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From innovative experiences to wider visions in higher education

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Tuning Journal for Higher Education (TJHE), Tuning Journal in short, is an international peer-reviewed 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 a joint initiative of the University of Deusto (Spain) and the University of Groningen (The Netherlands) that is run by the Tuning International Academy (http://tuningacademy.org/): an international meeting point for fostering innovative teaching, learning, and research in higher education.

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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Editorial

Editorial: From innovative experiences to wider visions in higher education

Luigi F. Donà dalle Rose
Editor

Anna Serbati
Assistant Editor

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Nowadays, there is a growing awareness that higher education is called to help young people to develop their personal and professional future. The university mission is not only to increase opportunities for employability and for better matching of labour market requests and graduates' skills, but also to prepare people to positively live in local and global communities as well as to actively contribute to personal and community well-being. Therefore, a more holistic approach to education is required, which overcomes the traditional idea of promoting logical, cognitive and linguistic intelligence and which promotes multiple intelligences, including emotional, interpersonal, creative skills. Scholarship of teaching and learning in higher education and educational research have shown that there is a variety of strategies and methods that can foster not only the development of knowledge, but also soft skills. This Issue offers some perspectives and innovative experiences in different subject areas within this framework and moves towards more general visions of educational issues.

The first three contributions offer interesting examples of innovative teaching-learning experiences face-to-face as well as online, able to promote a more holistic approach to education. The following contribution presents meditated reflections and feasable proposals for further wider engagement of the medical education operators in the field of health care. It reports findings of concerns and possible wider expectations of healthcare operators and staff. The last contribution flies high, comparing two different approaches towards harmonisation of higher education at continental level, Africa and Europe respectively.

The first article by Jorge Jaime dos Santos Fringe presents results of a study carried out with psychology students at University Eduardo Mondlane, in Mozambique. A questionnaire was administered to students with the aim

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of investigating, in a competence-based framework, to which extent different teaching methods promote multiple intelligences as superimposed to holistic learning styles. Findings show that there still is more emphasis on the development of logical and analytical skills by using more frequently methods such as lectures, debates, oriented reading, brainstorming, problem solving and seminars. However, there is a growing effort to promote holistic learning by using teaching strategies such as study visits, field work, drama and simulations, case study and experiential learning, that are linked to bodily-kinesthetic intelligence and that give students the opportunity to deal with authentic tasks and develop their competences. The author identifies the need to support teachers to understand, use and adapt teaching and learning methods to promote students' multiple intelligences.

The second article, by Tiernan Henry and John Murray, also contributes to the reflection on methods and strategies that foster the development of wide competences with specific spatial and temporal skills. Indeed, the authors present the results of an investigation of the undergraduate student perception about fieldwork, specifically in the context of the affective domain. Students of Earth and Ocean Science (EOS) at NUI Galway were asked to express their opinion before and after an activity of residential work. Findings indicate an appreciation of cognitive benefits, but also transferable, technical and social skills developed: students recognised the importance and value of sound observation and scientific rigor, enhanced their academic and social confidence as well as ability to work as a group. This study showed that field training can transform the way students think (not only academically, but also socially), by making them more independent and aware of the learning process.

The contribution by Ana Nobre describes and documents an experience of foreign language teaching and learning at Universidade Aberta (the Portuguese Open University), in Portugal. Curricular pathways proposing online oral and written communicative practices in different languages are presented. Digital resources included in online teaching comprise multimedia materials, produced by the teachers or by the students, as well as other materials available on the web 2.0. A survey administered to students showed that these online resources are perceived by students as suitable for the online teaching and learning of foreign languages, particularly for adults, and foster an improvement not only of oral discourse comprehension but also an increase of the foreign language level of knowledge.

The next article regards those aspects of the higher education staff experience, which are linked to the outer world, more concretely to existing higher education laws and directives. The contribution by Roberta Inés

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Ladenheim and Cecilia Inés Hernández deals with a current theme in several professional communities when engaged in planning teaching, learning and training activities. Their "exploratory" study stems from the absence of a "common language" regarding the conception of the terms like *generic competences* in the Argentinian relevant legislative and academic context of medical education (both at different institutional levels and in the academic and disciplinary milieu). The study explores which "conceptions" underlie the terms *generic competences* among the medical educational planners in Argentina and – again – explores the language choices they make when referring to those competences. Semi-structured interviews were conducted in Spanish between July and September 2017 among "expert" informants, carefully chosen from different levels and fields in the Argentinian environment of Health Sciences curricular planning. Results confirm the initial working hypothesis of different conceptions regarding the terms *generic competences* and moreover show that a given generic competence acquires a new specificity when immersed in the medical education context. The authors' conclusion is that a serious effort on consensus building about terminology is needed, at least – but perhaps not only – in medical education.

The last contribution deals with wider processes, which since two decades are animating the national higher education systems, with the aim of concretely implementing the paradigm shift which started earlier at the lower levels of education, i.e. the shift from an input-based teaching/learning methodology to student-centred approaches, noticeably competence-based learning methodologies. These processes are indeed characterised by a strong international dimension, which on the basis of fruitful comparisons among different national situations favours subsequent educational policy agreements and national reforms at sub-regional or even regional/continental level.

The contribution by Ayenachew Aseffa Woldegiyorgis discusses and compares two such convergence processes, i.e. the European process which started with the Bologna Declaration in 1999 and the African process, which is defined by the Addis Ababa convention (2014). The article gives a theoretical background for the several existing harmonisation processes, also enlightening its geopolitical aspects and the role of supranational organisations (UNESCO, World Bank, …). Moreover, it offers detailed historical overviews of the two processes chosen for discussion. Finally, and perhaps most interestingly, it offers a parallel analysis of the European and African processes. According to one reviewer, "the author rightly notes that the African process is in full construction, compared to the European one which is today at a phase of implementation". Moreover, in his conclusions related

to the African process, the author recognises the merits of a "sub-continental focus" because "the participating countries have more in common anchored in their geographic proximity and shared history." However, these "subregional strengths" should be capitalised by the African Union to actively "coordinate the existing efforts into a continent-wide system".

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Articles

Promoting holistic learning for the development of competences in Mozambique

Jorge Jaime dos Santos Fringe*

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Abstract: This article presents results of a study carried out at the Faculty of Education of the University Eduardo Mondlane, in Mozambique, aimed to assess the extent to which the bachelor course in Psychology promotes multiple intelligences as superimposed to holistic learning styles within its effort to develop students' competences. For that purpose, 158 psychology students were invited to fill in a four-point Likert scale questionnaire. Respondents were asked to gauge lecturers' practices of employing different methods and strategies to promote multiple intelligences and holistic learning styles and to indicate what their preferences were concerning methods that could be employed more often. Results show that lecturers promote holistic learning, despite prominence of practices that are more tied to logical and analytical skills, in the left hemisphere, with less emphasis on right hemisphere processes such as ludic activities, drama and simulations, and physical involvement. Such results point to the need for the promotion of professional development efforts towards increased adoption of more holistic learning and multiple intelligences within the bachelor course in Psychology.

Keywords: competence-based education; constructivist learning; learning style flexibility; multiple intelligences; holistic learning styles; whole-brain model.

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More information about the author is available at the end of this article (after the bibliography list).

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I. **Introduction**

Ongoing global transformations are pressurising Higher Education Institutions (HEI) to reconsider their practices. Among such transformations is the employers' plea for graduates who can continuously learn from practice through reflection, who care for quality, who are flexible, and who can work in teams. Mozambican higher education (HE) has been making reactive efforts such as aligning the courses to the labour market demand and the country's national needs[1] in order to increase employability and relevance of HE.[2] These statements confirm the concern with the provision of professionals who are both qualified and competent.[3] We recall that a competent person is not necessarily qualified. A competent professional is able or capable to select and perform suitable behaviours to accomplish a certain goal.[4] Whereas a qualified professional only represents a guarantee that he/she has reached a minimal requirement to perform certain job.[5]

The University Eduardo Mondlane (UEM) initiated a curriculum reform in 1999 aiming to align graduate profiles with country relevant competences.[6] In 2001, the Faculty of Education (FACED) re-opened its doors adopting, for all its courses, the competence-based education (CBE). The rationale for such decision, on the one hand, was the need to offer courses that were oriented to professional practice since higher education was being challenged to bring together the university learning and world of work. On the other hand, there was the perceived fast and remarked change from a static work environment based on qualifications to a dynamic environment based in competences and focused on the individual. Therefore, knowledge acquisition was not anymore the main learning objective. Rather, the objective rested on

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[1] Ministry of Higher Education, Science and Technology, *Strategic Plan of Higher Education in Mozambique 200-2010* (Mozambique, 2000), 11.

[2] Ministério da Educação, *Plano estratégico do Ensino Superior 2012-2020* (Mozambique, 2012), 17.

[3] Wim G Kouwenhoven, "Designing for Competence: Towards a Competence-Based Curriculum for the Faculty of Education of the Eduardo Mondlane University" (PhD diss., University of Twente, 2003), 221.

[4] Kouwenhoven, "*Designing for Competence*," 54.

[5] Anna Serbati, "Implementation of Competence-Based Approach: Stories of Practices and the Tuning Contribution to Academic Innovation," *Tuning Journal of Higher Education* 3, no. 1 (2015): 26,10.18543/tjhe-3(1)-2015pp19-56.

[6] Johanna van der Linden and Mendonça Marta, "From Competence-Based Teaching to Competence-Based Learning: The Case of Generic Competencies in the Faculty of Education at the Eduardo Mondlane University in Mozambique," *Perspectives in Education* 24, no. 3 (2006), 36.

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how the learner acquires knowledge and to what extent he/she can use it to solve authentic problems.

In 2002, the FACED launched the bachelor course in Psychology, which adhered to this constructivist, holistic, and student-centered learning driving philosophy. Configuration of CBE within constructivist learning means considering the influential accrual of knowledge, learning preferences and styles, expectations, and assumptions brought by students to the learning opportunity.[7] Adoption of CBE implies holistic learning, since knowledge application, as mediated by meta-cognition and self-evaluation, becomes the paramount process beyond sole possession of knowledge.[8] Competences are holistic as they include knowing and understanding, knowing how to act, and knowing how to be.[9] Hence, lecturers are challenged to promote student active engagement, imaginative inquiry, contemplation, authentic problem solving, control over learning, and thus accommodating students preferred ways of learning.[10] Such personalization of learning experience is crucial for development of many skills needed in the workplace.[11]

In searching for wholeness within higher education systems, one finds predominance of practices that focus on left hemisphere intelligences such as verbal-linguistic and logical/mathematical,[12] while neglecting right hemisphere ones due to different factors. First, the western tradition values almost exclusively the rational and conceptual learning modes.[13] Second, it is difficult to analyze and educate for non-rational processes.[14] Third, some educationalists assume that individuals with developed left hemisphere competences will be able to manage their emotions, intuitions, and interpersonal competences.[15]

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[7] John Biggs, "Enhancing Teaching through Constructive Alignment," *Higher education* 32, no. 3 (1996): 348.

[8] Kouwenhoven, "*Designing for competence*," 60.

[9] Pablo Beneitone and Bartolome Edurne, "Global Generic Competences with Local Ownership: a Comparative Study from the Perspective of Graduates in Four Regions," *Tuning Journal of Higher Education* 1, no. 2 (2014): 306, http://dx.doi.org/10.18543/tjhe-1(2)-2014pp303-334.

[10] Paul Ramsden, *Learning to Teach in Higher Education* (London: Routledge, 1992), 101.

[11] Ernie Barrington, "Teaching to Student Diversity in Higher Education: How Multiple Intelligence Theory Can Help," *Teaching in Higher Education* 9, no. 4 (2004): 428.

[12] Barrington, "Teaching to Student Diversity," 423.

[13] Marianne Van Woerkom, "Critical Reflection as a Rationalistic Ideal," *Adult Education Quarterly* 60, no. 4 (2010): 347.

[14] Fred A.J. Korthagen, "Two Modes of Reflection," *Teacher and Teacher Education* 9, no. 3 (1993): 320.

[15] Denis Postle, "Putting the Heart Back Into Learning," in *Using experience for learning*, ed. David Boud, Ruth Cohen, and David Walker (Buckingham: Society for Research into Higher Education and Open University Press, 2003), 33-45.

Consequently, they are not promoting all spectrum of learning styles (LS) or multiple intelligences (MI), despite that non-rational, right-hemisphere, processes play a key role in learning. For instance, gestalts activate immediate interpretation when diverse stimuli occur simultaneously.[16] Besides, being associated to student interests and motivations, emotions catalyze the making meaning process.[17]

Considering the above-mentioned aspects, it is questioned to what extent the FACED bachelor course in Psychology does promote multiple intelligences as superimposed to holistic learning styles contributing to the development of competences. Answering this research question was deemed important since it could assist the development of course improvement proposals based on comparison between the intended curriculum and the curriculum as enacted.[18]

II. **Competence-based learning at the Faculty of Education**

As it was previously mentioned, the FACED at UEM was re-opened in 2001, adopting the Dutch tradition of CBE. The rationale for choosing CBE was the need to offer transparent relationship between university education and core or transferable skills, so that the student could be prepared, in a lifelong learning perspective, for citizenship and productive career.[19] Literature presents diverse definitions of competence, depending on the author background or interests. Within such profusion of meanings, competence is essentially seen as useful in bridging the gap between education and job requirements.[20] In one perspective, Kouvenhoven, Howie, and Plomp[21] define it as "the interplay between knowledge, skills and attitude attributes and the meta-cognitive capacity to apply them at the right time when required. Competence is the totality of (core) competencies required to perform as a competent professional".

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[16] Korthagen, "Two Modes," 319.

[17] Flávia M.T. Santos, "As Emoções nas Interacções e a Aprendizagem Significativa," *Ensaio Pesquisa em Educação em Ciências* 9, no. 2 (2007):184.

[18] van der Linden and Mendonça, "From Competence-Based," 41.

[19] Arlene Gilpin and Wagenaar Robert, "Approaches to Teaching," in *Tuning Educational Structures in Europe. Universities' Contribution to the Bologna Process. An Introduction,* ed. Robert Wagenaar and Julia González (Bilbao and Groningen: University of Deusto Press, 2006), 92.

[20] Beneitone and Bartolomé, "Global Generic Competences," 305.

[21] van der Linden & Mendonça, "From Competence-Based," 38.

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Since 2014, the FACED has been involved in the Tuning initiative. Aiming to communicate with stakeholders, Tuning adopted the concept of competence, which is holistic as it aggregates knowledge, skills, and social attitudes and behaviours as related dimensions of competence.[22] Accordingly, Tuning defines competences as "dynamic combinations of cognitive and metacognitive skills, knowledge and understanding, interpersonal, intellectual and practical skills, and ethical values and they are developed in all course units and assessed at different stages of a programme."[23]

The definitions above present significant commonalities. First, they view competences as situational since they mean the aptitude to solve real problems. Second, in both definitions, competences comprise knowing and understanding, applying knowledge, knowing how to behave.[24] Hence they are holistic since, in line with Lopez-Bonilla and Lopez-Bonilla,[25] they view competences as integration of cognitive capabilities, cooperation, behavior and social interaction, feelings and emotions, generosity and sympathy, imagination, and sensitivity.

Constructivist and student-centred learning frame the promotion of CBE as it challenges students to make meaning by building on their prior knowledge and experience. Since it regards activity as the panacea for the learner to translate theory into practice, learning will essentially entail discussing, solving problems, and cooperating.[26] The bachelor in psychology adopts constructivist learning since it challenges students to make meaning through thinking critically, solving authentic problems, and engaging in groups, among others activities. Promotion of group engagement is recognizing that learning is concomitant to social interaction, since according to Vygotsky,[27] the ways in which people acquire knowledge and interpret the world are determined by interactions they carry out within their social experiences. Such interaction has an instrumental role allowing the learner to grasp the meaning through explaining, elaborating and defending his/her

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[22] Robert Wagenaar, "Competences and Learning Outcomes: A Panacea for Understanding the (new) Role of Higher Education?" *Tuning Journal of Higher Education* 1, no. 2 (2014): 289.

[23] Serbati, "Implementation of Competence-Based," 27.

[24] Beneitone and Bartolomé, "Global Generic Competences," 46.

[25] Jesus M. López-Bonilla and López-Bonilla L. Miguel, "Holistic Competence Approach in Tourism Higher Education: An Exploratory Study in Spain," *Current Issues in Tourism* 17, no. 4 (2014): 316. DOI: 10.1080/13683500.2012.720248.

[26] Ramsden, *Learning to teach,* 101.

[27] Jorge J. Fringe, "Promoting Critical Reflection for Academic Professional Development in Higher Education" (PhD diss., University of Pretoria, 2013), 50.

position in discussion with colleagues.[28] These processes require active search and analysis of information, as well as recognition that the other participants within this process might possess information that is either challenging or complementary to one's position. In turn, the promotion of solving authentic problems reminisce situated learning which views learning as an activity embedded in and animating practice, and practice as shaping learning. Central issue in learning is to become a practitioner learning from practice, rather than learning about practice.[29] Meanwhile, the lecturer's role revolves around being motivator and witness, coach and facilitator, assessor, and remediator.[30]

CBE distinguishes generic/transversal from specific competences. While generic competences identify common attributes predictable to be developed by students of any degree, specific competences prepare the student for the profession.[31] The FACED bachelor in Psychology generic competences was informed by stakeholders consultation.[32] Therefore, ten (10) generic competences were defined, including communication, information management, leadership, project management, social interaction, reflection, ethics, design, and research and information technology.[33]

III. **Holistic learning styles and multiple intelligences**

The holistic learning styles model, encapsulated within the whole-brain model[34] was developed in reaction to educational practices that have for long focused on promoting left brain-related skills. Being innovative, intuitive, emotional and spiritual have been neglected in favour of analytical, rational, and logical processes.[35] The whole brain model (see figure 1) conceives the

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[28] Fringe, "Promoting Critical Reflection," 50.

[29] John S. Brown, Collins Allan and Duguid Paul, "Situated Cognition and the Culture of Learning," *Educational Researcher* 18, no. 1 (1989): 32-42.

[30] Linda L. Nussbaumer, "Theoretical Framework for Instruction that Accommodates all Learning Styles," *Journal of interior design* 27, no. 2 (2001):44.

[31] López-Bonilla and López-Bonilla, "Holistic Competence," 315.

[32] van der Linden and Mendonca, "From Competence-Based," 38.

[33] Arlindo Sitoe et al., *Currículo Ajustado de licenciatura em Psicologia* (Maputo: UEM, 2012), 10-12.

[34] Ned Herrmann, *The Creative Brain*, 5th ed. (North Carolina: The Ned Herrmann Group, 1995), 63.

[35] Ann-Louise De Boer and van den Berg Dorette, "The Value of the Herrmann Brain Dominance Instrument (HBDI) in Facilitating Effective Teaching and Learning of Criminology," *Acta Criminologica* 14, no. 1 (2001): 119.

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individual as a composite whole of needs, thoughts, values, feelings and actions. According to Herrmann,[36] Sonnier and Sonnier,[37] and Nussbaumer,[38] the model assumes brain dominance as natural and normal for all persons. It presents a metaphoric brain division into four quadrants representing distinct learning styles[39] featured by:

- A quadrant favours analysing, figuring out, logical thinking and quantifying.
- B Quadrant favours planning, verbalizing, action, rules, and structure.
- C Quadrant are sensitive, emotional, empathetic, interpersonal, and musical.
- D Quadrant are creative, playful, spontaneous, holistic, and synthesizing.

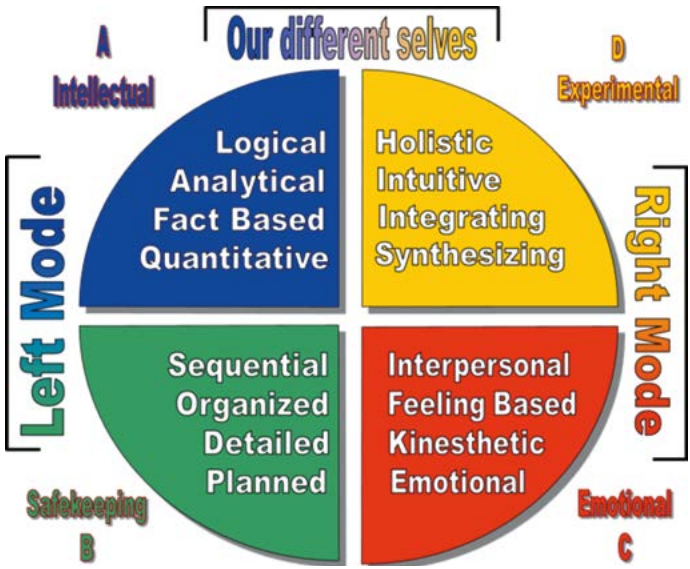

Figure 1

The whole-brain model (Fringe, 2013)

[36] Herrmann, *The Creative Brain*, 15-17.

