy	0.864	0.798	0.882	0.713	YES
	F1.6_JAlumni	0.828				
	F2.1_ChooseMsia	0.840				

Note : The full explanation of items is found in the survey questionnaire in Appendix 2.

Source : Survey data

Table 29   Cross Loading of Factors for Post Behavioural Construct

Items	F01WoM	F02Loyalty
F1.1_TalkAbtMyUni	**0.862**	0.470
F1.2_InforToFriends	**0.879**	0.443
F1.3_RecomUni	**0.867**	0.553
F2.2_RecomMsia	**0.753**	0.591
F1.5_PGStudy	0.516	**0.864**
F1.6_JAlumni	0.531	**0.828**
F2.1_ChooseMsia	0.505	**0.840**

Note : The full explanation of items is found in the survey questionnaire in Appendix 2.

Source : Survey data

Table 30   Results of Fornell-Larker for Post Behavioural Construct

Factor	F01WoM	F02Loyalty
F01_WoM	**0.842**	
F02_Loyalty	0.613	**0.844**

Note :
(1) Diagonal elements shaded and highlight oin bold represent the square root of AVE. Off diagonalmelements are simple bivariate correaltions between ocnstructs.
(2) The full explanation of items is found in the survey questionnaire in Appendix 2.

Source : Survey data

Table 31   Results of Heterotrait-Monotrait Ratio (HTMT) for Post Behavioural Construct

Factor	F01WoM	F02Loyalty
F01_WoM	-	
F02_Loyalty	**0.738**	-

Note : The full explanation of items is found in the survey questionnaire in Appendix 2.

Source : Survey data

2) *Survey Questionnaire*

(For Administrator Only)

Respondent's Code : _____

Institution's Code : _____

Date : _____

Data Entry : _____

Greetings!

Thank you for participating in this questionnaire.

I am Chong Pui Yee, a PhD student at the Institute of Malaysian and International Studies (IKMAS), Universiti Kebangsaan Malaysia (UKM). The title of my research is "Internationalization of Higher Education : Factors Influencing International Students' Satisfaction in Malaysia".

The objective of this questionnaire is to collect data to (1) identify the level of satisfaction and (2) understand factors that influence satisfaction of international students studying at selected private universities in Malaysia.

This questionnaire is intended for **international students** who are pursuing **degree programme** and in their **second year and above**. You are invited to fill in this survey, which will take between 20-30 minutes to complete.

Please be assured that your responses will be treated with utmost confidentiality and the results will be consolidated with other respondents.

Please feel free to contact us if you need any clarification.

Once again, thank you for your cooperation and participation in this research.

Ph.D Candidate:
Chong Pui Yee
Student ID Number: P55673
012-398 1933 / chongpy@yahoo.com

Supervisors:
1. Prof. Tham Siew Yean, Adjunct Professor
2. Dr. Andrew Kam Jia Yi, Fellow
Institute of Malaysian and International Studies (IKMAS)
UNIVERSITI KEBANGSAAN MALAYSIA
Bangi, Selangor, Malaysia

PART 1 : RESPONDENT'S PROFILE (Please fill-in or tick the appropriate box).

1.1. Age : _____   1.2. Gender/Sex : ☐ Male   ☐ Female

1.3. Country of Origin : _____   1.4. Marital Status: ☐ Single   ☐ Married

☐ Others _____

1.5. Religion : ☐ Buddhist ☐ Christian ☐ Hindu ☐ Muslim ☐ None

☐ Others, please specify_____

1.6. How long have you been in Malaysia?

☐ more than a year but less than 2 years
☐ 2 years
☐ 3 years
☐ 4 years
☐ 5 years and more

1.7. Language used in your home country when you were at school :

☐ Arabic   ☐ Chinese ☐ English ☐ French ☐ Hindi   ☐ Indonesia ☐ Persian

☐ Others, please specify _____

1.8. Which university are you currently enrolled in? _____

1.9. What is the field of your study?

☐ **Social Sciences, Business & Law**
(Business Administration, Business Management, Business Studies, Law, Accounting, Finance, Economics, Psychology, Sociology, Mass Communication, Sports Health & Fitness & other related disciplines)

☐ **Arts & Humanities**
(Language & Linguistics, Religion Studies, Arts, Design, Music, Fashion, Performing Arts, History and other related disciplines)

☐ **Education**
(Early Child Care Education, Primary & Secondary Education, TESL, Education Management and other related disciplines)

☐ **Science, Mathematics & Computer**
(Chemistry, Physics, Biology, Geology, Actuarial Science, Statistics, Mathematics, Computer Science, Information Technology, Software Engineering and other related disciplines)

☐ **Engineering, Manufacturing & Construction**
(Civil, Mechanical, Electrical, Electronics, Chemical, Power, Quantity Surveying, Architecture, Interior Architecture, Aviation, maritime, Industrial Design and other related disciplines)

☐ **Agriculture & Veterinary**
(Crop Science, Soil Science, Animal Science, Forestry and other related disciplines)

Health & Welfare
(Medicine, Dentistry, Pharmacy, Medical Biotech, Optometry, Physiotherapy, Food Science, Medical Science, Nutrition and other related disciplines)

Services
(Hospitality, Tourism, Culinary, Event Management and other related disciplines)

Others, please specify : _____

1.10. How many years have you been enrolled in your present university?

more than a year but less than 2 years   4 years
2 years   5 years and more
3 years

1.11. Which year of your degree program are you in?

second year   fourth year
third year   fifth year

1.12. Who pay for your study (tick the one that pay the most)?

self-funded (pay by myself)
parents
husband/wife
other family members
scholarship or other award
loan
government
employer
others (please specify) _____

1.13. What is your current CGPA?

below 2.0   2.0 – 2.99   3.0-3.59   3.60-4.0

2.0 Before you proceed to **PART 2**, please rate your **Overall Satisfaction** during your study and living in Malaysia.

Extremely satisfied
Very Satisfied
Satisfied
Dissatisfied
Very dissatisfied

PART 2 - Section A : Academic Services on the Campus

Please rate each statement below by circling the scale provided.

1 = Strongly disagree
2 = Disagree
3 = Somewhat Agree
4 = Agree
5 = Strongly agree
N/A = Not Applicable

A1. Course/Syllabus/Subject	Strongly Disagree ---- Strongly Agree					
A1.1 The program that I register for has syllabus/subjects relevant to my future job and career prospect.	1	2	3	4	5	N/A
A1.2 The program that I register for has syllabus/subject that increases my knowledge and interest.	1	2	3	4	5	N/A
A1.3 The program that I register for has syllabus/subject that is of international standard.	1	2	3	4	5	N/A
A1.4 The program that I register for has syllabus/subject that is up-to-date.	1	2	3	4	5	N/A
A2. Course/Subject Material	Strongly Disagree ----Strongly Agree					
A2.1 The course/subject material helps me to understand the subject.	1	2	3	4	5	N/A
A2.2 The course/subject material is useful and relevant.	1	2	3	4	5	N/A
A2.3 The course/subject material is interesting.	1	2	3	4	5	N/A
A2.4 The course/subject material is easily obtained or accessible.	1	2	3	4	5	N/A
A2.5 The course/subject material is of international standard.	1	2	3	4	5	N/A
A3. Course Delivery	Strongly Disagree ----Strongly Agree					
A3.1 Lecturers use a mixture of teaching methods e.g. lecture, video, case study, discussion, hands-on, site visit etc.	1	2	3	4	5	N/A
A3.2 There is a two-way communication between lecturers and students in the class. (e.g. I can ask question and express ideas in the class).	1	2	3	4	5	N/A
A3.3 Lesson is interesting and can capture attention of students.	1	2	3	4	5	N/A
A3.4 Lesson that can make me understand through explanation and giving examples.	1	2	3	4	5	N/A
A3.5 There are opportunities to work with students from other countries.	1	2	3	4	5	N/A
A3.6 The number of students in my class is appropriate.	1	2	3	4	5	N/A

A4. Course Assessment	Strongly Disagree ⟶ Strongly Agree					
A4.1 The assessments are based on the course/subject content.	1	2	3	4	5	N/A
A4.2 The assessment have different methods e.g quiz, test, assignment, case study, final exam etc.	1	2	3	4	5	N/A
A4.4 The assessment (quiz, test, assignment etc.) is well scheduled. It is not cram or given at the end of the semester.	1	2	3	4	5	N/A
A4.5 The assessment are graded fairly.	1	2	3	4	5	N/A
A4.6 The lecturers give feedback on the assessment.	1	2	3	4	5	N/A
A5. Admission Requirement	Strongly Disagree ⟶ Strongly Agree					
A5.1 The standard of admission requirement is high.			3		5	N/A
A5.2 My university has a system that recognizes my previous qualification and certificate and allows exemption.			3	4	5	N/A
A6. Lecturer	Strongly Disagree ⟶ Strongly Agree					
A6.1 Lecturers are good in teaching.		2	3	4	5	N/A
A6.2 Lecturers are qualified and knowledgeable.	1	2	3	4	5	N/A
A6.3 Lecturers motivate me to learn.	1	2	3	4	5	N/A
A6.4 Lecturers speak good English.	1	2	3	4	5	N/A
A6.5 Lecturers are reliable (on-time and do not cancel class) and available.	1	2	3	4	5	N/A
A6.6 Lecturers are fair and treat every student equally regardless of background and nationality (country).	1	2	3	4	5	N/A
A6.7 Lecturers are open-minded by accepting other people's opinions.	1	2	3	4	5	N/A
A6.8 Lecturers are helpful, kind and caring.	1	2	3	4	5	N/A
A6.9 Lecturers are from different countries.	1	2	3	4	5	N/A
A7. Engagement with Other Students	Strongly Disagree ⟶ Strongly Agree					
A7.1 I can easily join group discussions and do group assignment with Malaysian students.	1	2	3	4	5	N/A
A7.2 I get help and support from Malaysian students.	1	2	3	4	5	N/A
A7.3 I can easily join group discussion and do group assignment with international students.	1	2	3	4	5	N/A
A7.4 I get help and support from international students.	1	2	3	4	5	N/A