[37] Isadore L. Sonnier and Sonnier B. Claudine, "Nurturing Hemispheric Preference Through Affective Education," *Journal of Instructional Psychology* 22, no. 2 (1995): 182-185.

[38] Nussbaumer, "Theoretical Framework for Instruction," 39-40.

[39] Herrmann, *The Creative Brain*, 79-85.

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Diverse reasons determine the adoption of Herrmann model. It is innovative, process-oriented, situation-focused, among the 13 most influential models and its instrument is one of the five more recommended instruments to education and training.[40] It is comprehensive,[41] including cognition, affectivity and doing.[42] The model and its instrument, the Herrmann Brain Dominance Instrument has shown to aggregate criterion, face and construct validity.[43] This model considers LS as passive to change, development,[44] and regulation and development through parenting, life experiences, learning environment influences.[45] Moreover, the model aligns with constructivist and student centred learning, and promotes diversification and deep learning.

Gardner proposed the multiple intelligences (MI) theory pursuing to surpass previous biased IQ tests, which determined intelligence by testing individuals in artificial learning environments. Such tests do not assess the individual capacity to assimilate and solve daily, professional or personal problems.[46] Accordingly, Gardner advanced that intelligence is encouraged and displayed in the natural environment.[47] Hence, it is more meaningful to devise it by challenging the individual to perform within such familiar environments.

Originally, Gardner has listed seven categories of intelligence namely the linguistic, logical-mathematical, spatial, bodily-kinesthetic, musical, interpersonal, and intrapersonal.[48] For Gardner, all humans possess and have developed these intelligences in different degrees due to genetic and experiential

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[40] Frank Coffield, Moseley David, Hall Elaine, and Ecclestone Kathrin, *Learning Styles and Pedagogy in post-16 Learning: A Systematic and Critical Review* (London: Learning and Skills Research Centre, 2004), 8-9.

[41] Ann-Louise De Boer, Du Toit Pieter H., Bothma Theo J. D., and Scheepers Detken, "Constructing a Comprehensive Learning Style Flexibility Model for the Innovation of an Information Literacy Module," *Libri* 62, no. 2 (2012), 185.

[42] Coffield, Moseley, Hall and Ecclestone, *Learning Styles and Pedagogy*, 83.

[43] Victor C. Bunderson, *The validity of the Herrmann Brain Dominance Instrument®*, accessed July 25 2011, http://www.hbdi.com/uploads/100021_resources/100331.pdf.

[44] Ali K. A. Bawaneh, Abdullah G. K. Abdul, Saleh Salmiza, and Yin Y. Khoo, "Jordanian Students' Thinking Styles Based on Herrmann Whole Brain Model," *International Journal of Humanities and Social Science* 1, no. 9 (2011), 89.

[45] Herrmann, *The Creative Brain*, 19.

[46] Cláudia C.B Rego and Rocha N. M. Fraga, "Avaliando a Educação Emocional: Subsídios para um Repensar da Sala de Aula," *Avaliação de políticas publicas em educação* 17, no. 62 (2009), 142.

[47] Adrianna Kezar, "Theory of Multiple Intelligences: Implications for Higher Education," *Innovative Higher Education* 26, no. 2 (2001), 143.

[48] Ian J. McCoog, "Integrated Instruction: Multiple Intelligences and Technology," *The Clearing House: A journal of Educational Strategies, Issues and ideas* 81, no. 1 (2007), 25.

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factors. MI theory aligns the holistic concept of competence for which it is the totality of attributes (knowledge, skills and attitudes) required to perform as a competent professional.[49] Hereafter educators are called to challenge the traditional notion of intelligence, mostly prevalent in Western societies, limited to linguistic and logical intelligences. Accordingly, they must nurture the varied human intelligences including the ability to see spatial patterns, to understand, relate and influence with other people, providing opportunities for learners to feel expert.[50]

This study adheres to the MI theory since it implies increased individualization of learning through independent study, experiential learning opportunities, self-paced learning, among others. The study recognises the MI potential to enhance conceptual understanding, positive attitudes toward learning, enjoyment and participation in learning, and create more authentic learning experiences.[51] Hence, it reckons constructivism, learner centredness, and situated learning as sign of appreciation of each learner's unique combination of intelligences.

The relevance of the MI theory draws further from its superimposition with the whole-brain model. Hence, the logical-mathematical intelligence is typical of the A quadrant; the verbal-linguistic occurs in both A and B quadrants; bodily-kinaesthetic, interpersonal, intrapersonal and musical intelligences are dominant in the C quadrant; and the visual-spatial is D quadrant.

In the same vein as the whole-brain model, the MI theory contends that each intelligence support certain learning activities. No intelligence or LS is functional in isolation. None is better than other. Each competence entails a complex mix of MI and LS involved.[52] Accordingly, the Tuning perspective contends that a person does not either possess or lack a competence in absolute terms, but commands it to a varying degree.[53] In considering the importance of cognition, affect and conation, this study adheres to both. It argues that differentiating methods of facilitating learning takes creativity and commitment.[54]

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[49] Kouwenhoven, "Designing for Competence," 64.

[50] Kezar, "Theory of Multiple Intelligences," 143.

[51] Karen Goodnough, "Multiple Intelligences Theory: A Framework for Personalizing Science Curricula," *School Science and Mathematics* 101, no. 4 (2001), 181.

[52] Pieter H. Du Toit, "Matching Learning Style Flexibility and Action Research for Academic Staff Development" (paper presented at AERA Conference, New York, March 24-28, 2008).

[53] Beneitone and Bartolomé, "Global Generic Competences," 46.

[54] McCoog, "Integrated Instruction," 26.

Learning Style Flexibility (LSF)[55] rests on two assumptions. First, the learner is a whole person, with skills to plan and logically analyse facts, but who can also be emotionally involved, experiment, and integrate facts. A learner might have a preference for a certain quadrant (e.g. A) but no developed competence for a specific skill within such a quadrant (e.g. quantitative processing) because he/she missed the opportunity to develop such a skill.[56] Hence there is a need to stimulate the learner's preference and challenge his/her avoidance.

Second, an entire group of learners considered predictably consists of a composite whole-brain.[57] Hence lecturers have to adapt their style, following the holistic group composition,[58] the nature of the subject matter and the intended learning outcomes.[59] Otherwise, Felder[60] indicates that the students' discomfort, associated with their way of learning being discriminated against, may hamper their full motivation to learn.

Lecturers should ideally design the tasks to move back and forth dynamically across all four quadrants, ensuring learning style flexibility.[61] As Sampaio indicates,[62] they must bear in mind that education cannot be restricted to acquisition of information or to logical and analytical thinking, since it must serve life, as well as human, social and environmental realization. Each key learning point must be tackled in ways representing different learning styles and multiple intelligences, including, for instance, a handout, a short video, a simulation, role playing, a team activity or a case study.[63] That approach represents inclusive pedagogy which prevents students' marginalisation and allows them to use their strengths.[64] Hence lecturers will be espousing what students consider to be good teaching namely promoting students engagement at their level of understanding, showing respect for them, being flexible, and adopting methods that stimulate independent, active, and cooperative learning.[65]

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[55] De Boer, Du Toit, Bothma, and Scheepers, "Constructing a Comprehensive," 185.

[56] Herrmann, *The Creative Brain*, 76.

[57] Ned Herrmann, *The Whole-Brain Business Book* (New York: McGraw-Hill, 1996), 150.

[58] Du Toit, "Matching Learning Style," 28.

[59] Serbati, "Implementation of Competence-Based," 21.

[60] Pieter H. Du Toit, De Boer Ann-Louise, and Steyn Tobias, "Learning Style Flexibility," in *Facilitating Adult Learning: Reader,* ed. Pieter H. Du Toit (Pretoria: University of Pretoria, 2006), 39.

[61] De Boer, Du Toit, Bothma, and Scheepers, "Constructing a Comprehensive," 192.

[62] Rego and Rocha, "Avaliando a Educação," 143.

[63] Herrmann, *The Whole-Brain*, 153.

[64] Barrington, "Teaching to Student Diversity," 423.

[65] Ramsden, *Learning to Teach,* 89.

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The FACED bachelor in Psychology foresees the employment of tutorials, debates, workshops, simulations, seminars, field visits, projects, group work, audiovisual, and readings.[66] Mixing this bachelor course proposed methods and the works of Herrmann[67] and Gilpin and Wagenaar,[68] a combination between methods of facilitating learning and the whole brain model was developed, as table 1 presents.

Table 1

Matching whole-brain and methods of facilitating learning

Quadrant	Methods of facilitating learning
A	Lecture, reading, self-paced instruction, problem based learning, fact-based analysis, scheme development and tutorials.
B	Lecture, reading, individual projects, self-paced instruction, problem based learning, individual projects, self-paced learning, and tutorials.
C	Seminars, workshops, debates, cooperative learning, word games, storytelling, field trips, case study, and drama/simulations.
D	Word games, brainstorming, storytelling, work based practice, singing, visualisation, field trips, drama/simulations, and physical involvement.

LSF acknowledges that learning is inextricably linked to the way a lecturer facilitates it.[69] This linkage unfolds in a constructive alignment,[70] which appeals for balance between methods of facilitating learning, students learning activities, and discipline knowledge. The FACED bachelor in Psychology, aims among others to develop students' competence to carry out psychosocial interventions on institutions and communities. In order to achieve that aim, students are for instance challenged to analyse, integrate and apply knowledge, cooperate in groups, and show commitment to ethical standards. Accordingly, lecturers have an array of methods such as lectures, debates, case study, brainstorming, field trips, and simulation. These methods denote the course designer's intension to promote holistic learning which

[66] Sitoe et al., *Currículo Ajustado*, 12.
[67] Herrmann, *The Whole-Brain*, 153.
[68] Gilpin and Wagenaar, "Approaches to Teaching," 94.
[69] Ramsden, *Learning to Teach*, 6.
[70] Biggs, "Enhancing Teaching," 347.

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pursues to develop the learners functional, cognitive, social and behavioural competences.[71]

Holistic learning occurs when students are asked to search solutions for authentic, complex and ill-defined, problems emanating from professional practice. For that purpose, they have to select, interpret and apply relevant information.[72] In this way, students will develop independence, self-awareness, self-control and understanding through intuition, imagination, contemplation, and visualization.[73] The FACED bachelor in psychology aims to stimulate individual and collective responsibility through real life problem solving, contributing for development of students' ethics, spirit of responsibility, feelings attached learning, confidence, and resilience.[74] Active problem solving fosters student interest, imaginative spirit, self-regulation, and recognises that students achieve higher through their preferred way of learning.[75]

IV. **Research design and method**

This study intended to assess the extent to which FACED psychology lecturers accommodate MI as superimposed to holistic LS within their effort to develop the student competences. Being descriptive, the study concerned with depicting practical action. It sought to assess students' opinions and attitudes towards lecturing practice.[76]

In order to achieve the study objective, a questionnaire composed mostly by four-point Likert scale questions was developed. The rationale for the choice of questionnaire was the study nature as well as the instrument advantages, including easy administration, provision of direct responses, and greater honesty linked to anonymity.[77]

The questions composing the instrument resulted from collecting and collating significant items from different sources. For that purpose, there

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[71] Wagenaar, "Competences and Learning," 289.

[72] Serbati, "Implementation of Competence-Based," 24.

[73] Sheri R. Klein, "Holistic Reflection in Teacher Education: Issues and Strategies," *Reflective Practice* 9, no 2 (2008), 112.

[74] Rego and Rocha, "Avaliando a Educação," 144.

[75] Ramsden, *Learning to Teach,* 101.

[76] Antonio C. Gil, *Métodos e Técnicas de Pesquisa Social*, 6ª ed. (São Paulo: Atlas, 2008), 28.

[77] Louis Cohen, Manion Lawrence, and Morrison Keith, *Research Methods in Education*, 5th ed. (London: Routledge Falmer, 2003), 101.

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was revision of the FACED Psychology study plan, multiple intelligences assessment instruments, and the Herrman Brain Dominance Instrument (HBDI), which has shown to aggregate criterion, face, and construct validity.[78]

The questionnaire comprised three main parts, namely respondents' characterisation, methods of facilitating learning, and students' activities related to MI and LS. In the two last parts, respondents were asked to indicate, through four-point Likert scale questions, the frequency with which lecturers adopted different methods of facilitating learning or promoted MI and LS-related activities. Respondents had to choose among four options, namely (1) *never*, (2) *rarely*, (3) *frequently* and (4) *always*. Then, from the least employed, they had to indicate which they would like to be more frequently adopted.

A stratified random sampling[79] was adopted. In the first stage, the student population was stratified into four levels: first, second, third, and fourth year. Then, they were simply randomly sampled within the four strata. They were previously explained about the study objectives and benefits, questionnaire anonymity, data confidentiality, and were given freedom to decide participating or not.

The questionnaire was piloted to 18 early childhood education students from the same faculty. It allowed getting feedback and adhering to measures that contribute to increase validity and reliability such as using students familiar language, writing simple, clear and precise items, avoiding leading, loaded, double-barreled and double negatives.[80]

Data was analysed mainly through descriptive statistics performed in a MS-Excel spreadsheet that was configured in order to assist the computational operation. Data reduction started before data collection, since coding was built into questionnaire construction providing pre-coded answers.[81] For simplicity in interpretation, data was dichotomised. Hence, *never* and *rarely* were aggregated as negative, while *frequently* and *always* was considered as positive. Computing frequencies and percentages of responses within each category allowed visualising the regularity with which methods of facilitating learning and student learning activities are employed within the course.

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[78] Bunderson, *The validity of the Herrmann Brain Dominance Instrument®*, accessed July 25 2011, http://www.hbdi.com/uploads/100021_resources/100331.pdf.

[79] Cohen, Manion and Morrison, *Research Methods*, 101.

[80] Cohen, Manion and Morrison, *Research Methods*, 248-249.

[81] Cohen, Manion and Morrison, *Research Methods*, 265.

V. **Results**

The study involved 158 bachelor students in Psychology (43 male and 114 female). It included 59 first year, 45 second year, 29 third year and 25 forth year students. Their ages range between 18 and 37 years. The mean age is 22,6 (SD of 4.5).

Concerning the frequency with which lecturer adopt methods that stimulate different LS and MI, table 2 shows that the majority of respondents mention lectures (89%), debates (87%), oriented reading (85%), seminars (82%) and brainstorming (72%) as those employed *frequently or always*. Debates and brainstorming stimulate interpersonal intelligence superimposed to the C quadrant, while lectures, oriented reading, and seminars stimulate verbal-linguistic intelligence superimposed by the AB quadrants.

Table 2

Lecturer adoption of different methods of facilitating learning

Methods of facilitating learning (quadrant)	Intelligency	Frequency (percentage)		
		Rarely or never	Frequently or always	Total
Lectures (AB)	Verbal-linguistic	17 (11%)	139 (89%)	156
Debates (C)	Interpersonal	20 (13%)	134 (87%)	154
Field work (CD)	Bodily-kinesthetic	124 (80%)	31 (20%)	155
Diagrams/charts (D)	Visual-spatial	138 (91%)	13 (9%)	151
Problem solving (AB)	Logical-Mathemat.	68 (45%)	84 (55%)	152
Brainstorming (C)	Interpersonal	42 (27%)	113 (73%)	155
Case study (AB)	Logical-Mathemat.	98 (63%)	58 (37%)	156
Experiential learning (CD)	Bodily-kinesthetic	99 (64%)	55 (36%)	154
Oriented Reading (AB)	Verbal-linguistic	23 (15%)	135 (85%)	158
Study visits (CD)	Bodily-kinesthetic	134 (88%)	19 (12%)	153
Drama/Simulations (CD)	Bodily-kinesthetic	139 (89%)	17 (11%)	156
Individual projects (C)	Intrapersonal	89 (57%)	66 (43%)	155
Seminars (AB)	Verbal-linguistic	27 (17%)	130 (83%)	157

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Respondents mentioned that lecturers *rarely* or *never* use diagrams and charts (91%), drama and simulations (89%), study visits (87), field work (80%), experiential learning (64%), and case study (63%). Except case study, which is left hemisphere, all of these methods are linked to the right hemisphere.

Comparison between different levels, as displayed in table 3, show consistent results. Accordingly, lectures are mentioned to be employed *frequently* or *always* by 52 first year students (88%), 43 second year (96%), 22 third year (76%) and 22 fourth year (88%). Debates are mentioned to be employed *frequently* or *always* by 51 first year (86%), 36 second year (80%), 28 third year (97%) and 19 fourth year (76%).

Table 3

Methods of facilitating learning adopted in different years

Method	1st year		2nd year		3rd year		4th year	
	RN	FA	RN	FA	RN	FA	RN	FA
Lectures	5	52	2	43	7	22	3	22
Debates	7	51	7	36	1	28	5	19
Field work	56	2	39	6	12	15	17	8
Diagrams/charts	50	7	41	3	25	1	22	2
Problem solving	27	31	18	25	15	12	8	16
Brainstorming	13	45	11	33	12	17	6	18
Case study	46	13	26	18	17	11	9	16
Experiential learning	43	13	22	23	19	9	15	10
Oriented Reading	9	50	4	41	7	22	3	22
Study visits	57	0	41	2	18	10	18	7
Drama/simulations	59	0	40	5	20	7	20	5
Individual Projects	38	20	32	12	7	21	12	13
Seminars	18	41	1	43	4	25	4	21

Legend: RN – rarely or never; FA – frequently or always.

On the reverse side, diagrams and charts are mentioned to be used *rarely* or *never* by 50 first year (85%), 41 second year (91%), 25 third year (86%), and 22 fourth year (88%). Drama and simulations are mentioned to be used

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rarely or *never* by 59 first year (100%), 40 second year (89%), 20 third year (74%), and 20 fourth year (80%).

Data in table 3 shows that all 1st year students indicated that study visits and drama and simulations were *rarely* or *never* used. These methods are increasingly mentioned from 2nd year onward: study visits are mentioned by 2 second year (4%), 10 third year (34%), and by 7 fourth year (28%). In turn, drama and simulations are mentioned by 5 first year (11%), by 7 third year (24%), and by 5 fourth year (20%). The same pattern is somehow presented on case studies and experiential learning. Case studies are mentioned to be employed *frequently* or *always* by 13 first years students (22%), 18 second year (40%), 11 third year (38%), and 16 fourth year (64%). Experiential learning is mentioned to be employed *frequently* or *always* by 13 first year students (22%), 23 second year (51%), 9 third year (31%), and 10 fourth year (40%). Overall, one finds that lectures, debates, brainstorming and oriented reading are used *frequently* or *always* with consistency thought the whole course.

From the list presented in table 2, respondents had to indicate five methods they would like to see employed more often. The results presented on table 4

Table 4

Student preferred methods of facilitating learning

Methods of facilitating learning	Frequency
Study visits	103
Field work	89
Drama/simulations	78
Case study	76
Experiential learning	62
Individual projects	48
Problem based learning	46
Diagrams/graphics	44
Seminars	26
Brainstorming	11
Debates	10
Lectures	8
Oriented Reading	3

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show that respondents would like to be more engaged in methods such as case study (logical-mathematical intelligence associated to AB quadrants), study visits, field work, drama and simulations, and experiential learning. All of these are bodily-kinesthetic intelligences superimposed to the CD quadrants.

Brainstorming and debates (all interpersonal), seminars, lectures, and oriented reading (all verbal-linguistic), are the least mentioned methods. Seminars, lectures, and oriented reading are the sole methods associated with the left hemisphere on table 4. This might hint that students are being satisfactorily stimulated for the use of the left hemisphere.

Regarding the frequency with which lecturers promote learning activities linked to the MI and LS, respondents had again to choose options varying from *never* to *always*, as table 5 show.