A8. Laboratory & Computer Lab Facilities	Strongly Disagree —-Strongly Agree					
A8.1 The laboratory & computer lab facilities are up-to-date.	1	2	3	4	5	N/A
A8.2 The laboratory & computer lab facilities are equipped to support my learning.	1	2	3	4	5	N/A
A8.3 The laboratory & computer lab facilities are enough for all users.	1	2	3	4	5	N/A
A8.4 I can use the laboratory & computer lab facilities at the time convenient to me.	1	2	3	4	5	N/A
A9. Library Facilities	Strongly Disagree —-Strongly Agree					
A9.1 The staff at the library are knowledgeable to assist me.		2	3		5	N/A
A9.2 The library is quiet and has conducive environment for study and group discussion.			3	4	5	N/A
A9.3 The library has adequate resources e.g. books, journals, online materials to support my learning.	1	2	3	4	5	N/A
A9.4 I can easily access and download online materials when I am out of campus.	1	2	3	4	5	N/A
A10. Internet Access and Connection	Strongly Disagree —-Strongly Agree					
A10.1 There is internet connection on campus.	1	2	3	4	5	N/A
A10.2 The internet connection is always available in the campus.	1	2	3	4	5	N/A
A10.3 The on-campus internet connection, is of high speed connection.	1	2	3	4	5	N/A
A11. Classroom / Lecture Hall	Strongly Disagree —-Strongly Agree					
A11.1 The university has comfortable classrooms and lecture halls (adequate natural sunlight, windows, good ventilation, comfortable temperature etc.)	1	2	3	4	5	N/A
A11.2 The classrooms and lecture halls are equipped with quality teaching and learning equipment (e.g. multimedia).	1	2	3	4	5	N/A
A12. Academic Support	Strongly Disagree —-Strongly Agree					
A12.1 My university provides extra classes/tutorial/workshop/tuition that help me with my weak subjects.	1	2	3	4	5	N/A
A12.2 My university supports and helps me in getting internship placement in Malaysia.	1	2	3	4	5	N/A

PART 2 - Section B : Non-Academic Services On the Campus

B1. Student Administrative Services (e.g. International Office/Registrar Office/Student Affairs/Finance Department)	Strongly Disagree —Strongly Agree					
B1.1 The office is open at the time convenient for me.	1	2	3	4	5	N/A
B1.2 Support staff is knowledgeable about rules and procedures.	1	2	3	4	5	N/A
B1.3 Support staff is capable to solve problems when it arises.	1	2	3	4	5	N/A
B1.4 Support staff provides reliable and efficient services.	1	2	3	4	5	N/A
B1.5 Support staff possesses good communication skill and provide feedback.	1	2	3	4	5	N/A
B1.6 Support staff possesses good command of English.	1	2	3	4	5	N/A
B1.7 Support staff shows concern and care about students.			3		5	N/A
B1.8 There is a place/department where I can make a complaint.			3	4	5	N/A
B2. Orientation	Strongly Disagree —Strongly Agree					
B2.1 Someone from the university picked me up from the airport when I arrived in Malaysia.	1	2	3	4	5	N/A
B2.2 The orientation program provided information to equip me with my living on the campus. (e.g. academic briefing, faculty members, tour of campus etc.)	1	2	3	4	5	N/A
B2.3 The orientation program provided information to equip me with my living in Malaysia. (e.g. basic Malay language for daily communication, cultures and rules in Malaysia)	1	2	3	4	5	N/A
B3. On-Campus Accommodation	Strongly Disagree —Strongly Agree					
B3.1 My university provides affordable accommodation.	1	2	3	4	5	N/A
B3.2 My university provides accommodation with good condition and facilities.	1	2	3	4	5	N/A
B3.3 My university provides accommodation that has comfortable living environment (e.g. quiet, peaceful, clean, privacy etc.).	1	2	3	4	5	N/A
B4. Transportation (provided by university)	Strongly Disagree —Strongly Agree					
B4.1 My university provides reliable transportation services within the campus.	1	2	3	4	5	N/A
B4.2 My university provides transportation services to important places out-of-campus (e.g. KTM/LRT station, nearby mall).	1	2	3	4	5	N/A
B4.3 My university provides infrastructure for students to cycle or walk on the campus (e.g. covered walk way or cycling track etc.).	1	2	3	4	5	N/A
B4.4 My university provides transportation services to students who live out of campus.	1	2	3	4	5	N/A
B4.5 My university has many parking spaces on the campus.	1	2	3	4	5	N/A

B5. Food on the Campus	Strongly Disagree ——Strongly Agree					
B5.1 My university has food stall/food court/cafeteria that sells food that meets my needs.	1	2	3	4	5	N/A
B5.2 My university has food court or cafeteria that has comfortable environment (e.g. easy to find a seat, good ventilation, clean etc.)	1	2	3	4	5	N/A
B6. Healthcare on the Campus	Strongly Disagree ——Strongly Agree					
B6.1 My university provides healthcare services on campus or near the campus (e.g. clinics or dispensary).	1	2	3	4	5	N/A
B6.2 The clinic on my campus has competent (qualified & good) doctors or pharmacists.	1			4	5	N/A
B6.3 The clinic provides the right treatment and medication.	1		3	4	5	N/A
B7. Safety & Security on the Campus	Strongly Disagree ——Strongly Agree					
B7.1 I feel secure and safe when I am on the campus.			3	4	5	N/A
B7.2 I feel that my property or belongings (laptop, hand phone, car, motorcycle etc.) are safe when I am on the campus.	1	2	3	4	5	N/A
B8. Financial Assistance	Strongly Disagree ——Strongly Agree					
B8.1 My university provides scholarship for me.	1	2	3	4	5	N/A
B8.2 My university provides subsidy or discount for me.	1	2	3	4	5	N/A
B8.3 My university provides study loan for me.	1	2	3	4	5	N/A
B8.4 My university allows me to work part-time on the campus.	1	2	3	4	5	N/A
B9. Sports & Recreation	Strongly Disagree ——Strongly Agree					
B9.1 My university has sports facilities. (e.g. gym, field, courts, swimming pool etc.)	1	2	3	4	5	N/A
B9.2 My university has good condition of sports facilities. (e.g. gym, field, courts, swimming pool etc.)	1	2	3	4	5	N/A
B9.3 My university has a lively campus (e.g. many sporting events and activities held on the campus).	1	2	3	4	5	N/A
B10. Clubs & Society	Strongly Disagree ——Strongly Agree					
B10.1 My university has clubs and societies on the campus for me to join.	1	2	3	4	5	N/A
B10.2 My university has clubs and societies that are active on the campus for me to join.	1	2	3	4	5	N/A
B10.3 My university has International Student Society.	1	2	3	4	5	N/A
B10.4 My university has International Student Society that is active (organizes activities and events).	1	2	3	4	5	N/A

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B11. Career Guidance	Strongly Disagree —Strongly Agree					
B11.1 My university provides guidance and information on career (workshop, talks, resume writing, interview skills, career fair).	1	2	3	4	5	N/A
B11.2 My university disseminates (give) information on career opportunity.	1	2	3	4	5	N/A
B12. Care & Belongingness	Strongly Disagree —Strongly Agree					
B12.1 My university is concerned about the needs of international students.	1	2	3	4	5	N/A
B12.2 My university cares about me.	1	2		4	5	N/A
B12.3 My university has a person-in-charge that I can get help from when I am in need or in trouble. (e.g. a person from International Office that I can call for help).			3		5	N/A
B12.4 My university provides counseling services for students when they have problems.	1	2	3	4	5	N/A
B12.5 My university has environment for me to practice my religion on the campus. (e.g. place to worship, fellowship, halal food, vegetarian food, wearing of hijab etc.)		2	3	4	5	N/A
B13. Diversity of Student Population	Strongly Disagree —Strongly Agree					
B13.1 My university has many international students.	1	2	3	4	5	N/A
B13.2 My university has international students from different countries.	1	2	3	4	5	N/A
B13.3 My university provides opportunities for interaction between local and international students.	1	2	3	4	5	N/A
B14. Location of Campus	Strongly Disagree —Strongly Agree					
B14.1 My university is located near to public transportation services. (e.g. bus-stop or taxi stand, KTM/LRT Station).	1	2	3	4	5	N/A
B14.2 There are many houses or rooms for rent near my campus.	1	2	3	4	5	N/A
B14.3 My university is located near places for leisure activities (e.g. shopping mall, supermarket, fitness center etc.)	1	2	3	4	5	N/A
B14.4 My university is located in or close to a major city in Malaysia.	1	2	3	4	5	N/A
B15. Physical Building & Environment on the Campus	Strongly Disagree —Strongly Agree					
B15.1 My university provides the environment of a campus/university.	1	2	3	4	5	N/A
B15.2 My university has good building and infrastructure to operate as a university.	1	2	3	4	5	N/A

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PART 2 - Section C : External Environment (Outside of Campus)