Table 5

Lecturers promotion of student learning activities

Students learning activities (quadrant)	Intelligency	Frequency (percentage)		
		Rarely or never	Frequently or always	Total
Text prodution (AB)	Verbal-linguistic	44 (29%)	110 (71%)	154
Cause-effect analysis (B)	Logical-Mathemat.	91 (61%)	58 (39%)	149
Draw and photos (D)	Visual-spatial	133 (86%)	21 (14%)	154
Interacting and sharing (C)	Interpersonal	11 (7%)	145 (93%)	156
Ludic activities (D)	Interpersonal	139 (89%)	18 (11%)	157
Listening to music (D)	Musical	154 (97%)	4 (3%)	158
Mathematical operations (A)	Logical-Mathemat.	112 (72%)	44 (28%)	156
Work with graphs and tables (D)	Visual-spatial	132 (84%)	25 (16%)	157
Group work (C)	Interpersonal	10 (6%)	147 (94%)	157
Drama/simulations (CD)	Bodily-kinesthetic	136 (87%)	21 (13%)	157
Developmen of self-knowledge (C)	Intrapersonal	60 (38%)	97 (62%)	157
Activities envolving singing (D)	Musical	152 (97%)	5 (3%)	157

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Students learning activities (quadrant)	Intelligency	Frequency (percentage)		
		Rarely or never	Frequently or always	Total
Oriented reading (AB)	Verbal-linguistic	14 (9%)	144 (91%)	158
Responding to why questions (A)	Logical-Mathemat.	50 (32%)	106 (68%)	156
Intuition based decision making (D)	Intrapersonal	127 (81%)	29 (19%)	156
Physical envolviment(D)	Bodily-kinesthetic	138 (88%)	19 (12%)	157
Fact based analysis (A)	Logical-Mathemat.	62 (40%)	93 (60%)	155

Most respondents indicated that lecturers *frequently* or *always* promote group work (94%), interacting and sharing ideas (93%), oriented reading (91%), text production (71%), responding to why questions (68%), development of self-knowledge (62%), and fact-based analysis (60%). On contrary, activities that involve music (97%), ludic activities (89%), physical involvement (88%), drawing and photos (86%), working with graphs and tables (84%), intuition based decisions (81%), and mathematical operations (72%) were mentioned to be promoted *rarely* or *never*.

Looking for tendencies over different years, one finds worth remarking patterns, as table 6 shows. For instance, it is observed that text production is mentioned to be used *frequently* or *always* in a consistent fashion used across the all four years: 48 first year (78%), 21 second year (47%), 24 third year (83%), and 19 fourth year (76%). Interacting and sharing ideas with peers is mentioned by 55 first year (93%), 41 second year (91%), 25 third year (86%), and 24 fourth year (96%). Oriented Reading is mentioned to be employed *frequently* or *always* by 52 first year (88%), 42 second year (93%), 24 third year (83%), and 23 fourth year (92%).

Data also shows consistent pattern across the course years concerning the least stimulated learning activities. For instance, activities involving draw and photos are indicated to be promoted *rarely* or *never* by 49 first year students (83%), 36 second year (80%), 26 third year (90%), and 22 fourth year (88%). Ludic activities are mentioned to be promoted *rarely* or *never* by 52 first year students (88%), 39 second year (87%), 27 third year (93%), and 21 fourth year (94%). Work with graphs and tables is mentioned to be promoted *rarely* or *never* by 45 first year (76%), 41 second year (91%), 25 third year (86%), and 21 fourth year (84%).

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Table 6
Comparing learning activities adopted by year

Learning activity	1st year		2nd year		3rd year		4th year	
	RN	FA	RN	FA	RN	FA	RN	FA
Text prodution	13	46	21	21	5	24	5	19
Cause-effect analysis	33	21	30	12	14	14	14	11
Draw and photos	49	9	36	8	26	2	22	2
Interacting and sharing ideas	3	55	3	41	4	25	1	24
Ludic activities	52	7	39	6	27	1	21	4
Listening to music	59	0	42	3	29	0	24	1
Mathematical operations	29	30	38	5	26	3	19	6
Work with graphs and tables	45	13	41	4	25	4	21	4
Group work	2	56	3	42	2	27	3	22
Drama/simulations	57	1	36	9	21	8	22	3
Development of self-knowledge	24	35	12	32	16	13	8	17
Activities involving singing	57	2	42	2	28	1	25	0
Oriented reading	6	52	2	42	4	24	1	23
Responding to why questions	19	39	10	35	12	16	9	16
Intuition based decision making	50	8	38	6	27	2	12	13
Physical involviment	52	7	41	4	25	4	20	4
Fact based analysis	31	27	16	29	9	19	6	18

Legend: RN – rarely or never; FA – frequently or always.

Concerning learning activities that respondents would like to see lectures promote more often, results, in table 7, show that ludic activities, activities involving music, drawings and photos, physical involvement, development of self-knowledge, and searching responses for why questions are the most mentioned. Almost all of these activities are related to C and D quadrants, except searching responses for why questions, which is located in A quadrant.

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Table 7
Students preferences for MI and LS related learning activities

Learning activity (quadrant)	Intelligency	Frequency
Ludic activities (D)	Interpersonal	53
Activities involving music (D)	Musical	53
Draw and photos (D)	Visual-spatial	35
Physical involviment (D)	Bodily-kinesthetic	35
Development of self-knowledge (C)	Intrapersonal	30
Work with graphs and tables (D)	Visual-spatial	26
Responding why questions (A)	Logical-Mathemat	20
Text production (AB)	Verbal-linguistic	16
Mathematical operations (A)	Logical-Mathemat	9
Fact-based analysis (A)	Logical-Mathemat	6
Group work (C)	Interpersonal	3

VI. **Discussion and conclusions**

According to the results presented above, the FACED bachelor of psychology lecturing promotes CBE through holistic learning and MI, despite the predominance of intelligences and learning styles linked to the left hemisphere. Lectures (AB), debates (C) oriented reading (AB), brainstorming (D), problem solving (AB), and seminars (AB) are mentioned to be employed frequently or always. From the MI perspective, these results portray a prevalence of promotion of verbal-linguistic, logical-mathematical and interpersonal intelligence. On the other side, diagrams and charts (D), drama and simulations (D), study visits (CD), field work (CD), experiential learning (D), and case study (C) are mentioned to be rarely or never used. Aligned to these results, scholars such as Korthagen,[82] De Boer and Van den Berg,[83] and van Woerkom[84] indicate that right hemisphere related skills and activities are the focus of reduced attention within teaching practice and

[82] Korthagen, "Two Modes," 320.
[83] De Boer and van den Berg, "The value of the Herrmann," 119.
[84] Van Woerkom, "Critical Reflection," 345.

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research. That finding represents an additional challenge for lecturers to increase their effort towards promotion of holistic competences, which are related to what a person knows, does, and feels,[85] and require students to be actively dealing with content. Against overreliance on rationality, lecturers are defied to increase their efforts towards promoting learning connected to practical forms of questioning, facilitating emotion and intuition-based as well as implicit learning.[86]

Consistent with previous results, respondents mentioned that they would like to have more opportunities to engage with study visits, field work, drama and simulations, case study and experiential learning. Except case study (logical-mathematical), all these methods are linked with the bodily-kinesthetic intelligence. That demonstrates students' need for opportunities to intervene like experts within authentic learning environments where they can be physically involved and manipulate things, having their varied intelligences nurtured,[87] and arousing their interest and imaginative spirit.[88]

Concerning the promotion of students learning activities linked to the MI and LS, the results show that debates (C), group work (C), interacting and sharing ideas (C), texts production (AB), responding to why questions (A) and development of self-knowledge (C) are promoted frequently or always. On the other hand, activities that involve music (D), ludic activities (D), drama and simulations (D), drawing and photos (D), physical involvement (D), and intuition-based decisions (D), working with graphs and tables (D), and mathematical operations (A) are *rarely* or *never* promoted. Respondents indicate the need to be more exposed to ludic activities, activities involving music, drawings and photos, and physical involvement.

Overall, the results show that within the FACED Bachelor in Psychology there is a tiny accommodation of the whole spectrum of LS and MI. Still these results display a way to go to increase the promotion of the right hemisphere-related MI and LS. The current study acknowledges that learning entails students developing skills to quantify, to logically analyse facts, to structure and organise things. But it also defends the need to promote active engagement, team work, problem solving, and hands-on learning; since education entails life, social and environmental realisation.[89] This context challenges lecturers to increase efforts for promotion of meaningful learning,

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[85] López-Bonilla and López-Bonilla, "Holistic Competence," 316.
[86] Van Woerkom, "Critical Reflection," 345.
[87] Kezar, "Theory of Multiple Intelligences," 143.
[88] Ramsden, *Learning to Teach,* 101.
[89] Rego and Rocha, "Avaliando a Educação," 143.

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stimulating authentic and affective learning experiences.[90] Such efforts to develop holistic competences are maximised by opportunities for students' active involvement, self-regulation and, consequently, intrinsic motivation.[91]

Although it is beyond the scope of the current study to advance with concrete proposals, it is apparent that the promotion of lecturers' professional development would be one step towards the mentioned increased promotion of competences through facilitating holistic learning strategies. An array of possible approaches ranging from informal, through non-formal to formal ones can be considered. Hence, short-courses, workshops, mentoring, round-tables discussions could be adopted. All of these should be practice and problem-focused and reflective practice-oriented.[92] Beyond that proposition, literature is plenty of exemplars of how that could be done, especially in this new era that requires balance of local and international dimensions, new and more demanding students with the same teaching resources,[93] and featured by the extension of the traditional roles of lecturers who, among others, have to be managers and extensionists, course designers, marketers and technology experts, scholars, researchers and lifelong learners, and discipline specialists.

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[90] Santos, "As emoções nas Interacções," 174.
[91] Serbati, "Implementation of competence-based," 24.
[92] Fringe, "Promoting critical reflection," 48.
[93] Serbati, "Implementation of competence-based," 52.

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How does it feel? The affective domain and undergraduate student perception of fieldwork set in a broad pedagogical perspective

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Abstract: This study presents the results of an investigation of the undergraduate student perception of fieldwork, specifically in the context of the affective domain, and considers the effectiveness of field-based training as a pedagogical tool. Fieldwork provides the learner with a deep and immersive learning environment, where they are required to apply knowledge and theory acquired in class to the natural world, and to analyse its validity. Strong spatial and temporal reasoning skills are routinely employed, and construction of maps is central to the learning experience, as it requires students to carefully observe their surroundings and make informed and reasoned decisions as to what is truly important to document. As part of this study, students from a single higher education institution in Ireland were provided with anonymous questionnaires and polled for their opinions both prior to and following a phase of residential

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fieldwork. The results clearly show an appreciation of not just the cognitive benefits, but also the transferable, technical and social skills developed and improved through their varied first-hand real world fieldwork experiences. These findings are in keeping with those of previous studies. Overall, the student study group demonstrated enhanced affective domain responses to residential fieldwork: a recurring theme in the survey responses was recognition of the importance and value of sound observation and scientific rigor. These skills could subsequently be applied to many other areas of student learning, thus helping them to consolidate and integrate their knowledge base. The capacity of field training to transform the way students think (academically, but also socially) was quite evident, and they became knowledge generators rather than just knowledge recipients.

Keywords: Affective domain; fieldwork; geoscience; geology; pedagogy; situated learning.

I. **Introduction**

There is a long held appreciation in geoscience education of the value of field-based teaching, through the experiences of being on site and shared learning,[1] as part of a community of practice.[2] Fieldwork is seen as important in developing and enhancing cognitive and practical skills, and in acquisition of knowledge through direct engagement with real world geological phenomena in their natural contexts.[3] Feedback from both students and employers consistently refers to the importance of this activity in meeting the requirements of vocational and professional training. From a pedagogical perspective, fieldwork provides a unique opportunity for student engagement, occurring at a particularly immersive intersection between the learner and the institution.[4] This type of learning empowers students by facilitating this

[1] David W. Mogk and Charles Goodwin, "Learning in the field: synthesis of research on thinking and learning in the geosciences," in *Earth and minds: A synthesis of research on thinking and learning in the geosciences: Geological Society of America Special Papers 486*, eds. Cathryn A. Manduca and Kim A. Kastens (Boulder, CO: Geological Society of America, 2012), 134.

[2] Etienne Wenger, *Communities of Practice. Learning, meaning and identity* (Cambridge, UK: Cambridge University Press), 73.

[3] Heather L. Petcovic, Alison Stokes, and Joshua L. Caulkins, "Geoscientists' perceptions of the value of undergraduate field education," *GSA Today* 24, no. 7 (July 2014): 7, https://doi.org/10.1130/GSATG196A.1.

[4] Ella R. Kahu and Karen Nelson, "Student engagement in the educational interface: understanding the mechanisms of student success," *Higher Education Research & Development* 37, no. 1 (Spring 2018), 59, https://doi.org/10.1080/07294360.2017.1344197.

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engagement, and the situated learning environment[5] allows them to feel part of the larger geoscience community.[6] Additionally, students appreciate the training and social benefits (in terms of class- and confidence-building) that fieldwork affords.[7,8] Various forms of student and employer feedback have been used to hone and refine fieldwork programmes in the earth sciences, reflecting changes in technology and changes in educational approach. However, while it has been suggested that there is a trend away from fieldwork (and field-based instruction) towards modeling and simulation, it can be argued that direct, first-hand field experience can make interpretation of such model outputs more robust and reliable.[9] While the importance of field-teaching is acknowledged by practitioners and researchers, less focus has been placed on what undergraduate students think about fieldwork.

II. **Project aims**

The aim of this project is to investigate *undergraduate student perception* of fieldwork, in the context of the affective domain, and to seat the practice in a pedagogical context. The students who participated in this study were second, third and fourth (final) year Earth and Ocean Science (EOS) undergraduates in NUI Galway. The specific research questions being considered are:

1. What is the impact of fieldwork on the student affective domain?
2. Do student attitudes to learning change following completion of fieldwork?
3. Does fieldwork have the same impact on all students?

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[5] John S. Brown, Allan Collins, and Paul Duguid, "Situated Cognition and the Culture of Learning," *Educational Researcher* 18, no. 1 (January 1989), 32, https://doi.org/10.3102/0013189X018001032.

[6] Niamh Moore-Cherry, Ruth Healey, Dawn T. Nicholson, and Will Andrews, "Inclusive partnership: enhancing student engagement in geography," *Journal of Geography in Higher Education* 40, no. 1 (Spring 2016), 86, https://doi.org/10.1080/03098265.2015.1066316.

[7] John Murray et al., "Fieldwork in the context of Earth & Ocean Science training," *Discover, Explore, Create: 12th Galway Symposium on Higher Education, (June 6, 2014)*, Centre for Excellence in Learning & Teaching, National University of Ireland, Galway.

[8] Steven J. Whitmeyer et al., "Why Ireland? Analyzing an international field experience on its tenth anniversary" (Paper No. 275-9, GSA Annual Meeting, Vancouver, British Columbia, 19-22 October, 2014).

[9] Tim P. Burt and Jeff J. McDonald, "Whither field hydrology? The need for discovery science and outrageous hydrological hypotheses," *Water Resources Research* 51 (August 2015): 5921, https://doi.org/10.1002/2014WR016839.

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Boyle et al.[10] provide a clear distinction between the cognitive and affective domains of learning: cognitive activities involve the processing of information and construction of meaning, whereas affective activities deal with emotions, feelings and values. They also note that positive outcomes in the affective domain are considered important for subsequent success in the cognitive domain. Over a number of years, EOS staff at NUI Galway have gathered anecdotal information from students and alumni, all of whom spoke very positively about the impact that fieldwork had made on their outlook:

> *The fieldtrips were excellent, many people believe that being taught something in a classroom environment is enough, however, nothing compares to going out into the field and practicing these methods.*
>
> *The fieldtrip elements of the course were an invaluable aspect, resulting in hugely accelerated learning, despite the obvious budget constraints within the department.*[11]

Boyle et al.[12] suggest that fieldwork is good if positive emotional responses are triggered in the student. This appears to reflect the anecdotal experience in EOS, but when a more structured and rigorous approach to data collection and analysis is taken, is this still the case?

III. **Theoretical and broad context of the importance of fieldwork**

> *Gold is where you find it, according to an old adage, but judging from the record of our existence, oil must be sought first of all in our minds.*[13]

The essence of the above statement is that both the human mind and practical experience are critically important tools for the earth scientist; therefore, a hallmark of the geosciences is the requirement for field-learning.[14]

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[10] Alan Boyle et al., "Fieldwork is Good: the Student Perception and the Affective Domain," *Journal of Geography in Higher Education* 31, no. 2 (2007): 301, https://doi.org/10.1080/03098260601063628.

[11] Two anonymous pieces of feedback collected from final year EOS undergraduate students and alumni by the Centre for Excellence in Learning and Teaching in NUI Galway in 2012.

[12] Boyle et al., "Fieldwork is Good," 315.

[13] Wallace Pratt, "Towards a philosophy of oil finding," *Bulletin of the American Association of Petroleum Geologists* 36, no. 12 (1952): 2231.

[14] Cathryn A. Manduca and Kim A. Kastens, "Geoscience and geoscientists: uniquely equipped to study Earth," in *Earth and minds: A synthesis of research on thinking and learning in the geosciences: Geological Society of America Special Papers 486,* eds. Cathryn A. Manduca and Kim A. Kastens (Boulder, CO: Geological Society of America, 2012), 3.

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Fieldwork has been highly valued in geoscience education and it remains a pedagogical cornerstone of the subject. At its most basic, it concerns observation and curiosity and it provides students with a skillset that empowers them to begin reading, interpreting and representing the landscape.

This perspective is widely acknowledged in the literature: the importance, benefit and value of geoscience fieldwork has been previously noted,[15] theoretical advances in geoscience are usually grounded in direct observation,[16] and fieldwork is highly valued within the earth sciences as a learning activity.[17] Mogk and Goodwin[18] open their wide-ranging review of the literature pertaining to field-based learning, by asking if there is evidence that fieldwork is a critical component of geoscience education. They provide ample evidence that fieldwork is indeed critical, but more importantly they seat it in a rigorous pedagogical setting. Geoscience education and field-based teaching can be mapped in terms of the cognitive, affective, metacognitive and social ways of knowing.[19] This has been termed *practitioners' wisdom,*[20] in that there is due acknowledgement that is above anecdotal level, but not rigorously established through focused research. Fieldwork provides students with unique opportunities to study the real and complex world. Their perception of fieldwork is typically positive: it can reinforce classroom-based learning and improve geoscience knowledge, skills and understanding.[21] Fieldwork not only provides students with first-hand real world experiences that facilitate development of transferable and technical skills, but social benefits also accrue: students get to know their classmates better (building or reinforcing a sense of belonging to a coherent group), and they develop a sense of being part of a broader geoscience community of learning. These themes have previously been developed and quite comprehensively examined.[22,23]

Fieldwork has the potential to engage student cognitive, affective, and psychomotor skills (Figure 1; in particular it could perhaps occupy the

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[15] Burt and McDonnell, "Whither field hydrology?," 5921.

[16] Kim Kastens et al., "How geoscientists think and learn," *EOS Transactions American Geophysical Union* 90, no. 31 (August 2009): 266, https://doi.org/10.1029/2009EO310001.

[17] Petcovic, Stokes, and Caulkins, "Geoscientists' perceptions," 4.

[18] Mogk and Goodwin, "Learning in the field," 137.

[19] Manduca and Kastens "Geoscience and geoscientists," 10.

[20] Mogk and Goodwin, "Learning in the field," 137.

[21] John Maskall and Alison Stokes, *Designing Effective Fieldwork for the Environmental and Natural Sciences* (York: Higher Education Academy, 2008), http//www.gees.ac.uk/pubs/guides/fw2/GEESfwGuide.pdf.

[22] Mogk and Goodwin, "Learning in the field," 154-157.

[23] Manduca and Kastens, "Geoscience and geoscientists," 7-8.

intersection point of all three domains on the Venn diagram), all of which contribute to learning.[24,25] Taking a "metacognitive" approach to instruction is useful: the students learn to think as geoscientists, to help solve problems. This allows them to take ownership of their own learning by defining learning goals and monitoring their progress as they work.[26] Field experience is thus transformed into knowledge.[27]

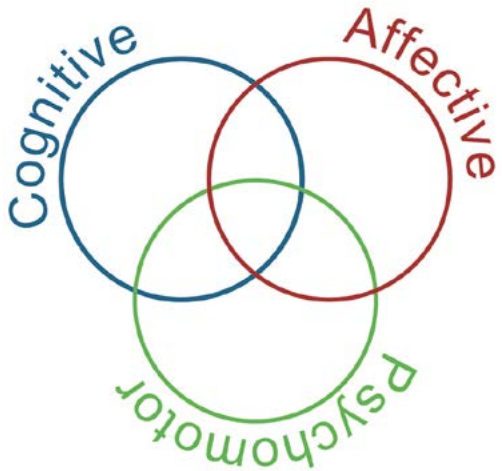

Figure 1

Venn diagram of the three domains of educational activities or learning

Note how each of the fields are not mutually exclusive and the potential that exists for domain overlap, to varying degrees. Certain learning activities, such as attending lectures, might preferentially lead to cognitive development, whereas engagement in classes with a strong practical component (such as labs) might improve both cognitive and psychomotor skills.