C1. Social Support (Relatives & Friends)	Strongly Disagree —Strongly Agree					
C1.1 I have family members or relatives that help and provide emotional support for me while in Malaysia.	1	2	3	4	5	N/A
C1.2 I can easily make friends with Malaysians.	1	2	3	4	5	N/A
C1.3 I have Malaysian friends who support and help me when I am in need.	1	2	3	4	5	N/A
C1.4 I can easily make friends with international students of different nationalities.	1	2	3	4	5	N/A
C1.5 I have international friends of different nationalities who support and help me when I am in need.	1	2		4	5	N/A
C1.6 I have friends from my home country (same nationality) who provide me with support and companionship in Malaysia.			3	4	5	N/A
C2. Society & Community	Strongly Disagree —Strongly Agree					
C2.1 I have Malaysian friends who are not from my university.	1	2	3	4	5	N/A
C2.2 I make friends with Malaysian neighbour.		2	3	4	5	N/A
C2.3 My Malaysian neighbor(s) invited me to their house during festive season, celebrations or social gathering (e.g. Hari Raya, Chinese New Year, Deepavali, Christmas, birthday etc.)	1	2	3	4	5	N/A
C2.4 Malaysia has a friendly community, easy to get along and live with.	1	2	3	4	5	N/A
C2.5 Malaysians in general are helpful.	1	2	3	4	5	N/A
C2.6 I feel comfortable joining activity organized by the community where I live.	1	2	3	4	5	N/A
C3. Safety & Security in Malaysia	Strongly Disagree —Strongly Agree					
C3.1 I feel secure and safe when I am outside of campus.	1	2	3	4	5	N/A
C3.2 I feel that my property or belongings (laptop, hand phone, car, motorcycle etc.) are safe when I am outside of campus.	1	2	3	4	5	N/A
C4. Discrimination	Strongly Disagree —Strongly Agree					
C4.1 I feel welcomed & accepted by Malaysian.	1	2	3	4	5	N/A
C4.2 I receive same treatment like other Malaysians (e.g. renting a room/house, healthcare services, authority etc.)	1	2	3	4	5	N/A
C4.3 I receive the same opportunity like other Malaysians (e.g. internship, scholarship, job opportunity etc.)	1	2	3	4	5	N/A

C5. Language & Communication	Strongly Disagree —Strongly Agree					
C5.1 I can talk to my Malaysian friends.	1	2	3	4	5	N/A
C5.2 I can talk to my lecturers.	1	2	3	4	5	N/A
C5.3 I can talk to Malaysian in general (e.g. taxi drivers, people who sell things, ordering food, my landlord etc.).	1	2	3	4	5	N/A
C5.4 Language is not a problem/barrier for me to live in Malaysia.	1	2	3	4	5	N/A
C5.5 I can communicate with Malaysian in English.	1	2	3	4	5	N/A
C6. Culture	Strongly Disagree —Strongly Agree					
C6.1 I know the culture and customs in Malaysia.	1	2	3	4	5	N/A
C6.2 I understand the multi-ethnic and multi-cultural differences in Malaysia.	1	2	3	4	5	N/A
C6.3 Malaysian culture is almost similar to my home country.	1	2	3	4	5	N/A
C7. Food	Strongly Disagree —Strongly Agree					
C7.1 I can find food that I like in Malaysia.	1	2	3	4	5	N/A
C7.2 I can find ingredients or spices to cook my choice of food in Malaysia.	1	2	3	4	5	N/A
C8. Public Transportation (outside the campus)	Strongly Disagree —Strongly Agree					
C8.1 I can easily find public transportation services in Malaysia (e.g. always available).	1	2	3	4	5	N/A
C8.2 The public transportation services in Malaysia is available. (e.g. on-time)	1	2	3	4	5	N/A
C8.3 The condition of public transportation services in Malaysia are comfortable and clean.	1	2	3	4	5	N/A
C8.4 Peoples who provide transportation services are friendly, helpful and honest (e.g. bus driver, taxi driver etc.)	1	2	3	4	5	N/A
C9. Healthcare (outside the campus)	Strongly Disagree —Strongly Agree					
C9.1 I have insurance coverage for medical and hospitalization.	1	2	3	4	5	N/A
C9.2 The health care providers (clinics/hospitals) have competent (qualified & good) doctors.	1	2	3	4	5	N/A
C9.3 The health care providers (clinics/hospitals) give the right treatment and medication.	1	2	3	4	5	N/A
C10. Location of Malaysia	Strongly Disagree —Strongly Agree					
C10.1 Malaysia is near my home country.	1	2	3	4	5	N/A
C10.2 I am able to go home frequently because Malaysia is near my country.	1	2	3	4	5	N/A
C10.3 My family members can visit me frequently as Malaysia is near my country.	1	2	3	4	5	N/A

C11. Attraction of Malaysia	Strongly Disagree —Strongly Agree					
C11.1 Malaysia has many places to visit and holiday (e.g. highlands, historical city, mountains, islands etc.)	1	2	3	4	5	N/A
C11.2 Malaysia has a lot of natural greenery (e.g. forest reserved, many trees and plants along highways, housing area etc.).	1	2	3	4	5	N/A
C11.3 Malaysia has many celebrations and festivals that I can experience or join.	1	2	3	4	5	N/A
C11.4 I feel comfortable with the weather in Malaysia.	1	2	3	4	5	N/A
C11.5 I can find and attend places of worship of my religion in Malaysia (Mosque, Temple, Church etc.).	1	2	3	4	5	N/A
C11.6 I can practice my religion easily in Malaysia (e.g. halal food, surau, vegetarian food, dress-code like hijab etc.).	1	2	3	4	5	N/A
C12. Government & Legal Framework	Strongly Disagree ----Strongly Agree					
C12.1 Malaysian government and the government of my country has good relationship.	1	2	3	4	5	N/A
C12.2 The Malaysian Government grants me visa to study in Malaysia.	1	2	3	4	5	N/A
C12.3 The time taken to process my visa is acceptable.	1	2	3	4	5	N/A
C12.4 The services provided by people processing the visa is good and efficient.	1	2	3	4	5	N/A
C12.5 The cost of visa application and visa renewal is reasonable.	1	2	3	4	5	N/A
C12.6 Malaysian government allows me to work when I am still studying.	1	2	3	4	5	N/A
C12.7 Malaysian government allows me to work after my graduation.	1	2	3	4	5	N/A
C12.8 Malaysian government allows me to migrate to Malaysia.	1	2	3	4	5	N/A
C13. Industrial Training/ Internship	Strongly Disagree ----Strongly Agree					
C13.1 I have the opportunity of industrial placement (internship) in Malaysia.	1	2	3	4	5	N/A
C13.2 I can easily find industrial placement (internship) in Malaysia.	1	2	3	4	5	N/A

PART 2 - Section D : Image/Brand/Reputation

D1. Brand	Strongly disagree ---Strongly agree				
D1.1 I believe my university has good name and reputation in Malaysia.	1	2	3	4	5
D1.2 I believe my university is the best private university in Malaysia.	1	2	3	4	5
D1.3 I believe my university delivers quality education.	1	2	3	4	5
D1.4 I believe my university offers the best program that I enrolled in.	1	2	3	4	5
D1.5 I am proud to graduate from my university.	1	2	3	4	5
D2. Recognition	Strongly disagree ---Strongly agree				
D2.1 The degree from my university is recognized by my home country.	1	2	3	4	5
D2.2 The degree from my university is recognized worldwide.	1	2	3	4	5
D3. Ranking & Rating	Strongly disagree ---Strongly agree				
D3.1 I believe my university is highly ranked among Malaysian universities (e.g SETARA Rating or national university rating).		2	3	4	5
D3.2 I believe my university are highly ranked internationally (e.g World University ranking).	1	2	3	4	5

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PART 2 - Section E : Value for Money

E1. Fee	Strongly disagree —Strongly agree				
E1.1 A degree from my university is a good investment.	1	2	3	4	5
E1.2 The university that I enrolled in has reasonable (acceptable) fee as compared to other universities.	1	2	3	4	5
E1.3 The university that I enrolled in has fees that offer good value for money for the services provided.	1	2	3	4	5
E2. Cost of Living	Strongly disagree —Strongly agree				
E2.1 I can afford (able to pay) the cost of living and studying in Malaysia.	1	2	3	4	5
E2.2 The price of food is reasonable and affordable for me (applicable to stay-on campus or out of campus).	1	2	3	4	5
E2.3 The cost of accommodation is reasonable and affordable for me (applicable to stay-on campus or out of campus)	1	2	3	4	5
E2.4 The cost of transportation is reasonable and affordable for me (applicable to stay-on campus or out of campus).	1	2	3	4	5
E3. Other Value Gained	Strongly disagree —Strongly agree				
E3.1 I gained valuable living experience in Malaysia.	1	2	3	4	5
E3.2 I enjoyed the quality of life in Malaysia.	1	2	3	4	5
E3.3 I appreciate knowing about Malaysia and its people.	1	2	3	4	5
E3.4 I gained international exposure.	1	2	3	4	5

PART 2 - Section F : Post Behavior (after your experience of studying and living in Malaysia)

F1. Post Behavior	Strongly disagree ---Strongly agree				
F1.1 I like talking about my university to my friends.	1	2	3	4	5
F1.2 I like helping other potential (interested) students by providing them with information about my university and its courses.	1	2	3	4	5
F1.3 I am willing to recommend the academic program or my university to others.	1		3	4	5
F1.4 I wish to maintain contact with the lecturers in my university.	1	2	3	4	5
F1.5 I will select the same university again for future study.	1	2		4	5
F1.6 I will join alumni of my university.	1	2	3	4	5
F2.1 I will choose Malaysia again for future study.	1	2	3	4	5
F2.2 I am willing to recommend Malaysia as study destination to others.		2	3	4	5
F2.3 I plan to work in Malaysia after graduation.	1	2	3	4	5

-End-

Thank you for your time!