Being in the field also motivates students to learn. This total sensory engagement makes for memorable learning experiences, which are subsequently

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[24] Benjamin S. Bloom, *Taxonomy of Educational Objectives: The Classification of Educational Goals* (New York: David McKay Company, 1965).

[25] David R. Krathwohl, Benjamin S. Bloom and Bertram B. Masia, *Taxonomy of Educational Objectives; the Classification of Educational Goals. Handbook II: Affective Domain* (New York: David McKay Company, 1973).

[26] Mogk and Goodwin "Learning in the field," 142.

[27] David A. Kolb, *Experiential Learning: Experience as the Source of Learning and Development*, 2nd ed. (Upper Saddle River, New Jersey: Prentice Hall, 2015).

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used to aid recall and application.[28] A strong social relationship develops between the students, and their teachers, that has a strong affective impact.[29] Affect and cognition are closely linked,[30,31] and positive affective aspects are important for motivating and preparing students to learn.[32,33]

The immersive setting of field-learning allows students experience their surroundings from an enclosed perspective (they are within the larger object of study). They must record their observations in the complex context of their surroundings, and they thus tend to develop knowledge about the natural world that is markedly different from that obtained from artificial "representations".[34] This situated learning allows students to develop a deeper understanding of fundamental principles – such as the scale of geological phenomena (including deep time) and the significance of their spatial relationships: concepts and ideas that can be difficult to communicate in a classroom, laboratory or virtual learning environments. The geological record is inherently incomplete, and data collected in the field can be complex and ambiguous, so geoscientists – and geoscience students – have to learn to reason by analogy and strong inference in order to make better sense of the natural world.

Embodiment is an important component of human cognition and is an essential tool that allows geoscientists to organize and enhance knowledge.[35] Field-based learning permits students to acquire embodied skills that develop within natural *and* social contexts. The former include ways of knowing about how to interact with the outside world, while the latter involves all of the interactions that can be used to organize, prioritize, and share knowledge: taken together, this can lead to an agreed and collaborative understanding.

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[28] Murray G. Millar and Karen U. Millar, "The effects of direct and indirect experience on affective and cognitive responses and the attitude-behaviour relation," *Journal of Experimental Social Psychology* 32, no. 6 (November 1996): 577, https://doi.org/10.1006/jesp.1996.0025.

[29] Boyle et al., "Fieldwork is Good," 315.

[30] Justin Storbeck and Gerald L. Clore, "On the interdependence of cognition and emotion," *Cognition and Emotion* 21, no. 6 (Autumn 2007): 1213, https://doi.org/10.1080/02699930701438020.

[31] Luiz Pessoa, "On the relationship between cognition and emotion," *Nature Reviews Neuroscience* 9 (February 2008): 148, https://doi:10.1038/nrn2317.

[32] Boyle et al., "Fieldwork is Good," 314.

[33] Alison Stokes and Alan Boyle, "The undergraduate geoscience fieldwork experience: Influencing factors and implications for learning," in *Field Geology Education – Historical Perspectives and Modern Approaches: Geological Society of America Special Paper 461*, eds. Steven J. Whitmeyer, David W. Mogk, and Eric J. Pyle (Boulder, CO: Geological Society of America, 2009): 292.

[34] Charles Goodwin, "Professional vision," *American Anthropologist* 96 (1994): 628.

[35] Mogk and Goodwin "Learning in the field," 143.

Fieldwork immerses students in a social setting where they can observe how a community of practice develops and functions. Situated practice in fieldwork classes underpins and grounds the professional practices that define geoscience more broadly. This includes

> *the testing and vetting of methods, appropriate selection and use of tools, creation and use of inscriptions to confer meaning, norms and models for social interactions, personal and professional work ethics such as perseverance and integrity, and communication through gesture, representations, and words that animate the profession*.[36]

A geoscientist gains invaluable experience in the field, particularly when working with and learning from more experienced practitioners,[37,38,39] and the skills, attitudes and approaches all have direct connections to learning and working in a field-based setting. Student geoscientists gain experience in the field, and can systematically add to their information reservoir, for later access (in memory) as points of reference with which to compare and assess new information. Students become more capable of transferring lessons learned from one experience to new situations – even in the simple case of recognizing a particular rock type or geological horizon again at a different location. As geoscience students learn how to transform information about the Earth into knowledge, they are themselves transformed as individuals into the ranks of geoscientists. The students are not only knowledge recipients, but also knowledge generators.[40] Geological epistemology is built on its tradition as an interpretive and historical science,[41] and this tradition derives largely from field studies.

IV. **Methodology**

A paired questionnaire approach was used in this study: students were asked to complete a questionnaire before embarking on residential fieldwork,

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[36] Goodwin, "Professional vision," 614.

[37] Goodwin, "Professional vision," 615.

[38] Edwin Hutchins, *Cognition in the Wild* (Cambridge, MA: Massachusetts Institute of Technology Press, 1995).

[39] Tim Ingold, *The Perception of the Environment: Essays in Livelihood, Dwelling and Skill* (London: Routledge, 2000).

[40] Rob C. de Loë et al., *From Government to Governance: A State-of-the-Art Review of Environmental Governance. Final Report. Prepared for Alberta Environment, Environmental Stewardship, Environmental Relations* (Guelph, ON: Rob de Loë Consulting Services, 2009): 26.

[41] Robert Frodeman, "Geological reasoning: Geology as an interpretive and historical science," *Geological Society of America Bulletin* 107, no. 8 (August 1995): 960, https://doi.org/10.1130/0016-7606.

and to complete a second following completion of the course. A modified version of the Boyle et al.'s questionnaire[42] was used that was deemed more appropriate for the present study cohort, which was drawn exclusively from the undergraduate EOS programme at NUI Galway. Permission was sought from Alan Boyle to use a modified version of his questionnaire, and he kindly agreed and supplied digital templates.

A mixture of Likert-scale, ranking, free-form text entry, and respondent-specific (e.g. gender, age, previous experience) questions were organized under the following sections using Boyle et al.'s approach (for the pre-field-class questionnaire):

- Core Data (*respondent specific*)
- If you have been on fieldwork before what was your most memorable fieldwork experience? (*free text*)
- Which three of the 10 following descriptions best describe your feelings about the fieldwork you are about to undertake as part of your degree programme? (*ranking*)
- Anticipation of the fieldwork (*three-point Likert*)
- Knowledge to be gained (*five-point Likert*)
- Perception of fieldwork as being useful (*five-point Likert*)
- Collaboration, enjoyment and motivation (*three-point Likert*)
- Procedures and techniques in fieldwork (*five-point Likert*)
- What do you hope to get out of this fieldwork? (*free text*)

The post-fieldtrip questionnaire was similarly formulated, but with questions posed in a more reflective manner, rather than the anticipatory approach employed in the pre-fieldwork questionnaire. For free-text questions rather than the anticipatory questions, the post-fieldwork questionnaire asked:

- What were your worst and best experiences?
- What skills have you learnt or developed during the field trip? *and*
- How has your relationship with the other students and with staff changed as a result of the field course?

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[42] Boyle et al., "Fieldwork is Good," 302-303.

In the EOS degree programme residential (extended-time) fieldwork is not undertaken in first year, so only second, third and fourth year students were invited to participate in the study. The entire class cohort was briefed about the study and the need for student involvement. Volunteers were sought from each group and the process then further explained. The size of the student cohort from the three years of the EOS degree (2015-2016) was 94 in total (*Table 1*). Nineteen (19) second year, 18 third year and 14 fourth year students completed the pre-fieldwork questionnaire, with 14, 15 and 14 (respectively) completing the post-trip form. A total of 51 students across all years (54% of the total student cohort) completed one or other of the questionnaires, but only 43 (46% of the total student cohort) completed both.

Each student who took part in the study was asked to use one of three identifiers based on their year of study, followed by a number randomly selected between 1 and 35 (by the student). Each form was pre-coded with the identifier (*EOS3_28*, for example, referred to a 3rd year student) and students were asked to remember their number and use it again on the follow-up questionnaire. The discipline administrator and a postgraduate student took responsibility for distribution and collection of the questionnaires.

V. **Ethical issues and approval**

Prior to undertaking this research an ethics application was submitted to the Ethics Committee in NUI Galway, and approval was subsequently granted. Key issues of confidentiality and trust are raised in studies of this kind; it is important that participants feel that the information they share will be treated with respect and used solely for the reasons stated. In this case the volunteer participants were briefed about the context and overall aims of the study, and they were provided with a briefing document based on the ethics application. A consent form was included confirming that the data and results would be used only for this research and that no identifiers would be used that could in any way be associated with any participant.

It was stressed at *all times* that the student participation was entirely voluntary and outside any formal examination or assessment process. The success of the project was entirely reliant on student input and goodwill, and they were reassured that they could choose not to continue with the process at any point, and that any such decision would not be viewed negatively.

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Insider research may be defined as *"investigation conducted by people who are already members of the organization or community they are seeking to investigate as a result of education, employment, social networks or political engagements"*.[43] Researching professional education as an insider educator-researcher must be carefully considered given that the study audiences may include current students.[44] Insider researchers, along with their supervisors and staff on ethics committees, need to be conscious of potential risks and must plan against their possible impacts. The aim is to become *risk-aware* rather than *risk-averse*; insider research can provide extremely useful and powerful data, eliminating risks can be impractical and complicated.[45] In this particular instance, the investigators actively teach the students and supervise some of their undergraduate work. This emphasized the need for complete student anonymity, and to ensure that the responses would be treated respectfully and only to inform this research. While there is a potential power differential it is also important to stress that the success of the research was entirely dependent on voluntary student participation. For the purposes of the present investigation the researchers were thus careful not to be involved in overseeing the completion of the surveys, and were careful not to have any interaction with the students before or after the surveys were completed.

VI. **Results**

The survey results are considered here in the context of the grouped questions: (1) anticipation and reflection, (2) knowledge and usefulness, (3) collaboration and enjoyment, and, (4) procedures in the field. The results are presented as statistical data (in tabular and chart form) and open text. The latter are indented and italicised, and the source questionnaire reference is provided (as above, *EOS3_28* for example, is a 3rd year EOS student).

A general overview of the respondents is presented in Table 1. The 51 students who completed at least one questionnaire were approximately evenly divided in terms of gender (25 female, 26 male). About 80% of the participants live away from home during term time.

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[43] David Coghlan and Teresa Brannick, *Doing Action Research in Your Own Organization, 4th Ed*. (London: SAGE Publications, 2014).

[44] Caroline Humphrey, "Dilemmas in doing insider research in professional education," *Qualitative Social Work* 12, no. 5 (September 2013): 573, https://doi.org/10.1177/1473325012446006.

[45] Humphrey, "Dilemmas in doing insider research," 582.

Table 1

Summary of student participant demographics

Year of study	Total Class Size	# of Participants	% Class participation	Age	Gender	Living at home
2nd	25	19	76%	15 <20 4 >21	11 F 8 M	6
3rd	34	18	53%	8 <20 10 >21	9 F 9 M	2
4th	35	14	40%	14 >21	5 F 9 M	2

VI.1. *Anticipation and reflection*

The questionnaires contained two sections on *anticipation* and *reflection*. In the first of these, students were asked to rank their feelings before and after

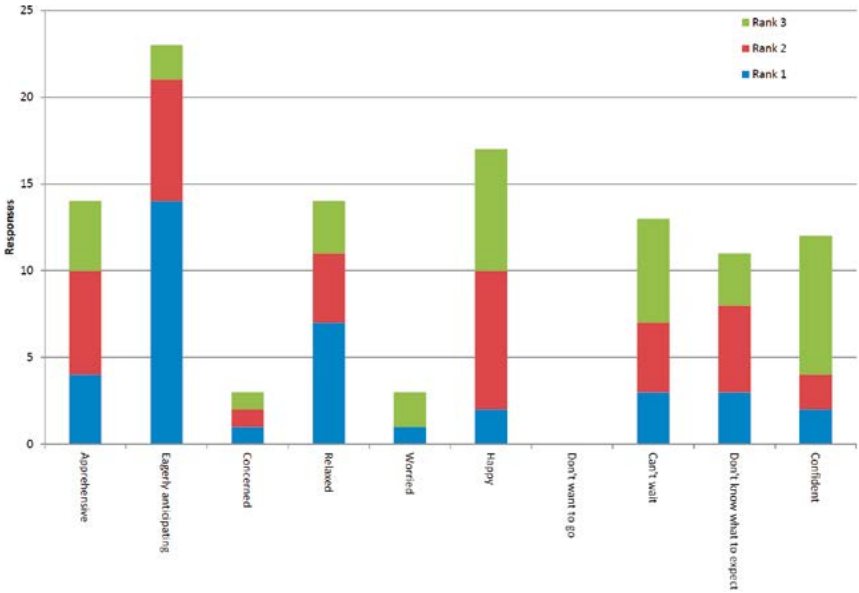

Figure 2

Pre-fieldwork rankings of second and third year student feelings towards the forthcoming residential trip

Respondents ranked top three feelings from choice of 10 listed; rank 1 is deemed most important and rank three the least important.

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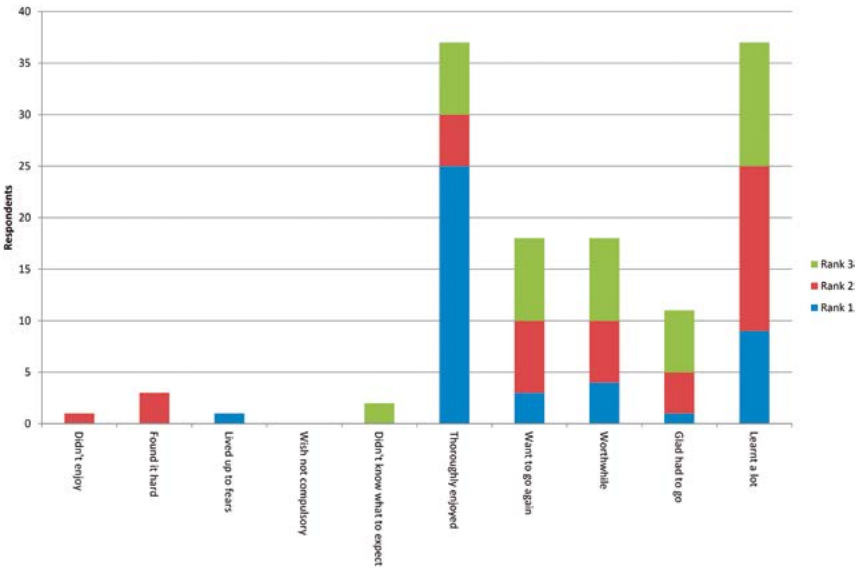

Figure 3

Post-fieldwork rankings of student feelings (from all years) towards the field-based learning activity

Respondents ranked top three feelings from choice of 10 listed.

completing the fieldwork by ranking their top three choices from 10 options. The outcomes are presented in Figures 2 and 3, which show (respectively) the results from the second and third year classes before the fieldwork was completed and the results and reflections from all three years polled following completion of fieldwork.

About 21 percent of students ranked *eagerly anticipating* in their top three feelings of anticipation and 15 percent ranked *happy* in their top three. *Relaxed* and *apprehensive* were ranked by 13 percent of respondents and only three (3) percent of students ranked *concerned* or *worried*. No individual selected *don't want to go* in their top three. Positive pre-fieldwork feelings were expressed 79 times (72 percent) with negative ones expressed 20 times (18 percent).

In contrast, the post-fieldwork results are uniformly positive: 121 of 128 ranked responses were positive (95%), while only five (5) were negative (4%). The feelings of *apprehension*, *concern* and *worry* were not reflected in post-fieldwork responses.

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In the second section – relating to anticipation – students used a three-point scale (*positive, neutral, negative*) to indicate their feelings about a series of fieldwork activities. Their pre- and post-fieldwork statements could then be more rigorously compared, thus giving a means of assessing the impact of the fieldwork experience on student feelings of anxiety.

The pre- and post-fieldwork responses are shown in Figures 4 and 5 (positive and negative responses respectively) that highlights the contention that there is a reduction in negative feelings, coupled with an increase in positive feelings, associated with completion of fieldwork. The results show that whereas the incidence of positive responses was subsequently slightly lower for two activities (visiting a different place, meeting people from a local community), increases were observed in all other aspects (this outcome matches closely the findings of Boyle et al.[46]). The biggest percentage increase was noted in the category *sharing rooms*, which likely reflects a breaking down of social barriers and a greater sense of class cohesion developed a result of living and working closely together.

The impact of the fieldwork experience on reducing the incidence of negative responses is unequivocally clear, with reductions observed in *all* of the eight aspects. Negative responses to feelings were only recorded under three headings: *working outdoors* (three percent pre-fieldwork, zero percent post-fieldwork), *sharing a room* (eight percent pre-fieldwork, two percent post-fieldwork), and *academic demands* (two percent post-fieldwork). Open question student responses also reflect this positive shift in opinion:

> *Relationship with other students has changed very positively, mainly through sharing accommodation* (EOS4_22).
>
> *If anything, I felt healthier after the fieldwork* (EOS4_20).
>
> *Books and lectures are not enough* (EOS4_14).
>
> *I struggled with geology before, but then Wexford really made it click for me* (EOS4_23).

VI.2. *Knowledge and usefulness*

How students *perceive* the academic value of fieldwork is useful in assessing the impact of fieldwork in the affective domain. These questions assess students' confidence in the validity of the learning method, and the

[46] Boyle et al., "Fieldwork is Good," 306.

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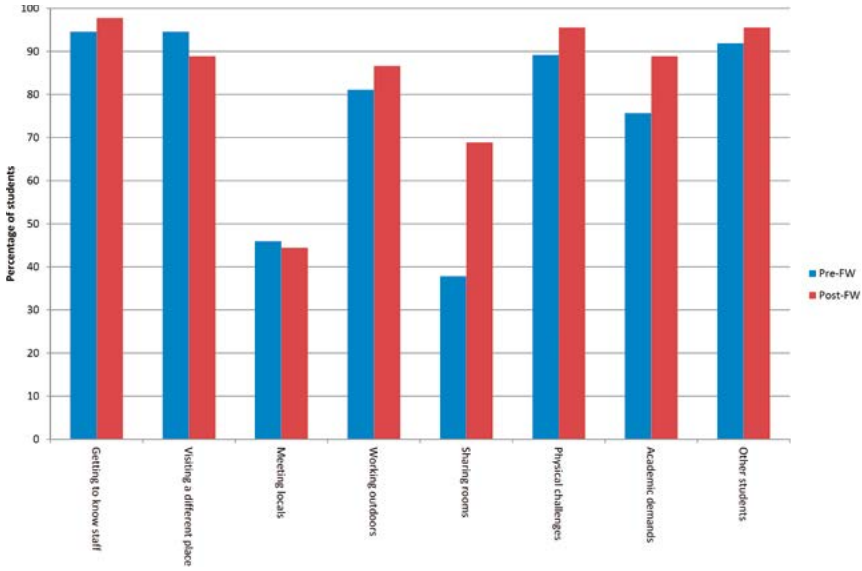

Figure 4

The effect of the field experience on positive responses to student feelings

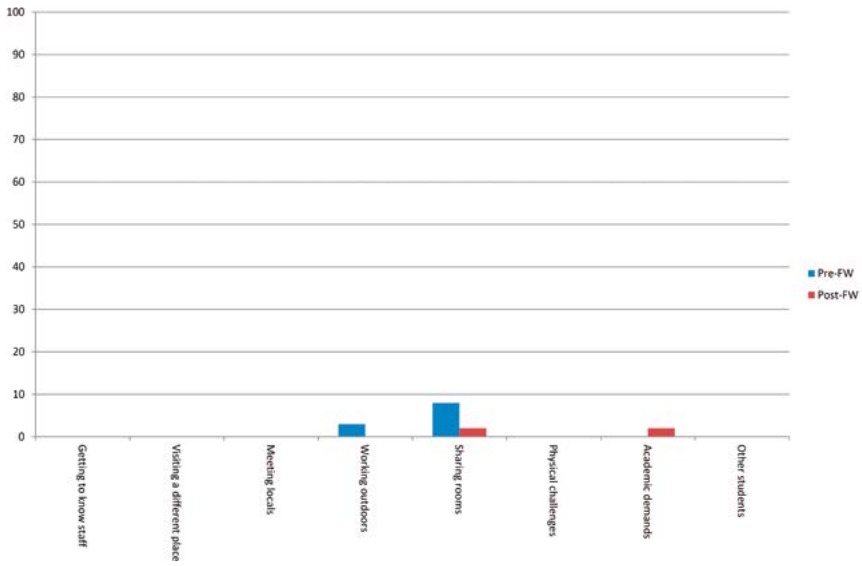

Figure 5

The effect of the field experience on negative responses to student feelings

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responses can be read as in indicator of motivation. All questions relating to these sections on the questionnaires used a Likert scale, and all that were posed in the *Knowledge* section showed a significant agreement with little difference between the pre- and post-fieldwork responses (*Table 2*). The respondents had a high level of agreement with the statements pre-field class, and this was not changed by the subsequent fieldwork experience. However, the question concerning the perceived importance of fieldwork showed a pronounced significant shift; in the post-fieldwork answers this was seen as much more important. This moved from having the lowest mean score pre-field class to the highest afterwards (*last row in Table 2*).