Global education: The need for innovative approach towards engaging intellectually brilliant students

Isaac Atta Senior Ampofo and Isaac Atta Junior Ampofo*

Abstract: Education is recognized as a universal vehicle for the transmission of values' and ideas' for the development of the complete individual in connection to society's changing reality. High-quality education can help individuals develop their minds and help society transform economically, socially, and politically. The quality of education provided to such individuals brings out intellectually brilliant students who need to be engaged in a way that will help them utilize their intellectual abilities. What then are the needs of intellectually brilliant students in today's education? To probe further, the study explores the innovative approach to achieve the intellectually brilliant students' needs. A qualitative approach was adopted for the study. Ten intellectually brilliant students were studied as case studies. Semi-structured 45-minute focus groups/interviews were conducted with the selected students, resulting in a total of 10 interviewees. Intellectually brilliant students need worldwide technological collaboration to grow their intellectual abilities to meet the needs of the world in terms of human resources, food security, job creation, infrastructure development, and social stability. Field teachers need tolerance, effort, and time to assess their own sentiments toward intellectually brilliant students and come up with teaching goals with them. Intellectually brilliant students need worldwide technological collaboration to grow

* **Isaac Atta Senior Ampofo** (correspondent author, ampofoisaac10@yahoo.com) is a PhD Information Technology student at the Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.

Isaac Atta Junior Ampofo (ampofoisaac159@yahoo.com), a graduate in MSc. Management and Human Resource Strategy, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.

More information about the authors is available at the end of the article.

Intellectually brilliant students need worldwide technological collaboration to grow

their intellectual abilities to meet the needs of the world in terms of human resources, food security, job creation, infrastructure development, and social stability.

Keywords: Education; innovative approach; student needs; brilliant students; intellectual; teacher.

I. Introduction

Education is recognized as a universal vehicle for values and ideas transmission[1] for the development of the complete individual in connection to society's changing reality.[2] Various groups have proposed ideas over the years to refocus educational goals on the socioeconomic demands of society.[3] For education to be a successful instrument in tackling societal problems, it may be necessary to indigenize resources in educational programs.[4,5] The quality of knowledge provided through educational institutions is essential to a country's competitiveness.[6] Only high-quality education can help individuals develop their minds while also assisting society in economic, social, and political transformation.[7,8] The quality of education provided to such individuals brings

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out intellectually brilliant students who need to be engaged in a way that will help them utilize their intellectual abilities.[9],[10] To this article, intellectually brilliant students are defined as students who are naturally innovative, knowledgeable, and brilliant in a specific area. These intellectually brilliant students can do intellectual things through visions and dreams they get about themselves and are able to practice them. Intellectually brilliant students are not common in society, and it is very difficult to identify such individuals.[11],[12] Therefore, how are these intellectually brilliant students identified? To probe further, what are the behavioral characteristics of an intellectually brilliant student? It is not necessary for a brilliant student to be inherently brilliant. A clever student is simply one who studies excellently, working with rather than against his or her brain's natural processes.[13],[14] The increase in an individual's ability to think and reason is referred to as cognitive or intellectual development.[15] Not frequently, but we see such students showing their abilities through innovations and creativity.[16]

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[16] Gavkhar Nazarkulovna Pirmanova, Musallam Akhmadovna Safarova, Zilola Farmonovna Khalilova, Nargiza Samartdinovna Tashpulatova, and Nodira Suyundikovna

Students with intellectual abilities show their talent by producing aeroplanes, cars, trains, light from renewable sources of energy, products to serve as a supplement to building materials, advancing theories etc. These intellectual students can develop and identifying their capabilities through formal and informal education.[17],[18] Some of such individuals find themselves in a good environment that will help them develop and grow their abilities through the help of investors, entrepreneurs, philanthropists, and formal education at an early stage.[19] On the other hand, many of these intellectual students do not get the support from formal education that will help them develop and grow their talents. They are normally found in countries where their education systems are not too dynamic. In some developed and developing countries, their education systems do not provide an avenue for intellectually brilliant students, so they end up dropping their abilities to follow the mass.[20] Thus, there is a need for such countries to develop an innovative approach to engage intellectually brilliant students. Therefore, what innovative approach is needed for intellectually brilliant students? The innovative approach can be implemented in various educational institutions through the teachers. These teachers will need effective development professionals to keep their knowledge and skills up to date in a continually changing educational environment to meet intellectually brilliant students' needs.[21] Continuous school improvement and traditional educational practices based largely on undertaking more of similar nonetheless better are widely

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Normatova, "Development of intellectual and creative activity of teenagers in the study of historical and cultural monuments of England," *Linguistics and Culture Review* 5, no. S2 (2021): 1346-1354, https://doi.org/10.21744/lingcure.v5nS2.1820.

[17] Elizabeth A. McCullough, Eva Y. Ma, Salwa Al-Noori, and Rebecca M. Price, "STEP forward: combining formal and informal education to develop communication skills that augment postdoctoral training," *Journal of STEM Outreach* 3, no. 1 (2020): 1-10, https://doi.org/10.15695/jstem/v3i1.12

[18] A. I. Satdykov, and B. A. Sazonov, "Recognition of qualifications obtained as a result of non-formal and informal learning: foreign experience and prospects for Russian practice," *Vysshee obrazovanie v Rossii= Higher Education in Russia* 29, no. 11 (2020): 98-111, https://doi.org/10.31992/0869-3617-2020-29-11-98-111.

[19] Archanya Ratana-Ubol, and Weerachat Soopunyo, "Community network development for integrating non-formal education and informal education in schools," *Kasetsart Journal of Social Sciences* 42, no. 3 (2021): 558-563, https://so04.tci-thaijo.org/index.php/kjss/article/view/253480.

[20] Sjur Bergan, "The European Higher Education Area: A road to the future or at way's end?," *Tuning Journal for Higher Education* 6, no. 2 (2019): 23-49, https://doi.org/10.18543/tjhe-6(2)-2019pp23-49.

[21] Risto Leinonen, Markku Haaranen, Mikko Kesonen, Mika Koponen, Pekka E. Hirvonen, and Mervi A. Asikainen, "Finnish Graduated Physics Teachers' Views about Their

acknowledged as ineffective.[22] Furthermore, the following study question is addressed by the study:

1. What are the needs of intellectually brilliant students?

II. Methodology

High school students from top three best Senior High Schools in Ghana made up the study population. The top three best Senior High Schools in Ghana are Prempeh College, Opoku Ware School, and Presbyterian Boys' Secondary School (PRESEC). Ten intellectually brilliant students were studied as case studies in this study. The selection criteria for students deemed intellectually brilliant were established based on traits like remarkable cognitive capacities, academic success, the ability to solve problems, and evidence of creativity or originality. Considering the identification of the intellectually brilliant students, their behavioral characteristics, and student needs were among the major themes. 'Every day, I learn something new'. 'Spaced repetition reinforces facts; studying using active recall, creating knowledge networks, seeking to make associations', and 'academic performance' were the major concerns in relation to the identification of intellectually brilliant students. Integrated STEM education, quality education, teacher knowledge, and innovative approaches were all sub-themes concerning students' needs. Examining the chosen students' present the nature of innovations and professional learning, along with the pertinent documentation materials (academic success, and evidence of creativity or originality) of these students, were among the data sources for the larger study. As a result, a mixed-methods approach was adopted. The goal of combining a variety of research methodologies and tools was to provide the researchers confidence in the conclusions while also assuring breadth, rigor, richness, and complexity of the data.[23] According to Miles and Huberman,[24] interviews were used as part

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Teacher Education Program: The Disparity between the Needs and Delivery," *Journal of technology and science education* 10, no. 1 (2020): 101-116, https://doi.org/10.3926/jotse.820.

[22] Rehaf A. Madani, "Analysis of Educational Quality, a Goal of Education for All Policy," *Higher Education Studies* 9, no. 1 (2019): 100-109, https://doi.org/10.5539/hes.v9n1p100.

[23] Uwe Flick, *The SAGE Handbook of Qualitative Research Design*, SAGE, (2022), https://www.torrossa.com/it/resources/an/5282289.

[24] Matthew B. Miles, and A. Michael Huberman, *Qualitative data analysis: An expanded sourcebook*. Sage, (1994): 27, https://books.google.co.uk/books?hl=en&lr=&id=U4lU_-wJ5Q EC&oi=fnd&pg=PR12&dq=Qualitative+data+analysis:+An+expanded+sourcebook&ots=kG TE3ETQWV&sig=8bPoEtMoQgdBCQ0JRV9yegt9g_I&redir_esc=y#v=onepage &q=Qualitative%20data%20analysis%3A%20An%20expanded%20sourcebook&f=false.

of the research process, as is customary in qualitative research, to "delve deeper into the motives of participants and their motives for replying as they do". Case studies were applied to investigate behavioral characteristics in precise settings of intellectually brilliant students,[25] with the goal of improving intellectual development and growth rather than making broad generalizations.[26] Propositions can then be established and utilized to relate components or concepts and propose generalizability, as Punch[27] explains, "bringing up notions or propositions for testing in later research." Purposive sampling was used in the selection procedure, meaning that participants were specifically picked based on their capacity to offer rich and informative data pertinent to the study issues. In this instance, the researchers looked for students who were willing to participate in the study and who satisfied the requirements for intellectual genius.

Using ten case-study students' purposive sample identified as intellectually brilliant over the past 20 years, this paper reflects on some of the data in connection to their precise needs and factors to consider in identifying intellectually brilliant students, as well as some examples cited by the students about their behavioral characteristics. Thus, the researchers looked through already-existing records, such as student performance reports, teacher recommendations, and/or evidence of creativity or originality. The researchers examined a wide variety of students from various cohorts or academic years. The researchers were able to identify patterns or trends in the requirements and traits of students with exceptional intellectual ability over time thanks to this longitudinal technique. Semi-structured 45-minute focus groups/interviews were conducted with the selected students, resulting in a total of 10 interviewees. This implies that the students themselves were involved in the selection process by self-nomination and teacher or peer nomination. The researchers were able to investigate several facets of the students' experiences and viewpoints because of the use of mixed methodologies. The student needs from teachers, students' needs for intellectual development, their identity and behavioral characteristics were among the topics discussed. Students were asked to identify their expectations of teachers, as well as any modifications made to classroom methods. The use of self-reflective reports by the selected students was a major strategy.