The summary analysis of questions on the *usefulness* of fieldwork is presented in Table 3. Student responses are extremely positive towards fieldwork for all question pairs. In the pre-fieldwork answers, students stressed the importance of learning in the field in comparison to learning in the library, and this was more significantly reinforced following the fieldwork. Again, this final question mirrors the findings of Boyle et al.[47]

These findings were also reflected in many of the free text responses:

> *Gained a huge amount of knowledge across all EOS subjects* (EOS3_08).
>
> *Practical skills reinforced my knowledge through lots of disciplines…diagrams and slides no make more sense as I saw real examples in the field* (EOS3_17).
>
> *It became very clear why certain observations are made and how important it is to get the info collected in location* (EOS3_14).

Table 2

Analysis of Knowledge questions

No.	Knowledge	Pre-FW Mean	Post-FW Mean
1	Fieldwork will increase my knowledge of subject	4.97	4.84
2	First-hand experience on theme/topics studied in class makes it easier to understand them	4.95	4.68
3	Fieldwork gives me a chance to develop problem-solving skills	4.65	4.43
4	University geoscience courses all do fieldwork so it must be important	4.41	4.84

5-point Likert scale used where 1 = *totally disagree* and 5 = *totally agree.*

[47] Boyle et al., "Fieldwork is Good," 311.

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Table 3

Analysis of Usefulness questions

No.	Knowledge	Pre-FW Mean	Post-FW Mean
1	It is important to know how to solve problems in the field	4.76	4.91
2	Without field experience my degree would be too academic	4.73	4.84
3	Fieldwork skills will be important to me in my career	4.84	4.64
4	Fieldwork will help my understanding of the subject	4.92	4.68
5	It would be more useful to spend time in the library	2.10	1.43

5-point Likert scale used where 1 = *totally disagree* and 5 = *totally agree.*

VI.3. *Collaboration and enjoyment*

While group work is commonly a more prominent feature of the fieldwork learning experience, in comparison to most campus-based courses, EOS students still complete a reasonable amount of group activities in their practical and laboratory classes. The EOS fieldwork programme is focused on development of group working skills and encourages students to take ownership of their learning. The findings of this study (Figures 6 & 7) clearly reveal stronger positive affective responses towards group work.

More of the responses in both pre- and post-fieldwork questionnaires emphasize the importance of student collaboration and enjoyment, but it is noticeable that in the latter more students answered definitively rather than offering a neutral response. There are significant indications that more students *actually* enjoyed the fieldwork, the challenges it offered, and the various aspects of group work than their pre-fieldwork anticipation indicated:

> *I feel that I have become closer friends with my classmates who I did not previously know too well* (EOS3_10).
>
> *I have become so much closer with my fellow students because of it. It improved by relationships with the staff and made me feel more comfortable to approach staff with questions regarding subjects I am struggling with* (EOS4_23).
>
> *I have made many friends and developed relationships through fieldwork. It has also made me more confident in an academic sense* (EOS4_23).

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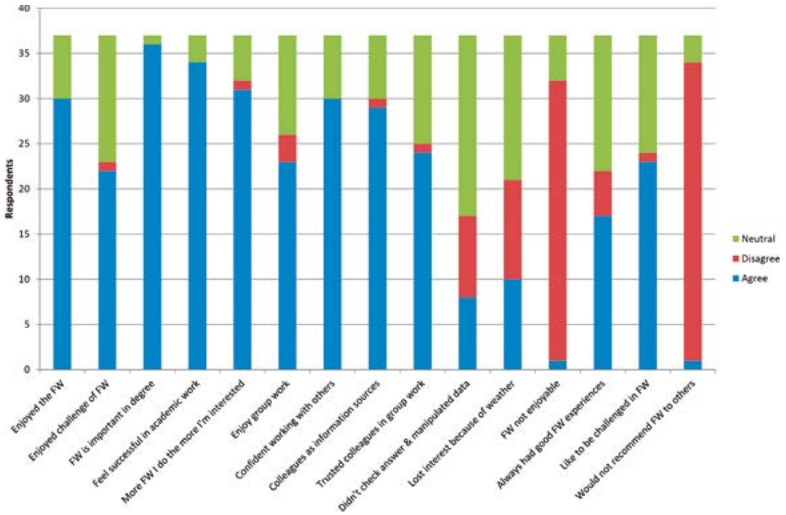

Figure 6

Pre-fieldwork rankings of student enjoyment and motivation

Respondents selected Agree, Disagree or Neutral responses.

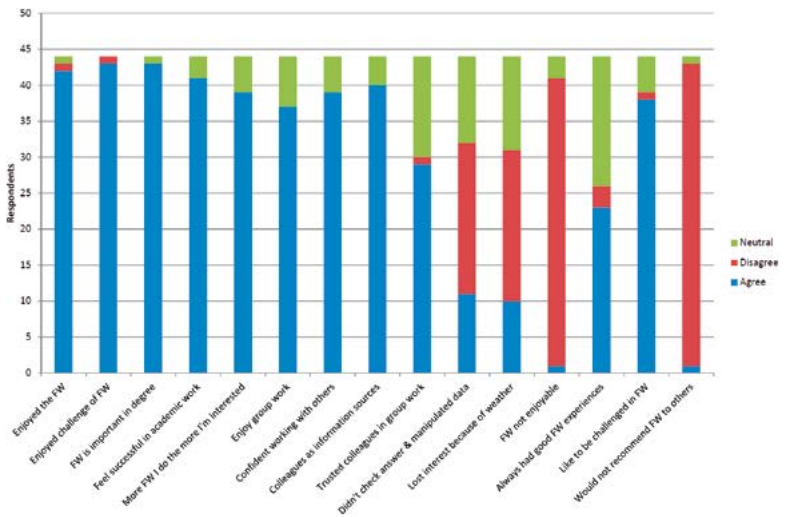

Figure 7

Post-fieldwork rankings of student enjoyment and motivation

Respondents selected Agree, Disagree or Neutral responses.

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> *My best and worst experiences were the same, my final year mapping project. Trying to live and work in the immensely challenging weather conditions was one of the most difficult experiences of my life, but one which I am incredibly proud of myself for overcoming and for helping my mapping partners overcome* (EOS4_26).
>
> *The most memorable part was the fun I had getting to know my classmates better and also getting to know the lecturers better* (EOS4_14).
>
> *I feel we all got to know each other a lot and everyone got on really well. I got to know those I didn't know before, especially the mature students who I wouldn't have interacted with before* (EOS2_03).
>
> *Learning to value the observations and interpretations made by my peers* (EOS4_20).
>
> *…also how to work well in a team, see other people's point of view* (EOS4_30).

VI.4. *Fieldwork procedures*

As noted previously, the focus of this investigation was to examine the impact of fieldwork on student feelings and emotions (affective domain), rather than its direct influence in the cognitive domain, with the suggestion being that positive developments of the former lead to positive impacts on the latter.[48,49,50] A small number of the questions did investigate students' self-evaluation of their working procedures (Tables 4 & 5). These results indicate their awareness of the importance of making good observations before embarking on the fieldwork, and that those impressions were strengthened afterwards:

> *Field mapping on the last two days as it was relaxed but also self-driven* (EOS3_17).
>
> *It became very clear why certain observations are made and how important it is to get the info correct on location* (EOS3_14).
>
> *It was like travelling back in time and getting a real experience of how important geology is in all of our lives* (EOS2_21).

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[48] Edwin Kern and Jane Carpenter, "Effect of field activities on student learning," *Journal of Geological Education* 34, no. 3 (1986): 180.

[49] David Stoddart, *On Geography,* (Oxford: Blackwell, 1986).

[50] Denis Cosgrove and Stephen Daniels, "Fieldwork as theatre – a week's performance in Venice and its region," *Journal of Geography in Higher Education* 13, no. 2 (1989): 170, https://doi.org/10.1080/03098268908709082.

Table 4

Student response to field procedures (pre-fieldwork)

		Agree	Neutral	Disagree
1	Careful to record observations	28	8	1
2	Use of technical equipment easy	31	4	2
3	Pre Fieldwork information useful	22	13	2

Table 5

Student response to field procedures (post-fieldwork)

		Agree	Neutral	Disagree
1	Careful to record observations	35	8	1
2	Use of technical equipment easy	28	15	1
3	Pre Fieldwork information useful	32	11	1

It is interesting to note that the strongest neutral responses were provided in relation to the information provided to students in advance of the field campaign. This might suggest that while the information provided is deemed sufficient, alternative methods of informing students could also be explored.

VII. **Discussion**

The three research questions posed at the beginning of this report (concerning the impact of fieldwork on the student affective domain, student attitudes to learning, and the capacity of field learning to elicit an equal response amongst a group of students) all essentially ask how good fieldwork is as a learning mechanism. This is a key consideration, particularly as undergraduate field programmes are being reduced in many universities at present.[51]

Fieldwork has been described as being intrinsically about observation and curiosity: it provides students with skills necessary to allow them to begin reading and representing the landscape in various ways (including through use of notes, projections and maps). A recurring key theme in all of the post-fieldwork questionnaires – from all years – is recognition by the

[51] Petcovic, Stokes, and Caulkins, "Geoscientists' perceptions," 7.

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students themselves of the fundamental importance of observation and recording. This allowed them to make good inferences and determinations, which then commonly facilitated an appreciation of the 'bigger picture'.

The previously published trends concerning development of transferable, technical and social skills through first-hand real world fieldwork experiences,[52] were also replicated here in all the post-fieldwork responses. Figures 6 and 7 clearly indicate the importance of the *social* aspects of fieldwork for students: more agreed with the positive aspects of group work, and in trusting fellow student input following fieldwork, and none disagreed after completing the work.

Overall, the student study group demonstrated positive affective domain responses to residential fieldwork prior to departure, and these feelings were further strengthened during and after the field experience. Pre-fieldwork anxiety was felt by some students, but the experience in the field tended to mitigate these concerns. In addition, completion of the work fosters high levels of confidence in the students' ability to meet the challenges of fieldwork, and reinforces their perceptions that fieldwork is an academically valuable learning method. Importantly, *students enjoy fieldwork* and this was consistently evident in the open text answers: they enjoyed the hard work, getting to know each other and the learning experiences encountered, and many of the fourth year students reflected that their fieldwork experiences were among the most important for them.

Fieldwork provides unique opportunities for teaching and learning that are in themselves highly concentrated and focused. As noted earlier, preconceived ideas about the world are pushed and challenged in a field-setting. Students also implicitly require a solid foundation of knowledge and the capacity to organise this in the context of conceptual frameworks. The students must be able to organize and inscribe information and knowledge so that they can quickly access and apply them while working in the field. Finally, by developing "metacognitive" approaches students begin to think as geoscientists.[53]

Geological fieldwork teaches and emphasizes the use of maps, graphics, diagrams and note-taking and direct observation (termed 'portable artefacts' by Brotton[54]) to stimulate insight and develop more robust explanations.

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[52] Ian Fuller et al., "International Perspectives on the Effectiveness of Geography Fieldwork for Learning," *Journal of Geography in Higher Education* 30, no. 1 (2006): 93, https://doi.org/10.1080/03098260500499667.

[53] Mogk and Goodwin, "Learning in the field," 152.

[54] Jeremy Brotton, *A History of the World in Twelve Maps* (London: Penguin Books, 2012).

These data are immutable, replicable and recognizable and they form a scaffold for observation and elucidation. The importance of good observation was noted numerous times by the students, and the significance of physically making the (primary) observation, mark or notation at the study location was a recurring theme in many of the open text answers. The students made these inferences on the value of sound observation, reflecting previous suggestions that such "inscriptions" can be considered as: (1) data and information that can subsequently be transformed (locating direction and angle of dip of rock strata on a map for example) and (2) being *linked to other representations and embedded within new theoretical arguments*.[55,56] Making the first inscription is thus a critical part of the learning process, first-hand field observations are transcribed into recognized symbols and notations that can be used to suggest and interpret larger earth processes. The students learned how to collect field data and then to use these to construct maps, which could subsequently be used, for example, to reconstruct paleoenvironments or interpret various geological processes. While these transformations allow a broader context to develop (e.g. the closure of an ancient ocean through plate tectonic movements – now reflected in rock types and geological structures) the finer observational detail is seen to sit more into the background as the larger story arc is developed. Learning about the world using inscriptions from regional-scale geology maps, for example, is not the same as making the primary observations, recording the data on (large-scale) maps and in notebooks, and developing the subsequent narrative in the field: the students repeatedly noted how their own data and observations and the resultant maps and inscriptions made much more sense than any maps or graphics either shown in lectures or reviewed in texts.

While it was beyond the scope of the present work to explore the impacts in the cognitive domain, it can be argued that the positive affective responses recorded here may provide associated or 'knock-on' impacts elsewhere, and may thus encourage student engagement with the specific (and wider) curriculum. Students gain confidence both as part of and from within their class, and there is clearly potential for them to benefit from the immersive learning environment.

Learning in the field and undertaking fieldwork taps into the various spatial and temporal reasoning "ways of knowing". It also enhances cognitive, technical, social skill development, attitudes and values, and team/group practices. Students build up their experiences in the field, working alone and

[55] Kim Kastens et al., "How geoscientists think and learn," 266.

[56] Mogk and Goodwin, "Learning in the field," 147.

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in teams, and can systematically add to their store of knowledge that can subsequently be accessed for comparative purposes with newly acquired information. Many of the open text answers expressed an appreciation for the sense of scientific rigor which fieldwork afforded, which could then be applied to *all* areas of learning. Students become more capable and confident in cross-integrating knowledge, skills and routines from various courses and modules.

Perhaps more importantly, as the students learn how to transform data, observations and information into knowledge and interpretations, they themselves become transformed as individuals. Numerous references that could be aligned to threshold concepts were referred to on the questionnaires, for example: *"making sense of what I've learned in class"* (EOS3_21) and *"it's explained so much to me"* (EOS2_11).

The students were able to transform their data and observations into more detailed and more complete interpretations: so, they become not only knowledge recipients, but also knowledge generators.[57]

The findings from this study largely mirror those of Boyle et al.[58] However, there are some key differences: the study cohort in the earlier work was drawn from 11 higher education institutes and there were a number of researchers involved. The study presented here examined a smaller student cohort drawn from a single academic discipline in one higher education institute, with only two researchers involved. This does raise issues regarding the insider researcher dilemma. However, the researchers in this instance were at pains to ensure the fairness and the integrity of the process for the students involved; the aim was to become risk-aware rather than risk-averse, given that insider research can potentially tap into rich vein of data.[59]

While the findings of this research are broadly similar to those in Boyle et al., there are some important differences: fewer students (in this study) were concerned or worried and none expressed a desire not to go on the fieldwork. In the post-fieldwork responses in this study, the negative feelings were minimal, while the positive feelings largely matched the findings from Boyle et al.[60] This contrast is more marked in relation to how the students indicated their feelings towards a series of field activities. While the positive responses in both studies are largely similar, a significant difference is evident in the negative responses, which are all below 10 percent in the

[57] de Loë et al., "From Government to Governance," 26.
[58] Boyle et al., "Fieldwork is Good," 315.
[59] Humphrey, "Dilemmas in doing insider research," 582.
[60] Boyle et al., "Fieldwork is Good," 306.

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current study and recorded only in three categories: working outdoors, sharing a room (both of which reduced post-fieldwork) and on the academic demands (two percent post-fieldwork).

The findings in relation to the analysis of knowledge and usefulness questions produced largely similar responses, with the results from this study scoring mean values between 4 and 5 for knowledge – the highest being 4.97 and the lowest being 4.41. The usefulness questions followed a similar trend: this study returned values ranging from 1.43 to 4.92. The key point to note here concerns the question relating to spending time in the library rather than in the field (Table 3, no. 5) the mean scores in this study were 2.10 pre-fieldwork and 1.43 post-fieldwork.

While a small number of students expressed some concerns, these reservations were not expressed as anxiety or a desire to not attend. One significant theme that emerged across the entire cohort in this study was the importance of the student group or class – this was echoed in many responses and in the importance placed on collaboration and sharing of information and data.

As well as eliciting positive affective responses across the three student cohorts, completing the fieldwork helped boost the affective responses of all groups, suggesting that it is at least partially equitable. However, other aspects of equity – disability, inclusiveness, for example – were not investigated in this study. The fieldwork courses examined herein are only available to students who have already declared an interest in pursuing a geoscience-themed degree pathway, and it would be of interest to explore if equity issues were part of that decision making process. This is an area requiring more research particularly in reference to the impression that fieldwork requires a certain level of physical fitness and capability.[61]

The findings of this investigation very clearly support the contention that fieldwork has positive impacts on the affective domain of students. Negative responses were reduced in *all* of the aspects being examined; however, while the field-learning experience appeared to successfully ameliorate any lingering concerns, this improvement should not be taken for granted. In both pre- and post-fieldwork questionnaires, one student (Figures 6 and 7) suggested that they would not recommend fieldwork to other students. However, this student's other responses were broadly positive (or neutral) suggesting they had gained intellectually from the experience, but for reasons unclear would simply not recommend it to others. This might suggest that sufficient information about the nature of the fieldwork course was not

[61] Fuller et al., "International Perspectives," 96.

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presented ahead of the trip. Pre-fieldwork preparations tend to be logistically focused (in terms of physical planning, trip timetable and structure, general health and safety concerns etc.) but there is perhaps the need to address other areas (such as anxiety) which are common areas of student concern more directly. Peer guidance and support could be especially effective in this respect, with more senior (and field-experienced) students invited to discuss details of the planned work and the relay their own personal field-learning experiences with their more junior colleagues. Following on from this work, the researchers have introduced a scheme whereby fourth (final) year students are invited to brief the third year class cohort, and third year students brief the second year cohort. These information sessions are in addition to the usual briefings and documentation provided by academic staff.

This current study had similar outcomes to informal feedback taken by several other higher education programmes[62] and reflects discussions with coordinators of an undergraduate US university residential field course run in Ireland each year.[63]

VIII. **Conclusions and recommendations**

The findings of this research clearly show that fieldwork in geoscience provides a productive and immensely beneficial learning environment for undergraduate students, generating positive affective responses. It has tremendous capacity to positively impact the affective domain: students feel part of a coherent class, their academic and social confidence is enhanced, they develop problem-solving skillsets and they appreciate the value and benefits of teamwork – all graduate attributes that are desirable and beneficial in the post-university workplace. Students also benefit from the situated learning environment and begin to feel part of a larger learning and work community. Academic engagement is stimulated and encouraged and this may then feed into student retention. Fieldwork profoundly changes students: it helps acquaint them better with their classmates and teachers, it provides confidence in their own skills and abilities, and it affords them the opportunity to direct their own learning. Fieldwork provides opportunities for peer-to-peer learning, shoulder-to-shoulder teaching and learning for informal reinforcement. It also offers opportunities for students to work in groups and to lead and direct the work. Fieldwork also presents numerous opportunities

[62] Whitmeyer et al., "Why Ireland."

[63] Whitmeyer, *personal communication*, conversations during fieldwork, June 2017.

for students to cross thresholds of knowledge and learning. These benefits were seen across the entire student cohort investigated in this study, and no gender group appears to have been more advantaged or disadvantaged in this respect. The immersive approach allows students to apply shallow, deep and strategic learning skills and the students themselves are exposed to a multi-stranded, resource-based pedagogy.[64,65]

The following are some recommendations for further work and reflection based on this research reported herein:

- This approach might prove a useful exercise to be repeated annually within academic disciplines as a means of monitoring student engagement, concerns and responses. We would thus recommend that data collection be overseen by someone not known to the students, perhaps a colleague from a cognate discipline (which is similarly engaged in field-based teaching and learning) to reduce the risks posed by the insider researcher dilemma.