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[25] Louis Cohen, Lawrence Manion, and Keith Morrison, *Research methods in education*, Routledge, (2002), https://doi.org/10.4324/9780203224342.

[26] Robert E. Stake, "Qualitative case studies," *In N. K. Denzin & Y. S. Lincoln (Eds.), The Sage handbook of qualitative research* (3rd ed., pp. 443–466), (2005), Sage Publications Ltd.

[27] Keith F. Punch, *Introduction to social research: Quantitative and qualitative approaches*, Sage, (2013): 154, https://www.torrossa.com/en/resources/an/5019425

Whereas there are concerns about self-reporting with regards to socially desired deception and responses,[28] several researchers have stated that self-reported viewpoints are acknowledged as valid and valuable, particularly once combined with the analysis of other sources of data and student work samples.[29] This was followed by transcription, digital recording, and manual notetaking of interviews, which were applied in this research. Students were then requested to make any necessary changes to the written transcripts as well as provide any extra information or evidence of their needs. Multiple transcripts' read-throughs, putting notes in the margins about main concepts, and classifying and interpreting using coding open-ended were used to conduct the analysis, with main sub-themes and themes developing as a result.[30] With regards to ethics, permission for this study was received from Prempeh College, Opoku Ware School, and Presbyterian Boys' Secondary School (PRESEC)as well as the educational system concerned. Each interviewee/focus group participant gave their informed consent, and further verification was done by providing written transcripts to interviewees for alterations. Real names are substituted with […] in this report to protect confidentiality, especially regarding any direct quotations from interviewees. The research has limitations, such as only ten case studies and ten focus groups or interviews; it is likewise acknowledged that this is limited research with many self-reporting. Results should be regarded with caution regarding generalizability and transferability because of these constraints.

III. Findings

There were several instances outlined concerning how intellectually brilliant students can be identified because of their work and learning within innovation, with numerous student interviewees. One student, for example, who has learnt to be flexible with assessment and presenting styles, described

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[28] Thea F. Van de Mortel, "Faking it: social desirability response bias in self-report research," *Australian Journal of Advanced Nursing, The* 25, no. 4 (2008): 40-48, https://search.informit.org/doi/abs/10.3316/INFORMIT.210155003844269.

[29] Vicki Vescio, Dorene Ross, and Alyson Adams, "A review of research on the impact of professional learning communities on teaching practice and student learning," *Teaching and teacher education* 24, no. 1 (2008): 80-91, https://doi.org/10.1016/j.tate.2007.01.004.

[30] John W. Creswell, Vicki L. Plano Clark, Michelle L. Gutmann, and William E. Hanson, "Advanced mixed methods research designs,", *Handbook of mixed methods in social and behavioral research*, 209, no.240, (2003):209-240, https://books.google.co.uk/books?hl=en&lr=&id=F8BFOM8DCKoC&oi=fnd&pg=PA209&dq=Advanced+mixed+methods+research+designs.+&ots=gXbQyxuuQg&sig=MKe92aCzYK2Nb7wzelHfmRTroI0&redir_esc=y#v=onepage&q=Advanced%20mixed%20methods%20research%20designs.&f=false

an observation of a colleague who is an intellectually brilliant student, using academic excellence, and commented that:

> […] not all intellectually brilliant students excel academically. Some are bad because their abilities do not match the education system. Such students need an education system that will focus on their abilities for them to be able to develop their intellectuals (Student Interview 9).

The following are the remaining responses of the students:

> […] Every day, intellectually brilliant students learn something new. This method outperforms cramming in terms of long-term knowledge retention and recall. These tactics are certainly not similar. One of them is far superior to the other in terms of promoting long-term retention of the material (Student Interview 1).

> […] Spaced repetition is a study approach that allows intellectually brilliant students to pick and choose what they want to study and review on any given day. We meticulously schedule each follow-up review for a single fact using spaced repetition. The period between reviews gets longer with each successful review. The period between reviews gets shorter with each error. The timeline for each single fact is adjusted dependent on how well the student can recall that fact in spaced repetition review. Each well-timed review gives the student an opportunity to improve his or her memory (Student Interviews 7 and 5).

Spacing repetition has been shown to be effective. It allows students to retain more information with significantly less effort. Spacing repetition aids exceptional students in remembering and recalling what they have learnt.

Another student commented that "intellectually brilliant students actively recollect the material they are learning to make their memory as strong as possible" (Student Interview 10). Without studying, it is possible to hear a fact once and recall it correctly for days, weeks, or even months afterwards. It is feasible to transform students' minds into knowledge nets that catch knowledge in the same way that a fishnet catches fish. Knowledge nets are comprised of knowledge since they exist in our brains. The type of knowledge used to create the net will likely determine the type of knowledge it will catch. One student said that "for intellectually brilliant students, we can make a new net, and they will catch a whole new field of knowledge" (Student Interview 4). Another student commented that "intellectually brilliant students actively strive to build new linkages with it." They achieve this by actively exploring, reading, and researching for information that can be linked to something they've learned (Student Interview 3). Another student stated that "intellectually brilliant students learn by connecting new

information to information already available on the internet" (Student Interview 2). Knowledge networks become stronger as they are used more frequently. This behavior is referred to as "creating associations" by cognitive scientists. Making associations is the process of connecting one item of info in a student's lasting memory with another piece of information in his long-term memory. Both memories are strengthened because of this process. Also, making associations is the process of transforming long-term memory into sophisticated cognitive reasoning skills, allowing children to progress from memory to creative and original thinking. Another student commented that "intellectually brilliant students explore their abilities by following their instinct and thoughts" (Student Interview 6). Lastly, "intellectually brilliant" students get dreams and visions of their abilities being put into practice. That is where they will seek to accomplish that with or without the help of formal education or philanthropists (Student Interview 8).

IV. Behavioral characteristics of an intellectually brilliant student

Intellectual learners tend to take a lot of initiative in their learning at the start of their field placement assignment.[31] Because they have read widely, examined their circumstances, and formed a frame of reference within which they relate to social workers and clients, the students feel safe. The theoretical content of academic courses stimulates students, and they succeed in this area.[32] Their early case recordings reveal a curiosity in people, a willingness to guess about the meaning of behavior, and the ability to recognize both tangible and emotional difficulties. The following are the responses of the students:

> […] Intellectually brilliant students display remarkable skills in the diagnostic area as their field experience increases. They are well-organized, logical, succinct, and conceptual. However, when they are required to do more than just deliver physical services, issues may develop. These students grow irritated with the requirement to think through the exchanges needed in the relationship process because theoretical learning is so easy for them. Their expectations of themselves are high, and they are quickly disheartened by their lack of "doing" accomplishment (Student Interview 3).

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[31] Fareeda Ibad, "Personality and ability traits of teachers: student perceptions," *Journal of Education and Educational Development* 5, no. 2 (2018), ERIC.

[32] Rebecca L. Hagedorn, and Melissa D. Olfert, "Food insecurity and behavioral characteristics for academic success in young adults attending an Appalachian university," *Nutrients* 10, no. 3 (2018): 361, https://doi.org/10.3390/nu10030361.

Another student commented that "intellectually brilliant students are able to spot barriers in their initial encounter with people living in a career of their intellectual abilities." However, transitioning these students from a problem-solving mindset to a client-centered mindset is tough (Student Interview 6).

> […] Intellectually brilliant students over-prepare for interviews and become frustrated when they must be flexible. As a result, when flexibility is necessary, perspectives are frustrated. As a result, they may overlook the significance of working in the career field. The students' desire to make a speedy change may overwhelm the investor, entrepreneur, or philanthropist, resulting in termination or a lack of response (Student Interview 1).

> […] Intellectually brilliant students struggle with field learning and put a lot of pressure on field teachers. Many of their issues arise from a strong desire to succeed and a fear of being pushed to act before they have enough knowledge based on the course content. As a result, their safety is jeopardized when they are compelled to focus on the emotional content of the assisting relationship (Student Interview 9).

Another student responded that: "in response to their uneasiness, the students look for a magic formula that will provide them with clear and unambiguous directions on how to perform better beyond understanding" (Student Interview 5). Another student commented that "intellectually brilliant students feel scared by criticism and are less willing to take risks." They try to keep control of conference periods to protect themselves. They may concentrate on facts about which they are familiar or try to reason abstractly (Student Interview 2). Lastly, one student commented that:

> […] For these students, self-awareness is significantly more distressing. They fight hard and long to maintain past learning and performance patterns, often afraid that they may lose intellectual prestige and regress rather than advance (Student Interview 10).

V. Student needs

Every interviewed student in this study stated that their collegial learning in community that is professional resulted in educational variations and development of attitudes and skills pertinent to the 21st century emphasis on lifetime learning,[33] comprising proof of the engagement-improved results

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[33] Dylan Wiliam, "The role of formative assessment in effective learning environments," *The nature of learning: Using research to inspire practice* (2010), 135-155.

links.[34] The students mentioned a variety of learning experiences needed to improve student engagement, such as learning how to use technology in game-focused learning, co-planning that led to further inventive skills of learning for students, and co-teaching that included more educator fun, communication, and numerous clarifications that eventually assisted students educating. Relating to their intellectual development and what they want to achieve, the students suggested that intellectually brilliant students should be engaged entirely in an educational system that focuses on their abilities and nothing else. But you will see individuals finding themselves in an educational system that has no relationship with their abilities. Specifically, most such students can do more when they get to university. So, what happens to the unfortunate ones that, for financial reasons, are not able to continue at university? The university serves as a steppingstone for intellectually brilliant students where they mostly explore their abilities because of how the system is structured based on specialization. Should it always be at the university? Why not at all levels of the educational ladder? Many intellectually brilliant students need to be engaged in their respective specializations from infancy so that they get more time to invent and contribute to the solutions of the world, as many have done over decades. Some of these intellectually brilliant students have been able to change the world with their dedicated time and effort towards their intellectual abilities. The interviewed students showed us their self-reported needs as follows:

> […] I want to be a physicist and would like to significantly contribute to theories and the development of new concepts in physics. I have been inspired by people like Marie Curie, whose pioneering research into radioactivity led her to develop radiography mobile units to offer services of X-ray to ground clinics in World War I. Another person is Albert Einstein, who is most well-known for developing relativity's general theory. He was a student and physics' professor at the University of Zurich when Nobel Prize in Physics in 1921 was awarded to him. Though Einstein is recognized best for starting relativity theory, he likewise significantly contributed to quantum mechanics' development. Quantum mechanics and relativity are modern physics' two cornerstones. To achieve my goals and those of students who are within my intellectual abilities, laboratories, well-structured educational systems, learning materials, and conducive environments should be provided for us to be able to achieve our goals (Student Interview 10).