- This study has proven useful in gauging the impact on the affective domain and this has to be considered within the broader context of the student experience, specifically with regards student engagement and retention and – critically – in the context of offering the student the best opportunity to bloom.

- The results of this study suggest that fieldwork provides a formative experience for students and an opportunity for immersive learning and learning opportunities that the classroom struggles to replicate. Research approaches like this are required to provide a rational basis for arguing the need to retain fieldwork courses, which can unequivocally demonstrate proven pedagogical (and social) benefits. On this basis, it would be strategically useful to repeat this exercise across a number of cognate geoscience disciplines in different higher education institutes, either on a national or international level.

- It would be interesting to explore if equity issues (disability, inclusiveness, for example) formed a significant part of the student

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[64] Matthew Lancellotti, Sunil Thomas, and Chiranjeev Kohli, "Online video modules for improvement in student learning," *Journal of Education for Business* 91, no. 1 (Spring 2016): 22, https://doi.org/10.1080/08832323.2015.1108281.

[65] Yvonne Turner, "Last orders for the lecture theatre? Exploring blended learning approaches and accessibility for full-time international students," *The International Journal of Management Education* 13, no 2 (July 2015): 168, https://doi.org/10.1016/j.ijme.2015.04.001.

decision-making process about selecting courses with a strong fieldwork component.

- While there were very limited negative responses recorded in this study, they do highlight the importance of good communication in advance of departure on fieldwork courses, and the need for providing students with as much information as possible in a timely manner. It also suggests that peer-to-peer engagement might be useful, where senior class cohorts could discuss fieldwork with junior cohorts (providing an additional source of information and advice).

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Multimedia technologies and online task-based foreign language teaching-learning

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Abstract: Teaching and learning a foreign language at a distance implies many challenges, namely regarding oral skills. At Universidade Aberta (the Portuguese Open University), and taking into account its virtual pedagogical model (Pereira, 2007) and the Common European Framework of Reference for Languages (Alves, 2001), we suggest curricular paths which include online communicative practices, both oral and written, within the present pedagogical offer, following a student-centred, task-oriented approach. Thus, in this text, we share some examples of training activities in German, French and English, focusing on oral practice, and based on digital resources. These digital resources comprise multimedia materials, either produced by the teachers or the students, as well as other materials available on the web 2.0. Our teaching and research practice within the field of foreign languages and in e-learning, in particular, leads us to conclude that the multimedia resources used are suitable for the online teaching and learning of foreign languages (see third question of questionnaire), especially for professionally engaged adults, as is the case with Universidade Aberta's students, providing them with real-life situations that foster the teaching-learning of languages in the virtual environment. We include responses to a questionnaire survey filled out by a group of students.

Keywords: task-based teaching and learning; foreign languages; online communicative practices; multimedia resources; e-learning.

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I. **Introduction**

Universidade Aberta (UAb), a pioneering institution in distance higher education in Portugal, has significantly contributed to the training of adults at higher level for a decade, and has been the first and only (state) university in Portugal teaching all of its courses (under-graduate, post-graduate, and life-long learning) in the e-learning system, using a unique Virtual Pedagogical Model (Pereira et al., 2007). UAb has made a strong commitment to innovation and to the quality of its educational offer, including foreign languages, to respond to the multiple challenges we currently face. Among these challenges, first and foremost is the conciliation of the demands of online foreign language teaching/learning with a specific virtual pedagogical model (Pereira et al., 2007) within the current context of e-learning. We must reflecting on how to teach foreign languages – English, German and French – following a student-centred model; on how to teach oral skills in distance-teaching mode. In this article, we shall try to answer these questions resorting to our experience as teachers of foreign languages and as researchers in the fields of foreign language education, distance education, and e-learning.

II. **Background**

One of the many concepts and challenges that the digital environment/ technology poses to pedagogy is the complexity of monitoring learning in the digital age.

Bringing together teaching/learning and digital technologies challenges us to rethink both terms, firstly, because affects the teaching of foreign languages in online mode and, secondly, because the terms "e-learning teaching/learning" and "digital" imply a contemporary understanding of both terms and this is transforming education today.

Moreover, the two terms are polysemic. For example, learning can be synonymous with mediation, and may refer to a very special mediation, defined in the field of educational sciences as a practice that is always connected to student autonomy (Boutinet, 2003), centred on the individual, and accompanied by social issues (Paul, 2004).

However, the fact that we speak of "teaching / learning" is an indicator of the shift from the classical model of education, centred on the transmission of knowledge, to a type of teaching / learning carried out by the students themselves', in gradual and varied ways (guidance, tutorials, etc.). We therefore observe a change in the educational paradigm, as well as a diversity and plurality of teacher and student practices.

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To include digital technologies in teaching / learning does not simply imply integrating digital resources in the existing education system, but means contributing to the transformation of the education paradigm.

The polysemic character of teaching/learning foreign languages with multimedia technology within the distance-learning network corresponds to a proliferation in the use of digital resources. We would like to hereby dwell on some aspects (Barbot and Jacquinot-Delaunay, 2008: 159-163):

- a synchronous illustrative use by the teacher, through access to a server (the same space, same time, same activity for all)
- a complementary, previously-defined, synchronous use (same space, different pace, same activities)
- a previously-defined, asynchronous use (same space, different pace, equal activities)

Thus, the use of digital resources in teaching-learning shows a certain gradation in the transformation of training activities (Barbot & Jacquinot-Delaunay, 2008: 167):

- Digital "educational" resource: as an illustration of an activity - learning support;
- The autonomy given to the student, from the choice of space or time to the type of activity.

However, underlying the issue of being able to learn is the question of resource accessibility. The issue of being able to learn is linked to the issue of knowing how to learn. It is not necessarily because a training activity linked to a digital resource is available that learning will ensue. This implies the need to provide technological guides and tutorials to understand the activity, do the task, and ensure effective access to other knowledge construction methods.

III. **The Universidade Aberta model**

Universidade Aberta has been dedicated to higher distance education since it was founded in 1988. In the national context, it remains a pioneer institution, as it is the first and only (state) university in Portugal, whose entirety of courses are taught entirely online, through Moodle, an online platform for distance learning, which has constantly been subject to specific updates by a Universidade Aberta team of specialists.

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With the implementation of Universidade Aberta's *Virtual Teaching Model for the university of the future*, in 2007, the teaching and learning of foreign languages started to envisage aspects that traditional distance teaching did not fully explore. Conceptually, that model embodies four main principles, as described below (Pereira et al., 2007):

1. The principle of student-centred learning, where the student plays an active role in the construction of knowledge.
2. The principle of digital inclusion, which favours strategies of digital literacy skills, therefore providing access to modern means of communication and networking.
3. The principle of flexibility, which advocates a personal and individual management of the learning process, both in terms of time and of space.
4. The principle of interaction, whereby different types of interaction are present, particularly the written one, but always asynchronous, all potentiating collaboration.

The interaction is of great importance as it guides, in part, the curricular design of existing courses.

To be more specific, each course of the 1st cycle degree course is based on teaching-learning paths generally composed of a set of training activities, followed by evaluation activities. There are, therefore, various moments of learning complemented by different types of interaction (*e.g.* between the student and the learning content; student to student; professor to student). These interactions take place in different learning forums with complementary features and purposes. That is, in the virtual classroom there are spaces provided for students to interact with their classmates – student-moderated forums - and spaces where the student/s interacts/interact with the teacher – teacher-moderated forums.

This is thus, primarily, an asynchronous pedagogical model, which values the availability of the learner, and as such, is perfectly suited to the typical profile of the student of Universidade Aberta: adult students who resume their studies at a higher level and that, having a full personal and professional life, need to access contents and learning activities without spatiotemporal constraints.

IV. **Student-centered learning and digital inclusion**

Autonomy is a complex concept and is open to various interpretations (Bailly, 2010; Chateau & Bailly, 2013). For Holec (1990), autonomy is

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defined as an active practice, the responsibility of which belongs to the student; it is necessary to develop the ability to learn to be able to make all the decisions inherent in learning a language. For Little (2000), autonomy implies the intervention of metacognition; it involves detachment, independent action, and reflexivity. Rivens Mompean (2012) speaks of linguistic and learning autonomy. Linguistic autonomy affects the autonomy of learning, and contributes to overall autonomy.

As far as we are concerned, all these definitions are valid because we consider autonomy as a multifaceted set, both as regards individual responsibility, and the learning environment where it takes place. Whichever the definition chosen, autonomy is not innate (Holec, 1990), but is the result of a process (Portine, 1998).

In this teaching methodology, the student / learner is the social actor and the primary agent of his / her learning and the virtual classroom is the social space for learning and interacting.

Therefore, a legitimate question arises: how is this virtual model implemented in the teaching-learning of foreign languages online?

V. **Teaching–learning foreign languages online**

With the implementation of the new virtual pedagogical model, teaching and learning foreign languages at the Universidade Aberta began to envisage other aspects that traditional distance teaching had not totally explored, namely orality – oral comprehension and production. Traditional distance teaching, allow written and oral comprehension (cassettes) and written production; virtual teaching introduces oral production and written and oral interaction. Thus, with current ICT, one of our mottos, which consists of teaching-learning "anywhere in the world", has taken on a new dimension.

We have, therefore, been designing, analyzing and testing new strategies, such as, for example, training and evaluation activities (Pereira et al., 2007), to systematically and continuously develop competencies of oral comprehension and production, over each semester, in the German, French and English languages. These are the objectives and the focus of research in the current project "@ L2L - Open Language Teaching and Learning" and, there were in the previous project "Teaching/Learning Foreign Languages online", both coordinated by Professor Ana Nobre, underway at Universidade Aberta's Distance and E-Learning Education Laboratory and Research Centre (LE @ D).

These foreign languages are included in the curriculum of formal 1st cycle courses on offer in our institution, as well as in Lifelong-Learning

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courses. The following foreign languages, from level I to level VI, are included in the syllabus of the Degree Programs in *Línguas, Literaturas e Culturas – Variante de Línguas Estrangeiras*, *Línguas Aplicadas*, *Estudos Europeus*, *Humanidades* and *História*: German, Spanish, French and English. In the first semester the odd levels (I, III, V) are given and, in the second semester, the even levels (II, IV, VI). They are taught in accordance with the competencies set out in the Council of Europe's (2011) *Common European Framework of Reference for Foreign Languages (CEFR)*, which are divided into six levels (see Table 1).

Table 1

Correspondence between the foreign language level on offer at UAb and the guidelines of CEFR

UAb Curricular Unit	CEFR Level
Foreign language I and II	Level A2 / B1
Foreign language III and IV	Level B2
Foreign language V and VI	Level C1

Among the results of the first project "Teaching / Learning Foreign Languages online" and in addition to the adaptation of the principles of the new virtual pedagogical model and the CEFR to the teaching/learning of languages, we integrated multimedia technologies appropriate to this context.

One of the main difficulties in adding multimedia technologies to the teaching / learning process comes from an inextricable number of educational issues and the unavoidable technical considerations that accompany them. Adherence to a tool (Moodle and other online tools) necessarily involves the acquisition of some technical skills and its use should involve a theoretical model. Any perspective of educational innovation cannot be considered without the knowledge of the technology options we adopt. There are as many ways to integrate technology into a foreign language virtual classroom as there are users / students. Technologies, in their flexibility, have the versatility of all inventions. When adding to the range of "products" already existing in teaching, we must decide upon their pedagogical relevance: just as the action-oriented approach does not replace the communicative approach in teaching foreign languages, the introduction of multimedia technologies is not a substitute for other tools, but makes teaching / learning more central and efficient.

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In view of these considerations, we would like to outline the following principles and purposes involved in this teaching:

1. To enable the teaching: learning is promoted when students put into practice their new knowledge, based on their previous experiences.
2. To demonstrate skills: learning is promoted when students observe the competencies they will learn.
3. To apply competencies: learning is promoted when students apply their competencies (including those newly acquired) to the solving of problems.
4. To integrate competencies in real-world activities: learning is promoted when students reflect upon and use their acquired competencies.

V.1. *Enabling experiencing and demonstrating skills*

Over the past decade, one of the essential branches of the research activities carried out within the language projects at Universidade Aberta has been the introduction of digital activities that promote student autonomy and their accessibility from any multimedia device. We can summarize the features of *task-based teaching* as follows:

- A collective dimension: the student is also a social actor.
- Realistic or "real-life" situations (imaginary situations or make-believe situations are almost non-existent).
- Immediate and collective decision-making.
- The assessment is not only carried out on the criteria (linguistic, pragmatic, and sociocultural) involved in the transmission of information, but also on the accomplishment of the task itself.

The usefulness of technology to support teaching/learning has been demonstrated (Chapelle, 2006), although, of course, there is no automatic link between ICT and pedagogical practices (Debaisieux & Boulton, 2006).

As we are not willing to burden our students with additional financial costs, we promote the use of free digital tools as much as possible (Nobre & Cardoso, 2015). An example of this strategy is the use of podcasts and showcasts.

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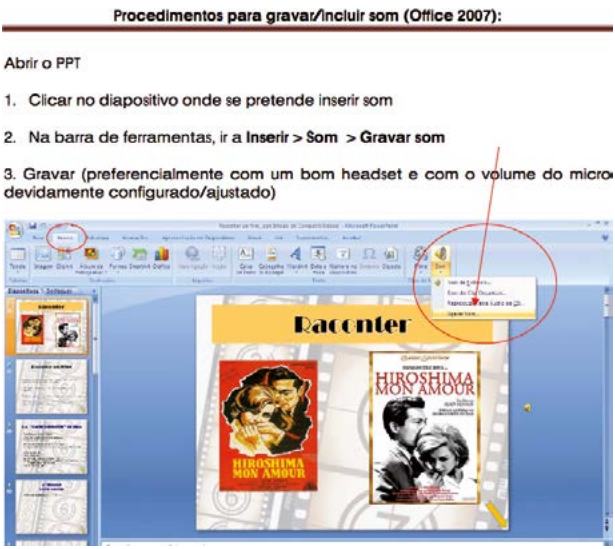
Podcasts are short digital audio files, easy to produce and available online, which can be listened to and downloaded to devices, such as computers or mp3 players, among others (Moura, 2006).

With regard to showcasts, we must start by observing that this term has emerged during our search for solutions to implement oral production, and to minimise the spatio-temporal distance between teachers and students; they are not vodcasts or screencasts. A showcast still differs from enhanced podcasts, which also combine audio and image, because a showcast specifically designates a PowerPoint document for teaching purposes that integrates text, image and audio/video.

Anticipating the advantages in the use of digital technologies in different contexts and levels of education, particularly in foreign language distance and e-learning education at higher level, and prior to dwelling on their representative excerpts, we would like to mention that we provided tutorials with instructions and examples, in the foreign language curricular units (CUs) on offer at UAb, in order to foster independent learning by the students. Given the heterogeneous profile of our students, these tutorials (figure 1) also ensure that even those who are less familiar with Web 2.0 tools perform the tasks requested in the target language, since this is the object of teaching and learning (and not the acquisition of skills in digital technologies).

Figure 1

Tutorial (sound recording)



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Throughout the semester, students engage in multiple asynchronous activities to practise orality (speaking and listening skills) by following this tutorial, or by producing these activities using other technological tools.

V.2. *Applying competencies and integrating competencies in real-world activities*

Although the specifics and challenges of online foreign language teaching are multiple, in this article, we give particular attention to those referring to oral comprehension and expression, in the context of UAb's educational offer. In this case, the learning activities and interactions (between students, between students and teachers, and between students and content), and part of the continuous assessment (which corresponds to 40% of the final mark) are carried out through the Moodle platform, which, due to its versatility, has become widely used in Portugal and other countries, at different levels of education.

The Moodle platform in use at UAb is customized and supplemented either by current and universal computer tools (such as Word and PowerPoint, or their open-source equivalent) or by other more specific ones (for example, Windows Sound Recorder or Audacity - the latter rather more complete) to record audio files. In specific synchronous communication situations (audio and video) *Colibri* is used, as it is directly integrated into the Moodle platform itself, or alternatively, the popular Skype, with the obvious drawback that it requires the opening of an account prior to use. The video resource has also been used to meet the interests and expectations of our students, who are all adults. Thus, by way of illustration, we shall highlight some of the multimedia resources, the use of which has been encouraged to carry out training and assessment activities during the academic year, and we shall as well mention the main didactic principles underlying them:

- Vodcasting: Learning through a new kind of cinema, a new relationship with knowledge.
- YouTube: A source of current and open learning.
- Still images or animation sequences: Learning with a more realistic dimension.
- Free digital tools, podcasts, videocasts and showcasts (Cardoso et al., 2013): Learning that encourages the active student to participate in his/her own knowledge construction.

Now, we focus on specific tasks in each of the three languages.

V.2.1. German language curricular units

The first A1 level German course for complete beginners was established in the academic year of 2017/2018 (previously the course was taught at B1 level), and started to address students without previous knowledge of German. Teaching German at initiation level in a virtual environment has posed a number of challenges, at various levels, for both teachers and students. The initial stage of the course was designed, on the one hand, to familiarize the student with the German pronunciation and prosody and, on the other hand, to teach vocabulary and basic day-to-day structures, eg. introduce oneself, greet others, etc. To this end, mainly podcasts and showcasts (figure 2) were made available, containing small tasks for the students to apply the new structures and record short podcasts.

Figure 2

Podcast activity screenshot - German I

As for the preliminary activities with a focus on phonetics, particular podcasts were introduced to train the students to pronounce sounds that usually pose difficulties to Portuguese native speakers, eg. the pronunciation of <s> in the final position of the syllable or word, the pronunciation of <h> in the initial position, of <ch> in the final position, and the distinction between long and short vowels (figure 3). Students could listen to podcasts

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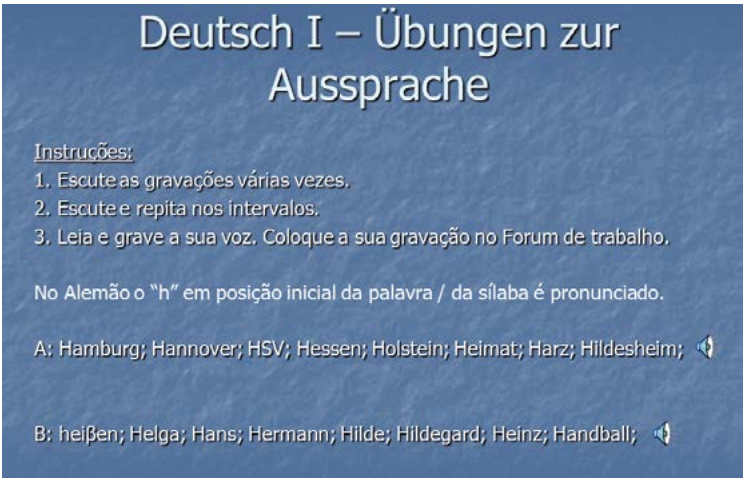
repeatedly, and then record their voices in podcast format. They received individual written, as well as MP4 recorded feedback.

Figure 3

Screenshot of Podcast activity focusing on phonetics - German I



It is through the development of systematic exercises that most technology users realise the merits of these tools. In fact, the offer of formal exercises (one can find a grammatical exercise in minutes), as well as the infinite number of activities and free software available on the Internet, allow for the selection of the occurrences useful for the accomplishment of a task.

After this initial phase without a book, *Optimal A1* was adopted. Given the fact that we were dealing with beginner-level undergraduate students, and that there was no German-Portuguese glossary, it was necessary to address this situation. We decided to prepare a weekly study guide that included a glossary (the glossary tool in Moodle) with all the new vocabulary, with its translation into Portuguese, as well as the spoken version of the vocabulary. To this end, audio files were integrated into the glossary to allow the students to practise the correct pronunciation of words. These audios with the vocabulary and other audios with the structures of the new forms were also made available separately, in order to be listened to by students, using mobile phones, mp4s or tablets.

To make self-study possible with the adopted book, it was also necessary to devise a study plan for students to follow, making the link between the

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adopted manual, the book of exercises, and the training activities available on each topic. Initially, it was necessary to translate the instructions of the exercises into Portuguese, and to include grammatical explanations in Portuguese.

A series of YouTube videos were provided to train and consolidate the vocabulary and the new structures, as well as the pronunciation.

When learning a foreign language, feedback from the teacher plays an important role for the students, not only so they can assess their oral and written production in the language, but also so they can evaluate their own progress and the adequacy of the learning strategies they adopted, and of course, to enhance their motivation. In a distance learning virtual environment, this feedback from the teacher becomes especially crucial, particularly at an initiation level. We tried, therefore, and as far as possible, to provide individual feedback, recorded and/or in writing, which required constant monitoring of students, and a lot of work.

The main feature of a document introduced in the virtual classroom should not be solely its linguistic function, but also its capacity to trigger the student's discourse and, thus preparing him/her (theme and lexicon) for what comes thereafter. While the students writing the glossary, the interactions in the virtual classroom are not subject to teacher validation (right or wrong answer), but are welcomed as they are and for what they are: spontaneous expressions. The teaching of foreign languages online allows not only for a considerable diversification of teaching materials, but also for the manipulation and construction of a task-pedagogy.

V.2.2. French language curricular units

The examples presented in the case of the French language curricular units consist of activities carried out in French I, II, III and IV (B1 and B2 levels).

V.2.2.1. Comprehension and production activities

In online education, multimedia technologies are an excellent support for working on oral and written comprehension. As part of the oral competency, besides giving the sound support for the pedagogical sequence of Task-based teaching (Willis, 2007), they allow students to gradually understand the document: effecting a continuous or occasional disclosure of the transcript,

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discovering lexical elements, facilitating the formulation of hypotheses, etc. For the written comprehension, the text can be adapted: we can change the words by replacing them with others or by linking them, and so forth.

As the French II course corresponds to the CEFR B1 level, an independent user, in a situation of oral reception, should be able to understand the information contained in a recorded oral document, and in an oral production situation, should be able to expound a contemporary theme in a simple and direct manner, briefly explaining his/her opinion. In 2017, the teacher created two podcasts based on a newspaper article found in *Le Parisien*[1] entitled "Les robots les plus marquants ...".

The first podcast was an adaptation of the article, creating an audio document for students to become aware of the situation described, express hypotheses, anticipate and understand the document message content. The second podcast was based on comprehension questions to help students internalize the theme, and to observe and identify its relevant aspects. Finally, students in the oral production situation were encouraged to reflect on the topic described by expressing their opinion (oral with podcast or with *Colibri* tools), arguing for or against the issue, always justifying their opinions, so as to participate in the learning process with the teacher.

Task-based teaching with multimedia technologies exceeds linguistic production *stricto sensu*. Technologies can support oral or written production. They may, in some cases, incorporate production as a task (listening, reading, and validating). Technologies allow us to adapt global pedagogical approaches: document exploration; reflection on the linguistic elements identified; and production in context, all as part of a set task. Thus, activities in the virtual classroom transform it into a real-life society. In fact, it is no longer necessary to pretend, as in the "role-play" activities of the communicative approach, instead, a concrete project is produced (through the experiences of social actors), where students can actually engage at different levels, because they are interested in and committed to its accomplishment. To this end, technologies become appropriate: as a source of real data information (Internet search engines, online dictionaries and encyclopaedias, online tools and resources such as Google, Wikipedia, etc.), especially as this coincides with the search patterns of today's students.

The tasks to be carried out that are directly related to the technologies (for example, producing a video) can be shared as supporting documents or made available as the task is constructed (micro-tasks, intermediate productions...), in order to carry it through. With Europe and Portugal

[1] http://www.leparisien.fr/societe/doit-on-craindre-les-robots-27-10-2017-7357347.php

currently in the midst of an economic crisis, the teacher chose to work on the crisis through YouTube videos. The activity "La crisis" consisted of viewing two videos relating to an interview for a job (figure 4).

Figure 4

Screenshot of activity proposed to students and of the videos made available *https://www.youtube.com/watch?v=MbMaNjkGIxQ

Why video? As the issue is a current and sensitive one for all of us, the choice of the video allows the students to develop knowledge and language skills through demonstration. It enables content standardization, facilitates the transmission of knowledge, and limits the useful information to be memorised. Students can stop the video, and watch it as many times as necessary. In this case, the video, as a complement to the activity, added a more realistic dimension to learning, as this complex teaching/ learning situation, both from the perspective of the vocabulary, and from the harsh reality each one of us has had to experience, became more understandable through the images presented.

To carry out the requested tasks, students submitted their answers orally, uploading them onto the debate forum, where a very active discussion took place, especially taking into account the fact that the students were not only from Portugal, but also from Africa and Brazil.

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V.2.3. English language curricular units

Podcasts, showcasts and videocasts have been systematically used in the courses to develop the students' competencies at that level, and to promote their written and oral skill acquisition in all areas related to their day-to-day lives and interests.

As the students are all adults, the teacher has attempted to work on themes that may be meaningful and interesting to them, and that may foster their active participation in the virtual classroom.

The podcasts, recorded by the teacher, have a very significant pedagogical impact, in that they enhance teacher-students proximity, creating an emotionally balanced learning environment, thus overcoming the barriers commonly encountered in distance teaching/learning. Students have been noted to make very positive comments and remarks upon hearing their own teacher's voice.

The same can be stated with regard to hearing one another's voices (students) and personal introductions in English II. The students' reaction is always very positive and it encourages collaborative work and mutual support in their learning process.

The CEFR specifies that the task should not be solely of a linguistic nature but rather a coordinated set of collective actions that tend towards an objective in a given context, for a stipulated outcome. As the action-oriented approach does not consider language as an end in itself, and because it does not use only linguistic knowledge to accomplish the task, it incorporates a much broader set of skills and strategies from the very first moments of the design of the project, of which technologies are an enabling part.

In English I, podcasts have been used to train oral comprehension and written production skills, as in the Figure 5. After listening to the podcast recorded by the teacher, students are given some written exercises and are required to write down their answers, thus training their oral comprehension and written production competencies. Students are then given an answer key so they can check their answers and then clear their doubts with the teacher in the topic forum.

Wikis are also used to further develop their written production competencies and to promote collaborative work, as in the Figure 6. The teacher always gives timely feedback, and makes all necessary corrections in this type of activity. Hot Potatoes-type activities have also been used in both courses to train specific aspects of the syllabus. The skills that each student uses to accomplish the task are perfectly compatible with multimedia technologies, both during the project phase (task presentation, difficulty,

implementation, strategies, etc.), and during the design phase (search for documents, information, "physical" construction of the project, etc.), and during the final phase of presentation of the results (sharing in the virtual classroom, in the network, etc.).

Figure 5

Screenshot of oral comprehension activity proposed to students

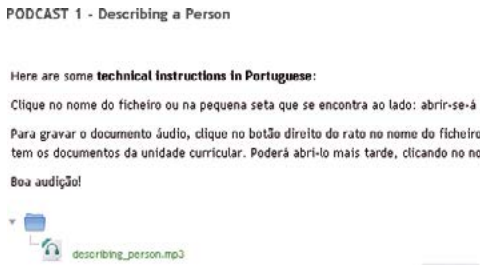
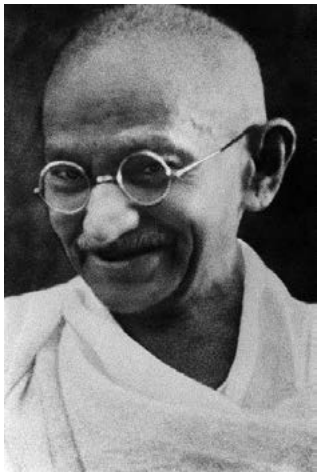


Figure 6

Screenshot of activity proposed to develop the students' written production and their collaborative work.



Showcasts have been used to train various competencies simultaneously, e.g. oral comprehension, pronunciation, intonation, prosody, and written production, as the teacher creates a PowerPoint document, records the text, which the student can listen to while he reads it himself/herself, as in the

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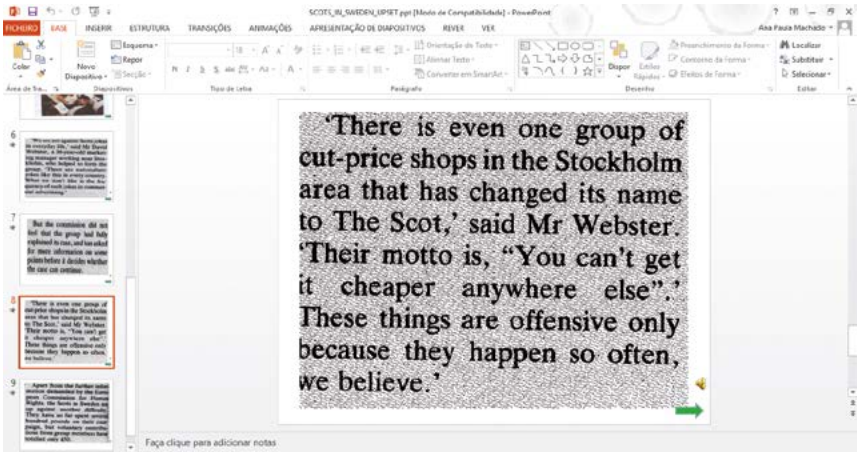
figure 7 and 8. Students are also required to record their own voices, and share their podcasts with the rest of the class. Before they are given this task, they are expected to listen to a dialogue between two of their teachers, in which they introduce themselves.

Figure 7

Screenshot of oral comprehension/written production activity showcast

Figure 8

Screenshot of oral comprehension/written production activity showcast



Videos have also been made and used to train certain aspects of the language, in an entertaining and visually-appealing manner, where a Canadian-born student (English native speaker) introduces herself to the rest of the class, talks about her daily activities, and compares lifestyles between Canada and Portugal, thus making use of a real-situation context to foster the students' interest in the language.

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The students reacted very positively to these training activities, where teaching-learning solutions implemented through podcasts, videocasts, and showcasts were adopted. They proved to have effectively assimilated lexical and grammatical elements that, until then.

VI. **Oral activities in e-learning: Impact**

This positive feeling is shared by students of courses of foreign languages, as is demonstrated, for example, in the words of a student of German II when he writes: "[...] Online lernen war für mich eine ganz neue anfangs erfahrung, und ich muss sagen dass es sehr einfach mit ihnen war. Ich hatte sie die sensation persönlich zu kennen. [...] "-" [...] (Online study was a completely new experience for me, and I must say it was very easy with you [the teacher]. I had the feeling that I knew you [the teacher] personally. [...].

Students revealed no substantial difficulty in the implementation of these new teaching-learning strategies that also enable them to develop technological skills, always with the teacher's support. Furthermore, and in particular, visualizing their production and that of their classmates' not only pleases them, but also allows them to follow their own progress, thus developing reflective skills.

Thus, from the combination of UAb's Pedagogical Model with the CEFR, and with the set of references relating to digital technology resources, there emerges an innovative pedagogical approach, adequate both to teaching and learning a foreign language, and to today's society. With this new approach, we aim to equip students with the written and oral competencies needed in real life. That is, more specifically, our educational proposal relies on activities based on practice, and on problem resolution in specific situations, always contextualized, and closely linked to the lives of students, and to the community in which they live, thus embodying a project pedagogy.

VI.1. *First results from a survey*

In the project "Teaching/Learning Foreign Languages online", a questionnaire was developed in which we tried to identify strategies that are conducive to the success of all UAb students enrolled in 1st cycle foreign language courses. Thus, during the second semester of the 2016/17 school year, between May and June 2017, the survey was made available online to 32 German students, 95 French students and 426 English students, levels II,

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IV and V (B1 and B2 levels). In total, 322 students answered. This survey was made up of 3 parts, the first being the characterization of the foreign language UCs and the course attended and the personal data (sex, age, place and country of residence). The second part of the inquiry contained general questions concerning both the student's computer resources and some of their habits as Internet users.

The third part of the survey focused on questions that asked students opinions about:

- Technical quality
- Degree of difficulty and proficiency
- Clarity of instructions
- Usefulness of the audio and multimedia resources placed by teachers on the Moodle platform of the UAb, in virtual classrooms
- Relevance to learning
- Facilitation of learning
- Motivation for learning the foreign language

The analysis of first data in the third part shows that most respondents (63%) consider sound quality in audio or multimedia files to be good (only 1% think it was bad and 35% consider it to be excellent). The vast majority of respondents (80%) said they heard them all and (81%) agree that they listened to them several times to train their listening skills. The vast majority of respondents considered that multimedia resources were sufficient (83%) and motivated (89%), facilitators of learning (92%) and improved not only the comprehension of oral discourse (91%) as well as the level of knowledge of the foreign language in question (89%). It is interesting to note that the great majority (90%) also agree that it was important to have heard the voice of the teacher and the colleagues.

General learning activities and materials were considered appropriate for the intended educational objectives. The presence of multimedia content is considered as the key to success in the educational process and the distinctive feature of education online and e-learning.

VI.2. Multimedia technologies and task-based teaching: Learning how to learn

As we have seen, the use of these communication tools has allowed for the quality integration of training activities in the daily life of UAb students. This has been a constant concern of the teaching staff of LE@d's current foreign language online teaching-learning research project – "@ L2L - Open

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Language Teaching and Learning", and a challenge to which we expect to continue responding. Thus, the high level of interest and the successful participation of students in these activities, as well as the practical results obtained seem to prove the effectiveness of the policies followed, and of the educational means utilized.

The strategies adopted by higher education institutions to promote the development of oral comprehension and production skills, as well as their assessment, in foreign language teaching within the virtual system are multiple, but they do not always fully depend on Web 2.0 tools. At Universidade Aberta, however, we try to find solutions that enable the acquisition of these skills through the preponderant use of these tools, taking into account the criteria of relevance, comprehensiveness and accessibility. Therefore, and combining the four fundamental principles of the unprecedented virtual pedagogical model that we follow (Pereira et al., 2007) with the fact that we do not want to overload our students with additional financial costs, we promote, as much as possible, the use of free tools.

The response of students to this multimedia material has been very positive, and they have even openly expressed their liking, and participated more significantly in the virtual classroom. This greater involvement and commitment of students led to their more proactive attitude, especially as they have become co-creators of learning contents and materials.

So far, the use of such tools has confirmed that oral comprehension and production are not inconsistent with e-learning, on the contrary, they ensure greater proximity between teachers and students, and between the students themselves, who meet only online to exchange relevant experiences orally, which now have become part of their foreign language teaching-learning process in the virtual environment.

This last point is particularly relevant because the CEFR calls "knowledge" a learning process, focusing in particular on the skills used in learning.

VII. **Final considerations**

In short, the innovative strategies and solutions implemented and tested under the first project can be considered positive. It no doubt motivates us to give continuity to our work and to our research in this field of teaching-learning foreign languages online. It tends to become an interesting, effective, and appealing alternative, in an era where the diversification of realities

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demands an increasingly immediate and effective answer to meet the needs of a globalized society.

The research carried out seems to show that the use of multimedia technology is a good methodology for the practice and evaluation of oral communication in online education, enabling the production of texts as diverse as readings, comments, dialogues, simulations, digital stories, among others, and it is able to overcome the constraints of non-face-to-face teaching, ensuring the time flexibility characteristic of this type of education, since digital resources, such as podcasts and showcasts, for example, can be created and shared asynchronously.

The use of multimedia technology enables active, self-regulated learning, focused on learners, and respecting their individual pace of learning, thus promoting the development of oral and written communication competencies.

As technologies are increasingly present in the teaching / learning of foreign languages, at different pedagogical and interactivity levels, it appeared relevant to us to reformulate its various uses in the action-oriented approach drawn in the CEFR and in UAb's pedagogical model.

Both in the general theoretical context of task-pedagogy and in most phases of the educational process within the virtual classroom, the presence of technological tools in the foreign language virtual classroom is perfectly consistent with the CEFR's ideas.

Moreover, in an e-learning education system, such as UAb's, where written communicative interaction is always present, these pedagogical-didactic strategies allow for a closer proximity, thus overcoming physical distance, and creating emotional ties in the virtual classroom, which are no doubt encouraging in online foreign language teaching-learning "Anywhere in the World".

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Medical Educators' conceptions about Generic Competences in Argentina: Contributions for consensus building

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Abstract: Healthcare professionals' education is evolving to meet people's needs towards a more comprehensive, collaborative and interdisciplinary training. In medical education in Argentina, in the context of international discussions around competence-based education (CBE), competence frameworks are being developed for undergraduate and postgraduate education, constituting agreed criteria that lead to the design of training programs and work as key tools to ensure educational quality. The Tuning Project and other international frameworks account for this process towards a common definition of standards beyond geographic and disciplinary boundaries. Generic competences (GCs) have acquired increased relevance in CBE discussions, whereas in medical education they involve key skills for patient safety – yet clarity in their implementation still has to be accomplished. In competence-based medical education (CBME), some changes are being hindered by the absence of a common language as well as diverging ideologies and theories. The purpose of this work was to explore conceptions and the terms used when referring to GCs by people in charge of educational planning and design of Human Resources (HR) training policies in Argentina. A qualitative

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exploratory study was conducted based on semi-structured interviews to key informants from different levels and fields in medical education. Interviews were conducted by one interviewer and analysed by two independent researchers. Results showed that medical educational planners have different conceptions regarding GCs and fail to share a common language to enunciate them. They acknowledge their relevance for patient safety and agree with the notion that, at this time of educational transformation, it would be useful to enunciate them separately from specific competences, although they realise that this involves potential risks in curricular design. From all terms used in this regard, "generic competence" was identified as a contradiction in itself. Consensus on denomination, meaning and visibility in curricula is mandatory.

Keywords: Competence-based education; competence frameworks, Tuning Project; generic competences; discipline-specific competences; conceptions; human resources in healthcare.

I. **Context, challenges, discussions and possible answers**

I.1. *Training healthcare human resources (HR): An overview*

The field of healthcare HR in Argentina is a "constantly evolving intersectoral structure with changing dynamics, and with actors and institutions whose interests are sometimes supplementary and other times contradictory"[1] [our translation].

Argentina is a federal country, in which neither the health nor the education systems are delegated to the State. Therefore, provinces are autonomous for managing health and education.[2]

This structure results in the fragmentation of many processes. In particular, HR training entails complex coordination among several actors, such as the healthcare system, the education system and the field of future labour insertion – each with its own logics, not always integrated consistently.[3] Against this backdrop of fragmentation, many technician, undergraduate and postgraduate training programs are offered by both public and private technical education institutions and universities.

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[1] María Isabel Duré and María del Carmen Cadile, comps., *La gestión de recursos humanos en salud – Una estrategia de consensos 2008-2015* (Argentina: Ministerio de Salud de la Nación, 2015), 27.

[2] Hugo E. Arce, "Organización y financiamiento del sistema de salud en la Argentina," *Medicina* 72, no. 5 (2012): 414-418, http://www.scielo.org.ar/pdf/medba/v72n5/v72n5a11.pdf.

[3] Duré and Cadile, comps., *La gestión de Recursos Humanos*.

In the specific case of postgraduate medical education, specialisation training can be accessed in different ways: in educational institutions – university postgraduate programs – or in-service training – medical residencies.

Even though the curriculum design of undergraduate programs aims to provide key competences during the training period, some of these competences are not acquired at this stage but are sometimes developed during postgraduate training. To some extent, this shows an education continuum between both periods.[4] This also becomes particularly relevant given that, unlike inother countries, in Argentina a medical degree authorises professional practice, that is to say, having a specialty is not a precondition for clinical practice.

The State, by virtue of its social accountability as to education and practice regulation,[5] exercises its stewardship in different ways: "...as educator, employer, auditor of professional practice, and regulator of each of these processes and how all of this structures the field, both when the State is responsible for these activities as well as when it delegates them to other actors"[6] [our translation].

One way of exercising regulation is through accreditation at the different education levels – undergraduate and postgraduate. Accreditation systems define professional profiles, standards and competences, and are a State policy vis-á-vis HR training. The system consolidation depends mostly on the intersectoral actors at stake, their interests and decision-making power.

I.2. *Challenges for current medical education*

Over a century ago, Abraham Flexner presented a report stating *what medical education should be like*. In his analysis, Flexner stressed the need to strengthen the learning of basic sciences as part of medical training. This had a powerful effect, resulting, at that time, in the proliferation of medical schools whose practice was based in teaching the basic sciences upon which the clinical sciences would develop later on.[7] Flexner's report became a

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[4] Olle Ten Cate, "What is a 21st century doctor? Rethinking the significance of medical degree," *Acad Med*. 89, no. 7 (2014): 966-9, doi: 10.1097/ACM.0000000000000280.

[5] Duré and Cadile, comps., *La gestión de Recursos Humanos*.

[6] Ibid., 31.