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[34] Brenda J. McMahon, and David Zyngier, "Student engagement: Contested concepts in two continents," *Research in comparative and international education* 4, no. 2 (2009): 164-181, https://doi.org/10.2304/rcie.2009.4.2.164.

[…] I am working hard to be able to contribute to biology. As such, renowned people like Charles Darwin is known for his work in evolutionary biology. Charles Darwin's theory that every living thing descends from common lineages is widely now regarded and recognized as a scientific fundamental principle. Early fascination of Darwin with nature driven him to sacrifice his studies in medical at Edinburgh University for supporting in marine invertebrates' study. His five-year trip on the Beagle HMS cemented his reputation as a leading geologist, whose theories and findings backed up the geological slow change theory of Charles Lyell. Intellectually brilliant students should be given the support and opportunity to explore their field of study. These students need to be exposed to many Nobel laureates who have achieved a lot and have contributed to society. There should be a need for the world to connect such people across the world through innovative programs to bring the best out of them (Student Interview 5).

[…] Being an activist and civil rights advocate has been my passion. I see that there is more to explore in the aspect of civil rights to contribute to what the minister, legendary activist, and leader of civil rights Martin Luther King applied civil disobedience and nonviolence to get civil rights for individuals of color in US, impacted by Mahatma Gandhi's peaceful activism and his Christian convictions. Through his intellectual abilities, the Civil Rights Act of 1964, the Voting Rights Act of 1965, and the Fair Housing Act of 1968 became important legislative victories. So, intellectually brilliant students of that nature would want to get platforms to deliver what they have explored (Student Interview 2).

One student commented that: "I have loved computers since childhood and would want to be a computer scientist like Tim Berners-Lee, who is widely regarded as the World Wide Web inventor." However, intellectual students in the field of computer science will need major investment to enable them to explore and contribute to the field of computer science (Student Interview 8).

V.1. *Integrating STEM education*

There are various conflicting theories, techniques, and ideas in STEM education's greater field.[35] According to Kelley and Knowles,[36] integrated

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[35] Michael J. Prince, and Richard M. Felder, "Inductive teaching and learning methods: Definitions, comparisons, and research bases," *Journal of engineering education* 95, no. 2 (2006): 123-138, https://doi.org/10.1002/j.2168-9830.2006.tb00884.x.

[36] Todd R. Kelley, and J. Geoff Knowles, "A conceptual framework for integrated STEM education," *International Journal of STEM education* 3, no. 11 (2016): 1-11, https://doi.org/10.1186/s40594-016-0046-z

STEM education, for example, stresses more or two STEM topics' intentional integration using an authentic and relevant setting, for example, technology and engineering design issues. Sanders[37] notes "Integrative STEM education comprises techniques that examine teaching and learning between and among any two or more of the STEM subject areas, and/or between a STEM topic and one or more other school subjects". Wells and Ernst[38] argue that "integrative STEM education is equally applicable at the natural intersections of learning within the continuum of content areas, educational environments, and academic levels." Wells and Ernst[39] further argue, emphasizing the use of engineering and technology design situations to teach content from multiple areas. Beyond STEM education, all the students in the ten case studies were active in co-teaching with at least one other coworker, some in interdisciplinary efforts, with some employed in teams with multi-age, and others in specific-discipline team teaching circumstances. In a secondary senior team setting, one student charted that:

> […] This integrative approach should be based on the premise that students should learn across topics rather than just inside them, and that this learning occurs as students integrate knowledge and content from many areas into the larger framework of an open-ended problem (Student Interview 3).

Sanders[40] writes that "the underlying point is that the ideas and practice of science and technology are so tightly interwoven that we don't see how any of them can be performed properly in isolation from the others." Harris and deBruin[41] claim that eliminating traditional discipline divisions' siloed approach boosts output and stimulates creativity during a student's academic career. Through problem-based learning activities, these strategies can offer a foundation for subject-area knowledge application and stimulate cross-cutting ability practice.

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[37] Mark E. Sanders, *Stem, stem education, stemmania*. (2008), 21, https://vtechworks.lib.vt.edu/server/api/core/bitstreams/b5f37b87-c914-4e5a-8abc-f9b491dc2e36/content.

[38] John G. Wells, *Integrative STEM education at Virginia Tech: Graduate preparation for tomorrow's leaders*, (2013), 1, https://vtechworks.lib.vt.edu/server/api/core/bitstreams/5168d010-69fa-46af-8767-0d410e0a793b/content.

[39] John G. Wells, *Integrative STEM education at Virginia Tech: Graduate preparation for tomorrow's leaders*, (2013), 1, https://vtechworks.lib.vt.edu/server/api/core/bitstreams/5168d010-69fa-46af-8767-0d410e0a793b/content.

[40] Mark E. Sanders, *Stem, stem education, stemmania*. (2008), 23, https://vtechworks.lib.vt.edu/server/api/core/bitstreams/b5f37b87-c914-4e5a-8abc-f9b491dc2e36/content.

[41] Anne Harris, and Leon R. De Bruin, "Secondary school creativity, teacher practice and STEAM education: An international study," *Journal of Educational Change* 19 (2018): 153-179, https://doi.org/10.1007/s10833-017-9311-2

V.2. *Educational robotics*

To promote the notion of educational robots, we believe it is necessary to define existing methodologies and the commonly accepted paradigm in this field. Without claiming to be exhaustive, we based our findings on an examination of the materials we have access to[42],[43],[44] and others. It may be said that the goals of educational robots, which are currently the focus of educators, are to: foster the development of new types of engaged, devoted, and self-sufficient people; to detect early on the technical preferences of students and nurture them in this direction, thereby defining the engineer's career from kindergarten through the time of employment; to have a significant influence on the development of students' cognitive processes and speech (sensory development, attention, thinking development, spatial imagination, memory), as well as creative abilities and emotional sphere; to combine theory and practice in the study of subjects such as physics, mathematics, informatics, and others); to ensure the interaction of education, science, and production. Individual students demonstrated increased self-confidence and emotional learning. One student, for instance, presented evidence in the form of a video of him developing a car and driving it on the road. In one part of the video, he showed how he was learning how to program to add additional features to the car. He then commented that "students that you'd regard as not high achieving may be those that need educational robotics the most" (Student Interview 6). Another student from a dissimilar educational setting shared an instance of how he gained confidence in programming robots to perform specific functions because of an innovative program that occurred in his community, with the student benefiting from the teacher's learning from working within his intellectual abilities, which included implementing pedagogical improvements. The outcomes of these students are:

> […] argued that educational robotics is now a well-constituted phenomenon, beginning to play an increasingly important role in the development of the

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[42] Lai Poh Emily Toh, Albert Causo, Pei-Wen Tzuo, I-Ming Chen, and Song Huat Yeo, "A review on the use of robots in education and young children," *Journal of Educational Technology & Society* 19, no. 2 (2016): 148-163, https://www.jstor.org/stable/jeductechsoci.19.2.148.

[43] Elena Ospennikova, Michael Ershov, and Ivan Iljin, "Educational robotics as an inovative educational technology," *Procedia-Social and Behavioral Sciences* 214, (2015): 18-26, https://doi.org/10.1016/j.sbspro.2015.11.588.

[44] Fabiane Barreto Vavassori Benitti, "Exploring the educational potential of robotics in schools: A systematic review," *Computers & Education* 58, no. 3 (2012): 978-988, https://doi.org/10.1016/j.compedu.2011.10.006.

engineering thinking of the younger generation. They have shown themselves to be permanent and developing, in the sense that a certain level of hardware, software, and equipment achieved will naturally produce the next improved level. As a result, educational robotics should be implemented in our educational system to help students identify their abilities and improve upon them (Student Interview 7).

V.3. *Quality education*

Quality education refers to education that is relevant to society's requirements.[45] He maintained that in a complex and globalized society, such needs should be met through growth, health, and physical existence norms. It indicates that education is useful when it equips people with the essential skills, knowledge, concepts, values, and attitudes to make informed decisions and lead self-sufficient lives. Quality education, according to Majasan,[46] should promote disciplined behavior, hard work, a better cultural legacy, and mutual respect both outside and within the community school. Education quality is the answer if a society anticipates manpower quality for rapid transformation and development. Overall, one student commented that "quality education is hoped to solve essential concerns such as labor dignity, effective leadership, and engaged citizenship, as well as political stability, industrial harmony, security, self-reliance, and religious tolerance" (Student interview 9). Similarly, students in other settings said that they are participating reliably in curriculum co-creating material, student participation, and replicating student success beyond the overarching topics' initial co-planning. They commented that "educational institutions' products must be capable of living to expectations and competing favorably with their counterparts in other parts of the world" (Student interview 4). Schooling that makes a whole person is regarded to be of high quality. Complete in that the individual has reached their complete moral, intellectual, physical, social, and emotional possibility. Consequently, no quality education can be damaging more than absence of education, highlighting that without quality there is no value in education.[47]

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[45] C. B. Ndiomu, "Standard and the National Policy on Education associated hydra headed problem," *Quality in education. Benin-City: Supreme ideal publisher* (1989), Benin City: Supreme Ideal International Ltd.

[46] Michael Crossley, and Graham Vulliamy, *Qualitative educational research in developing countries: current perspectives,* Routledge (2013), https://doi.org/10.4324/9781315889191.

[47] Olga Belash, Mikhail Popov, Nicolai Ryzhov, Yan Ryaskov, Sergey Shaposhnikov, and Mikhail Shestopalov, "Research on university education quality assurance: Methodology and results of stakeholders' satisfaction monitoring," *Procedia-Social and Behavioral Sciences* 214, (2015): 344-358, https://doi.org/10.1016/j.sbspro.2015.11.658.

V.4. *Teacher knowledge*

The term "teacher knowledge" is frequently used to refer to the information and skills that teachers require in their jobs. Shulman's[48] broad framework is widely accepted in the scholarly community as describing the most important aspects of educator knowledge to some extent. Teacher knowledge is allocated into 3 domains in this framework: content, pedagogical content, and curricular knowledge. Shulman[49] later added to this model by giving it a fine structure with 7 domains labeled pedagogical general knowledge, content knowledge, content pedagogical, learners, curriculum knowledge and their features, contexts of education knowledge, and educational knowledge values, purposes, and ends. The models stated above do not advocate for any subject specific, nonetheless rather define teacher expertise generally. Though, investigations into subject-precise educator and content pedagogical knowledge for several disciplines have been conducted.[50],[51] Classically, this research is built around the framework of Shulman or is quite like it. This research links the framework of Shulman to subject-precise topic knowledge, making it more useful to teacher educators and teachers than the framework of Shulman[52] alone. There are three different categories of subject matter expertise. The term "common content knowledge" (CCK) defines the information that individuals who know and use mathematics have. In turn, specialized content knowledge (SSK) defines the knowledge that is required for effective mathematics education. Content knowledge Horizon (CKH) defines how mathematics and computer science topics in the curriculum are associated with one another. Three knowledge domains make up knowledge pedagogical content. Students and content knowledge (SCK) refers to understanding how students acquire specific subjects, while teaching and content knowledge (TCK) refers to understanding

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[48] Lee S. Shulman, "Those who understand: Knowledge growth in teaching," *Educational researcher* 15, no. 2 (1986): 4-14, https://doi.org/10.3102/0013189X015002004.

[49] Lee S. Shulman, "Those who understand: Knowledge growth in teaching," *Journal of Education* 193, no. 3 (2013): 1-11, https://doi.org/10.1177/002205741319300302.

[50] Melanie M. Keller, Knut Neumann, and Hans E. Fischer, "The impact of physics teachers' pedagogical content knowledge and motivation on students' achievement and interest," *Journal of Research in Science Teaching* 54, no. 5 (2017): 586-614, https://doi.org/10.1002/tea.21378.

[51] Mika Koponen, Mervi A. Asikainen, Antti Viholainen, and Pekka E. Hirvonen, "How education affects mathematics teachers' knowledge: Unpacking selected aspects of teacher knowledge" *Eurasia Journal of Mathematics, Science and Technology Education* 13, no. 6 (2017): 1943-1980, https://doi.org/10.12973/eurasia.2017.01209a.

[52] Lee Shulman, "Knowledge and teaching: Foundations of the new reform," *Harvard educational review* 57, no. 1 (1987): 1-23, https://doi.org/10.17763/haer.57.1.j463w79r56455411.

successful teaching practices for assured themes and events. Knowledge of curriculum and content (KCC) comprises information about curricula, for example when and how a particular arithmetic topic is normally imparted.[53] As a result, one interviewed student commented that:

> […] Teachers of today should be provided with development professionals to achieve the students' needs assigned to them. To assist students in learning, teachers must be professional and up to date on pedagogical content knowledge. In the twenty-first century, teachers should go beyond what they know to learn more about what students want, the best teaching practices, and the content that needs to be taught (Student interview 1).

VI. An approach to meet the needs of intellectually brilliant students

Intellectually brilliant students are more difficult to spot than the other two types of students. Intellectually brilliant students often use their abilities to perform and produce on an intellectual level to protect themselves.[54] Learning may progress intellectually, but it will fall apart when put into practice. Although intellectual grasp is a first step toward professional education's goals, the student does not change until he or she can do things differently.[55] One student commented on the innovative approach to meeting their needs that:

> […] When students effortlessly and effectively finish the first phase of their study, field teachers should be provided and trained to aid students in completing the second step by assisting them in attaining some success in practice beyond providing tangible services or adhering to agency protocols (Student interview 5).

However, before students can integrate one with the other, intellectually brilliant students require time to explore how theory applies to a specific scenario. It's important not to rush them into their feeling zones before they're ready. As this process proceeds, field teachers must continue to encourage students to talk about their feelings. Students are frequently aware

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[53] Deborah Loewenberg Ball, Mark Hoover Thames, and Geoffrey Phelps, "Content knowledge for teaching: What makes it special?," *Journal of teacher education* 59, no. 5 (2008): 389-407, https://doi.org/10.1177/0022487108324554.

[54] Fareeda Ibad., "Personality and ability traits of teachers: student perceptions,." *Journal of Education and Educational Development* 5, no. 2 (2018), ERIC.

[55] Laura M. Desimone, "Improving impact studies of teachers' professional development: Toward better conceptualizations and measures," *Educational researcher* 38, no. 3 (2009): 181-199, https://doi.org/10.3102/0013189X08331140.

of relevant comments from people that have an interest in their abilities but seek assistance with their own responses. Additional efforts should be made to assist intellectually brilliant students in perceiving different aspects of a scenario to pique their interest and creativity. Another student commented that:

> […] Intellectually brilliant students might redirect their inclination to categorize others by using a range of case materials. Increased emphasis on case assignments and, as a result, more contact with society are the most effective ways to meet learning demands in general (Student interview 7).

This allows students to identify people who have an interest in their abilities and recognize their desire to impose their own beliefs on them. It also allows them to analyze causative elements for behavior early in the field experience. As a result, students are reoriented to focusing on the problems of people who have an interest in their abilities because of the variety and greater number of encounters. Students might detect their own lack of emotional connection and begin to think about why their responses are ineffective by discussing the function of the social worker. As a result, they seek out other techniques and reactions. Another student commented that:

> […] Intellectually brilliant students are less introspective, and as a result, their ability to understand their interactions with people who have an interest in their abilities is absorbed at a slower rate. Repeated discussions may help them become more conscious of their relationships with people who have an interest in their abilities and disciplined in their use of self in the interview (and the value of their own feelings) (Student Interview 9).

The students' willingness to recognize their shortcomings is directly proportional to their level of familiarity with the field teacher. Students look up to the field teacher as a role model for a social worker, and they often feel compelled to test the relationship before committing to it. Because of the provoking nature of intellectually brilliant students' emotions toward supervision and the risk of perpetuating their shortcomings, teachers must be aware of their own feelings. Field teachers must be cognitively interesting to assist students in recognizing and working effectively within their learning patterns while emphasizing the advantages of experiential and intuitive learning modalities. It takes time for these students to put their feelings to the test, trust them, and feel at ease with them. This type of student, who may be viewed as a "know-it-all," may cause teachers to react defensively. Field teachers need tolerance, effort, and time to assess their own sentiments toward these students and come up with teaching goals with them.

VII. Conclusion

In this era of global economic order, education has become the sole viable option for providing useful and relevant education to everybody. As a result, any attempt by a country not to match its education with global demands in the twenty-first century and beyond is equal to socioeconomic backwardness. Intellectually brilliant students need worldwide technological collaboration to grow their intellectual abilities to meet the needs of the world in terms of human resources, food security, job creation, infrastructure development, and social stability. Intellectually brilliant students are distinguished in large part by their advanced thinking and reasoning skills, which result in the creation of novel concepts and inventive ideas. They are defined as people who can use both academic and informal education to develop and recognize their own strengths. But as the research points out, not all smart students, especially those in less dynamic educational environments, get the assistance they need from formal education institutions. Intellectually brilliant students are unique in that they have the capacity to make a substantial positive impact on society by coming up with novel solutions to challenging issues. In conventional learning environments that might not sufficiently meet their needs, this potential is frequently unrealized. Thus, creative methods are needed to effectively engage students who are intellectually brilliant.

The study emphasizes how crucial it is to identify intellectually brilliant students by considering a variety of criteria outside of typical academic performance. Key markers included traits like active memory, spaced repetition, flexibility in assessment, and the capacity to link disparate elements of knowledge. This comprehensive knowledge goes beyond academic performance to give depth to the body of research on identifying students who are intellectually brilliant. The study explores the behavioral traits of students who are intellectually brilliant, illuminating their propensity for initiative, diagnostic aptitude, and problem-solving capabilities. It highlights the need to comprehend their difficulties, such as switching from a problem-solving to a client-centered perspective and the requirement for assistance in field learning settings. The study offers insightful information about the educational goals of intellectually brilliant students and the assistance they need to attain them, as it features the voices of these students themselves. The study highlights the necessity for educational systems to address the unique demands of intellectually brilliant students, from specialized learning environments to exposure to role models and chances for inquiry. The study promotes creative strategies, such as integrated STEM education, educational robotics, and quality education efforts, to engage

students who are intellectually brilliant. These methods emphasize the value of encouraging intellectually brilliant students' creativity, critical thinking, and interdisciplinary learning while also being in line with current trends in education research. The study emphasizes the role that professional development plays in providing teachers with the skills and pedagogical content knowledge needed to effectively educate intellectually brilliant students. It also highlights the significance of teacher knowledge in meeting the requirements of these students.

Prempeh College, Opoku Ware School, and Presbyterian Boys' Secondary School (PRESEC) are three of Ghana's finest senior high schools where intellectually brilliant students were examined as part of the study's methodology. Ten intellectually brilliant students were chosen as case studies based on a variety of factors, including exceptional cognitive abilities, academic achievement, the capacity to solve problems, and indications of originality or creativity. Using a mixed-methods approach, the study combined quantitative data sources like academic performance records and indications of creativity with qualitative interviews. Ten students were interviewed in all, during 45 minutes of semi-structured interviews with the chosen students. Purposive sampling was used in the selection procedure, meaning that participants were picked based on their potential to give rich and insightful data pertinent to the goals of the study. Examining pre-existing documents, such as teacher recommendations, student performance reports, and indications of innovation or originality, was another aspect of data collecting. Using a longitudinal method, the researchers examined patterns and trends in the characteristics and needs of intellectually brilliant students over the previous 20 years. The interview data was collected by transcription, digital recording, and hand notetaking. It was then coded and reviewed through several times to find themes and sub-themes. The key topics covered were how to recognize intellectually brilliant students, what traits they exhibit in terms of behavior, and what the needs of the students are. Integrated STEM education, high-quality instruction, teacher expertise, and creative problem-solving were highlighted. By getting approval from the selected educational institutions and guaranteeing informed consent from each participant, ethical concerns were taken care of. Pseudonyms were used in lieu of real interviewee names in the report to ensure confidentiality.

Despite the small sample size, a particular subset of students who were judged to be intellectually brilliant were targeted by the selection criteria. By taking a multifaceted approach, the results are more likely to be true and reliable and to be applicable outside of the study's particular setting. While Ghanaian high school students were the study's primary focus, intellectually

gifted children in different cultural and educational contexts may find resonance in the themes and findings related to identification, behavioral traits, student needs, and instructional techniques. The study's emphasis on comprehending the background and experiences of the students deepens the applicability of its conclusions. Transferability examines the relevance and applicability of findings to similar environments, whereas generalizability refers to the degree to which findings can be applied to different populations. The study's thorough descriptions of the needs, actions, and experiences of the students enable readers to evaluate how applicable the findings are to populations of intellectually gifted students in their own situations.

VIII. Recommendation

Countries that can identify intellectually brilliant students and engage them in a way that will promote their intellectual abilities to solve societal problems will benefit in the future. These intellectually brilliant students that are helped will be an asset to these countries and will help other students be able to do what they do and do it better. Thus, these intellectually brilliant students will strengthen the education systems of these countries in the future.

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About the authors

ISAAC ATTA SENIOR AMPOFO (ampofoisaac10@yahoo.com) is a Ghanaian by birth. Ampofo is the corresponding author who reviews literature, analyses, and concludes research papers. Ampofo Isaac Atta Senior is a researcher at the International Association of Advanced Studies Research. Ampofo has research experience in Education, Information Technology, Applied Mathematics, Cybersecurity, Digital Forensics, and Machine Learning Algorithm. He holds an MSc in Information Technology Education and is a PhD Information Technology student at Kwame Nkrumah University of Science and Technology from Jan. 2022 - Sept. 2025. I am studying a 1-year MSc Advanced Computer Science at the University of Liverpool from Sept. 2023 - Sept. 2024 to enhance my knowledge. I have a strong foundation in Research, Information Technology and Mathematics and have had working experience as a Teaching Assistant at the University of Education Winneba, Ghana during my National Service from Sept. 2018 - Sept. 2019. Ampofo, Isaac Atta Senior would love to be contacted for research grants and contracts.

ISAAC ATTA JUNIOR AMPOFO (ampofoisaac159@yahoo.com) assisted in the analysis of the work, proofreading and grammar check. Ampofo, Isaac Atta Junior is currently a researcher at IAAS Research. Ampofo has research experience in Education, Management, Human Resource and Computing. He holds Bachelor of Business Administration in Management and MSc. Management and Human Resource Strategy. He was a Teaching Assistant for University of Education Winneba which helped him improve on his research skill. Being interested in research has provided him with practical research experience. Ampofo, Isaac Atta Junior can be contacted through ampofoisaac159@yahoo.com. Ampofo, Isaac Atta Junior would love to be contacted for research grants and contracts.

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2. Manuscripts must be written in either UK English or U.S. English consistently and include a 100-300 word abstract. The title page should include authors' affiliations plus the email address of a single corresponding author. The Chicago Manual of Style (CMOS), 16th or later edition, should be used as a reference for manuscript preparation (www.chicagomanualofstyle.org/).

3. Format of references, notes, and bibliography or reference list.

   a) Authors can format their citations and references in either of the two referencing systems of the Chicago Manual of Style (16th or later edition): **Notes and Bibliography** and **Author-Date** systems (https://www.chicagomanualofstyle.org/tools_citationguide.html). They however are required to use either system consistently.[1]

   b) Note references must be numbered in superscript format in the text and arranged numerically (in the order they appear in the text) at the bottom of each page, in line with the CMOS 'Footnotes' system.

   c) 'Notes' include complete bibliographic information when cited for the first time. For subsequent citations of the same source, shortened versions are preferred.

   d) The Bibliography or Reference list includes **all and only** sources cited in the 'Notes' or text, and provides complete reference information.

   e) Bibliography or Reference list entries are to be arranged alphabetically by (first) author's last name following the CMOS guidelines. Note that for works of two or more authors, only the name of the first-listed author is inverted in a Bibliography or Reference list entry. This rule does not apply to 'Notes'.

   f) Microsoft Word (2010 and later edition) can be used with such software as "EndNote", "RefWorks", "Reference Manager", RefME, and "Zotero", to simplify the task of managing citations and references according to the recommended CMOS.

4. Authors are asked to provide between 5 and 10 keywords immediately following the Abstract.

5. Authors are reminded that it is their sole responsibility to ensure that their manuscripts are written in appropriate academic English and that the latter is consistently either UK English or U.S. English, but not both. They are also reminded that they can resort to professional language editing services, preferably prior to first submission.

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[1] Before 1st January 2022, only the **Notes and Bibliography** system had to be used.

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7. Please submit all figures or photographs as separate jpg or tif files with distinct characters and symbols at 500 dpi (dots per inch). Tables and equations should be in an editable rather than an image version. Tables must be edited either with Microsoft Word or Open Office. Equations must be edited with the appropriate Equation Editor. Tables, table captions, figures and figure captions should be appended after the 'Bibliography' or 'References' section, as indicated on the standard template for manuscript preparation (https://tuningjournal.org/about/submissions#authorGuidelines).

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The Editor hands each manuscript accepted for review to an advisory editor (generally from the Journal's Panel of Advisory Editors), who will control the review and revision process of that manuscript.

The Editor will prepare a decision letter based on the comments of the reviewers and the recommendation of the Advisory Editor, which will be sent to the corresponding author by email.

It is our intention to notify authors of non-reviewed manuscripts within 21 days of submission acknowledgement. For manuscripts accepted for review, the process shall last 6 months. However, due to reasons beyond our control, the whole process (initial screening and peer review) can take longer time to be completed. Our editors and reviewers are indeed very busy people and they carry out their review tasks voluntarily. We therefore invite authors to be patient. If you have not heard from the Editor after 4 months following the submission acknowledgement, please send an inquiry to the Editor (Professor Mary Gobbi, PhD, mary.gobbi@deusto.es) and or Managing Editor (Ladislas Bizimana, PhD, ladislas.bizimana@deusto.es, tuningjournal@deusto.es). We understand that these deadlines may be too long for some authors. We therefore would respect, though regrettably, their decision to withdraw from the process, preferably prior to the peer review stage.

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Detailed and updated information, including names and contact addresses of the editorial team is available at <http://www.tuningjournal.org/>. Editorial correspondence should be sent to the Editor (Professor Mary Gobbi, mary.gobbi@deusto.es) and or Managing Editor (see below). The mailing address of the editorial office is the following:

Ladislas Bizimana, PhD
Managing Editor, *Tuning Journal*
DEIKER-OTRI & Publications
University of Deusto
Avenida de las Universidades, 24
48007 Bilbao, Spain
Tel: (+34) 944 139 003 (ext. 3048)
Email: ladislas.bizimana@deusto.es
        tuningjournal@deusto.es

TJHE
Ethical Guidelines
for Publication

TJHE Ethical Guidelines for Publication

FINAL VERSION (MARCH 2015)

Tuning Journal for Higher Education (TJHE), Tuning Journal in short, is an international journal publishing in English original research studies and reviews in all aspects of competence-based, student-centred, and outcome-oriented education reforms at university level across the globe. It is published by the University of Deusto's Publications department on behalf of the International Tuning Academy (Tuning Academy in short), a jointly managed project of the Universities of Deusto (Spain) and Groningen (The Netherlands). The Journal, essentially an open access, online and peer-reviewed publication, is committed to maintain the highest ethical standards. Hence, the involvement of any stakeholder in any function connected with TJHE, including acting as an editor, the reviewing of manuscripts, the management and production of the Journal and the authorship and submission of manuscripts implies acceptance of and adherence to **TJHE Ethical Guidelines for Publication**.

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1.1. The Editorial Board is appointed by the Tuning Academy in consultation with the Universities of Deusto and Groningen.

1.2. The Editorial Board is responsible for setting policy, appointing the Editor and Advisory Editors of the Journal.

1.3. The Editor is responsible for ensuring that publication policies set by the Editorial Board are carried out.

1.4. The Management Board is appointed by the Tuning Academy in consultation with the Universities of Deusto and Groningen.

1.5. The Managing Board is responsible for the commercial management of the Journal and appointing a Managing Editor.

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Date: 16 March 2015

Approved by the TJHE Editorial Board and signed on behalf of the Tuning Academy by:

Pablo Beneitone
Director, Tuning Academy (Deusto)

Robert Wagenaar
Director, Tuning Academy (Groningen)

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Contact Details

Preparedness for higher education: What does it mean for today and tomorrow?

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