[7] Carlos A. Brailovsky and Ángel M. Centeno, "Algunas Tendencias Actuales en Educación Médica," *REDU. Revista de Docencia Universitaria* 10 (2012): 23-33, doi: 10.4995/redu.2012.6091.

turning point in this matter. From that moment on, there have been several proposals, none of which, however, with the same paradigmatic impact.

In 1984 the General Professional Education of the Physician (GPEP) report was published in the United States. This report, among other aspects, underscored the need to introduce content drawn from the behavioural sciences and the social sciences in medical school curricula.[8] In the 1990s, a redefinition of medical education was introduced, not so much associated with structures and processes but more relying on outcomes, i.e. *the competences a physician should have*.[9]

Based on the same approach, other projects were introduced, including the

> ...Medical School Objectives Project (MSOP) in the United States, the CanMeds project in Canada, the Tomorrow´s Doctors project in the United Kingdom and the Physician of the Future (Médico del Futuro) of the Medical Education Foundation (Fundación Educación Médica) in Spain[10] [our translation].

The Tuning Project was developed in Europe and then in Latin America and other regions of the world. It brought together experts from different disciplines, such as medicine. This project was created with a vision based on networks, learning communities, interprofessional solidarity and respect for the context-specific characteristics of professional practice. In Latin America, specifically in the field of medicine, university representatives worked in the development of a Latin American meta-profile and common competences for physicians.[11]

In 2007, the Project stated that the degree in medicine is still highly disciplinary.[12] The same observations for Latin America were also made for the rest of the world, when a new study showed that most curricula were still based on a paradigm of fragmentation.[13]

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[8] Association of American Medical Colleges, "Physicians for the Twenty-First Century. The GPEP Report: Report of the Panel on the General Professional Education of the Physician and College Preparation for Medicine," *J Med Educ*. 59, no. 11 (1984): 1-208.

[9] Robert Englander et al., "Toward a shared language for competency-based medical education," *Medical Teacher* 39, no. 6 (2017): 582-587, doi: 10.1080/0142159X.2017.1315066.

[10] Brailovsky and Centeno, "Algunas Tendencias," 26.

[11] Christel H. Altermatt, "El proyecto Tuning latinoamericano: la experiencia del área de Medicina," *Rev Hosp Clin Univ Chile* 25 (2013): 19-31.

[12] Pablo Beneitone, *Reflections on and outlook for higher education in Latin America. Final report-Tuning Latin America Project, 2004-2007* (Bilbao: Universidad de Deusto, 2007).

[13] Julio Frenk et al., "Health professionals for a new century: transforming education to strengthen health systems in an interdependent world," *The Lancet* 376, no. 9756 (2010): 1923-1958, doi: 10.1016/S0140-6736(10)61854-5.

Within the context of discussions over educational innovation, in 2010 – a hundred years after its original report – the Carneggie Foundation published the "Educating Physicians" report. The report made four recommendations for the reform:

> 1) standardizing learning outcomes and individualizing the learning process; (2) promoting multiple forms of integration; (3) incorporating habits of inquiry and improvement; and (4) focusing on the progressive formation of the physician's professional identity.[14]

Thus, the report highlighted that healthcare professionals' education was not up to the challenges posed by society, and that it still relied on a static and fragmented curriculum. It also noted the "tribalism of the professionals" and the tendency to act in isolation from each other – it could also be said that in isolation from social demands.

This is another turning point for medical education. From an optimistic perspective, medical education faces the possibility to effect changes as long as it improves collaboration among professionals in healthcare teams and understands unequivocally that maintaining the medical hegemony would lead down the wrong path.[15]

Along with the changes in society, what is expected and needed from healthcare professionals has also changed. In this respect, physicians in particular are required to adopt a holistic and patient-centred view. This has motivated the inclusion of generic competences in curriculum design proposals.[16] Apart from developing individual competences, physicians must be able to contribute to the development of team competences, the so-called collective competences.[17] Therefore, 21st century physicians[18] are called to redefine their role within the team, since responding to the care needs of the society requires interdisciplinary work and collaboration among professionals.

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[14] David M. Irby, Molly Cooke, and Bridget C. O'Brien, "Calls for reform of medical education by the Carnegie Foundation for the Advancement of Teaching: 1910 and 2010," *Acad Med*. 85, no. 2 (February 2010): 220, doi: 10.1097/ACM.0b013e3181c88449.

[15] Alan Bleakley, John Bligh, and Julie Browne**,** *Medical Education for the Future. Identity, Power and Location* (Países Bajos: Springer Netherlands, 2011), doi: 10.1007/978-90-481-9692-0.

[16] Karsten A. van Loon et al., "The role of Generic Competences in the entrustment of professional activities: A nationwide competency-based curriculum assessed," *J Grad. Med. Educ*. 8, no. 4 (October 2016): 546-552, doi: 10.4300/JGME-D-15-00321.1.

[17] Eric S. Holmboe et al., "A call to action: The controversy of and rationale for competency-based medical education," *Medical Teacher* 39, no. 6 (2017): 574-581, doi: 10.1080/0142159X.2017.1315067.

[18] Ten Cate, "What is a 21st century doctor?"

Medical curricula must be adjusted to encompass these challenges, otherwise they will step further away from the path proposed by the educational reform; they will continue "*circling on the medical education carousel*."[19] In connection to this, Stark and Lattuca[20] recognise three influences operating on the curriculum reform: external influences, such as the society, government, students and accreditation system; internal influences, including teachers' and planners' conceptions; and institutional influences, like universities, hospitals and organisations. These influences must be considered in order to understand the complexity of the whole process.

I.3. *Discussions of healthcare professionals' education within the curriculum change process*

Within this context of change, the literature evidences the discussions held so far, which attest to the tensions in the field. Some tensions have more to do with implementation difficulties in practice and others are more theoretical, conceptual and ideological – different conceptions of the profession, its practice and education. As CBME expands, the most relevant discussions include:

- Observable-Measurable-Assessable / Non-observable: In line with the assessment and psychometric paradigm, CBE discourse requires definitions in observable and measurable terms; criticism has pointed out that not every important matter is measurable. CBE is blind to unmeasurable attributes, possibly important ones, for example some relevant qualities in medical education such as humanism, professionalism, altruism and empathy.[21]
- Conceptions of Competence: There are disagreements regarding what a competence is. This lack of a common language which expresses a univocal meaning generates interference in the implementation of CBME.[22]

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[19] Cynthia R. Whitehead, Brian D. Hodges, and Zubin Austin, "Captive on a carousel: discourses of 'new' in medical education," *Adv Health Sci Educ Theory Pract*. 18, no. 4 (October 2013): 766, doi: 10.1007/s10459-012-9414-8.

[20] Lisa R. Lattuca and Joan S. Stark, *Shaping the college curriculum: Academic plans in context* (United States: Jossey-Bass Inc., 2009).

[21] Martin Talbot, "Monkey see, monkey do: a critique of the competency model in graduate medical education," *Med Educ*. 38, no. 6 (June 2004): 587-92, doi: 10.1046/j.1365-2923.2004.01794.x.

[22] Nicolas Fernandez et al., "Varying conceptions of competence: an analysis of how health sciences educators define competence," *Medical Education* 46 (2012): 357-365, doi: 10.1111/j.1365-2923.2011.04183.x.

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- Reductionism / Holism: Competence frameworks entail a fragmented approach to professional practice and, therefore, a distorted truth, with limitations in describing complex human behaviour.[23] However, explicitly breaking competence down into meaningful components sometimes helps assessment and feedback. Instead of the dichotomy between "holism/reductionism", it may be possible to address practice fragmented or as a whole depending on the situation, knowing that both decisions have potential consequences.[24]
- Individual / Collective Competences: There is the need of rethinking medical competences in a collective discourse, arguing that individual competences are not enough to secure team success and patient safety.[25]
- GCs in Healthcare Professionals' Education: The advent of CBME also resulted in the incorporation, among the learning objectives, of aspects that reach beyond medical expertise, such as communication, collaboration, management skills, and ethics. Despite the need of these GCs, their relevance is not always recognised and their implementation is challenging.[26] Furthermore, the literature mentions them with different terms, and there is no consensus as to how to include them in the curricula. The above interference related to the term competence is still more marked when it comes to generic competences.

I.4. *Reference framework emergence in the context of current discussions: Possible answers, approaches and strategies*

In the context of ongoing discussions on CBME and given the need for providing answers, different alternative training approaches have emerged. In seeking models which allow for competence operationalization, with a comprehensive approach that reveals consensus building, the creation of

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[23] Thomas S. Huddle and Gustavo R. Heudebert, "Viewpoint: Taking Apart the Art: The Risk of Anatomizing Clinical Competence," *Acad Med*. 82 (2007): 536-541.

[24] Eric S. Holmboe, Jonathan Sherbino, Robert Englander, Linda Snell, Jason R. Frank, and on behalf of the ICBME Collaborators. "A call to action: The controversy of and rationale for competency-based medical education," *Medical Teacher* 39, no. 6 (2017): 574-581, doi: 10.1080/0142159X.2017.1315067.

[25] Brian D. Hodges and Lorelei Lingard L., *The Question of Competence: Reconsidering Medical Education in the Twenty-First Century* (New York: Cornell University Press, 2012).

[26] Nadine van der Lee, Joanne P. I. Fokkema, and Fedde Scheele, "Generic competencies in postgraduate medical training: their importance illustrated by a doctor's narrative on competency-based practice," *Zdrav Var* 51 (2012): 280-284, doi: 10.2478/v10152-012-0031-y.

reference frameworks (RF) shows a clear development within the field of medical education.

RFs are organisers that group ideas or domains, and reflect the educational objectives which trainees are to attain.[27] These "assumptions" are organised by using a shared language and are a model that standardises what should be done.[28] They are management tools for those responsible for training.

In Argentina, "...[RFs] are a key tool for harmonising and improving the (postgraduate) training system of the healthcare team at the national level, since they set the basic parameters training programs must take into account."[29] Reference framework development has been proposed so as to provide quality education, which leads to better care.[30]

The way RFs are designed – drafted – has an impact on their interpretation and on curriculum design. They help to cascade down complex concepts, such as "clinical competence," to planning and assessment stages. There are different types of frameworks. Depending on what aspect they focus on, they may be synthetic – competences – analytic – daily activity – or developmental – progressive development of competences.[31]

In an effort to bring complex frameworks closer to practice, two concepts have been introduced in medicine, both highly widespread nowadays:

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[27] Alberto E. Alves de Lima and Juan P. Costabel, "Marcos de Referencia para la evaluación del desempeño profesional en el ámbito de trabajo," *Rev Fed Arg Cardiol* 44, no. 2 (2015): 118-123.

[28] Louis Pangaro and Olle Ten Cate, "Frameworks for learner assessment in medicine: AMEE Guide Nº 78," *Med Teach* 35, no. 6 (June 2013): 1197-210, doi: 10.3109/0142159X.2013.788789.

[29] Ministerio de Salud de la Nación, *Guía para la elaboración de Marcos de Referencia* (Argentina: Ministerio de Salud de la Nación, 2013). This guide for the elaboration of reference frameworks was designed by the National Directorate for Human Resources and Occupational Safety and Health (*Dirección Nacional de Capital Humano y Salud Ocupacional*) of the Argentine Ministry of Health, together with representatives from scientific and academic societies, experts in different areas, members of specialty-related programs and professionals with extensive experience. The objective of this guide was to agree on a document at the national level which contained the basic criteria and the methodology for the design of reference frameworks for the different specialties. This guide provides the basic guidelines for the design of specific reference frameworks and the different specialties.

[30] Royal College of Physicians and Surgeons of Canada, "Better standards, better physicians, better care," accessed April 2018, http://www.royalcollege.ca/rcsite/canmeds/canmeds-framework-e. In the 1990s, the Royal College of Physicians and Surgeons of Canada developed the CanMEDS model with a view to defining the competences needed for effectively meeting people's heathcare needs. The goal of CanMEDS is to improve patient care. This framework has been adopted and adapted in many countries. Since it was created, CanMEDS has undergone several revisions, which are key to its improvement. The framework has the motto "Better standards, better physicians, better care."

[31] Alves de Lima and Costabel, "Marcos de Referencia."

Entrustable Professional Activities (EPAs)[32] and Milestones. Milestones "define a developmental trajectory for individual competencies. EPAs are observable and measureable units of work that can be mapped to competencies and milestones critical to performing them safely and effectively."[33] Both terms are used in diverse international curriculum planning contexts as tools to set clear learning objectives and facilitate the assessment of their scope. These concepts could be established as a facilitating language that brings transparency to the different local interpretations and fosters consensus-based work and collaboration.[34]

In 2013, a guide for RF development[35] was designed in Argentina. One of its objectives was to contribute to the implementation of collaboration processes and exchanges among institutions and/or specialties – among and inside provinces. In this line of work and with an international perspective, the Tuning Project has aimed to create an interdisciplinary reference framework, seeking to enhance understanding/communication through a language shared by the actors involved and achieving a consensus on common international standards.[36]

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[32] Olle Ten Cate, "Entrustability of professional activities and competency-based training," *Med Educ*. 39, no. 12 (2005): 1176-1177, doi: 10.1111/j.1365-2929.2005.02341.x. EPAs (Entrustable Professional Activities) were introduced by Olle Ten Cate in 2005, in the Netherlands. EPAs describe specialist physicians' routine activities for safe and effective care provision. They describe observable behaviour units. This has turned EPAs into a highly relevant training tool. EPAs are very much developed in the United States, Canada, the Netherlands and the United Kingdom. In Argentina, the Hospital Italiano de Buenos Aires has started their implementation in its medicine program. In addition to EPAs, the ACGME has developed Milestones.

[33] Carol Carraccio et al., "Building a Framework of Entrustable Professional Activities, Supported by Competencies and Milestones, to Bridge the Educational Continuum," *Acad Med*. 92, no. 3 (March 2017): 324, doi: 10.1097/ACM.0000000000001141.

[34] Olle Ten Cate, "Competency-Based Education, Entrustable Professional Activities, and the Power of Language," *J Grad Med Educ*. 5, no. 1 (March 2013): 6-7.

[35] Ministerio de Salud, *Guía para la elaboración*. Based on the guide for the elaboration of framework documents in Argentina, other reference frameworks have been developed for different medical specialties. The Argentine Ministry of Health, through its National Directorate for Human Resources and Occupational Safety and Health (DNCHySO), leads these processes by organising work committees made up of representatives from the Ministry of Health, members of scientific and academic societies and jurisdiction representatives. To the day, there are eleven reference frameworks for different specialties approved by the Federal Health Council (COFESA) and six are undergoing a consolidation process (http://www.msal.gob.ar/residencias/index.php/la-acreditacion/documentos-marco-de-referencia-de-especialidades). Reference frameworks determine the minimum standards for professional profiles, the basic methodological/structural criteria and the training trajectory for each specialty.

[36] Robert Wagenaar, "Competences and learning outcomes: a panacea for understanding the (new) role of Higher Education?" *Tuning Journal for Higher Education* 1, no. 2 (2014): 273-302, doi: 10.18543/tjhe-1(2)-2014pp279-302.

II. The Problem: "Tribalism"[37] of educational practices, professions and language

The growing complexity of healthcare practices imposes healthcare professionals' education the challenge of training professionals with competences that match this complexity, adopting a holistic and comprehensive approach. However, more often than not training approaches are still characterised by fragmentation. This, in turn, is reproduced in the care settings where students are trained and where they will exercise professional practice.[38]

Efforts towards more comprehensive training approaches still evidence some flaws and remain more in the declarative than in the action domain. They end up being more reproductive of dated practices than actually productive and innovative, thus giving the feeling of being at a standstill.[39] Both at universities as well as in the care settings where in-service training is provided, training practices take place in environments characterised by fragmentation, isolation of professions, lack of teamwork and interprofessional collaboration.[40]

Strong tensions coexist among training institutions and the need for profiles required by the health system. Given a deeply rooted training model, with a discipline-based approach which does not favour collaborative work with other professions, a hospital-centred view of healthcare that restricts the field of intervention and a heavy reliance on technology,[41] changing training structures and curricula is not enough – even if there is a trend towards abandoning discipline-based curricula.[42] The result is a change in form but not in substance, since students are trained in the intersection of both systems, where both, still fragmented, logics struggle.

The Pan American Health Organization (PAHO) "Health Agenda for the Americas" (PAHO/WHO,Health Agenda for the Americas 2008-2017, Washington, DC: PAHO, 2007) drawn up and approved by all Ministers of Health of the Americas, proposed to

> start a joint effort with the countries in the Region to make it possible to redefine physician training in the Region. The purpose is to pursue

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[37] Jo Atkins, "Tribalism, Loss and Grief: Issues for Multiprofessional Education," *Journal of Interprofessional Care* 12, no. 3 (1998): 303-307, doi: 10.3109/13561829809014121.

[38] Frenk, et al., "Health professionals."

[39] Whitehead et al., "Captive on a carousel."

[40] Frenk, et al., "Health professionals."

[41] Duré and Cadile, comps., *La gestión de Recursos Humanos*.

[42] Pan American Health Organization, *Formación en Medicina orientada hacia la atención primaria de la salud – Serie la Renovación de la Atención Primaria de Salud en las Américas. No. 2* (Washington D.C: PAHO, 2008).

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> community-based education with a generalist approach, with public healthcare contents and family and community healthcare contents, and, especially, with a primary care approach that enables graduates to develop solid technical and social competences, interdisciplinary thinking and ethical behaviour[43] [our translation].

It has been stated that health systems must provide "comprehensive, integrated and adequate care along time, placing emphasis on prevention and promotion, securing the users' first contact with the system and taking families and communities as the basis for planning and action"[44] [our translation].

On the other hand, the fragmentation between the training and the health systems is evidenced in a variety of ways: overspecialised physicians, whose practices are founded on a biology-centred model, are hospital-centred and lack contextual insight; or physicians with segmented training, few skills for primary care management in terms of prevention and promotion[45] and little development of GCs. Scientific and technological development has changed the practice landscape and has contributed to the emergence of new tasks and actors, giving rise to super-specialists who "struggle for exclusiveness in certain areas of intervention."[46]

The complexity of healthcare social needs demands the organisation of work in teams, with the lack of team work skills – both inter – and intra-healthcare professionals – being considered as one of the strong reasons why serious medical errors are made. In this context, there is a need for competences that go beyond the boundaries of a discipline, to be potentially developed across the board. Here, the ability to participate in work teams and interdisciplinary work is key.[47]

The topic of GCs and their incorporation in the curricula are undergoing a process of constant discussions, which reveal an attempt to reach out to social care needs in order to meet them with a particular professional profile. However, there is a gap between discursive formulation of competences and their learning and implementation in real life contexts. Discourse models the way these competences are understood and also implemented.[48] The lack of

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[43] Pan American Health Organization, *Formación en medicina*, 2.

[44] Ibid., 2.

[45] Ibid.

[46] Jurjo Torres Santomé, *Globalización e interdisciplinariedad: el* curriculum *integrado* (España: Ediciones Morata, 1994).

[47] Cristina Davini and María Isabel Duré, coords., *Guía para la elaboración de. Documentos Marco de Referencia*. (Buenos Aires: Mimeo, 2013).

[48] Cynthia R. Whitehead, "Getting off the carousel: De-centring the curriculum in medical education," *Perspect Med Educ*. 6, no. 5 (October 2017): 283-285, doi: 10.1007/s40037-017-0373-x.

a shared language in this respect has been pointed out as a hindrance, since in the field of education there are different terms, definitions and classifications to refer to "soft skills."[49]

The situation of neglect[50] of these competences was addressed in 2016 by the Association for Medical Education in Europe (AMEE), by referring to them as "orphans".

Furthermore, it cannot be overlooked that educational systems are placed in a certain time and context, and are, therefore, immersed in a specific historical process. The same competences, with the same names, may articulate different meanings in each region, since contextual factors have a bearing on these definitions. In Beneitone's words: "On the other hand, there are clearly differences in the expectations and conceptions of generic competences which reflect cultural values and concepts."[51] The context also encompasses *the disciplinary context*, which has a particular view of generic competences and makes it difficult to achieve consensus since what is considered *important* varies across regions and disciplines.[52]

Even though EPAs were an attempt to incorporate generic competences, it was observed that in practice these competences were not actually prioritised. There is a gap between the intent to incorporate them and their implementation in practice.[53]

In Argentina, there are documents which regulate medical education both at the undergraduate and postgraduate levels. Regarding the so-called generic competences, documents refer to different terms, definitions and manners in which the generic and specific aspects of competences are linked. Documents also propose different ways of planning their teaching and assessment and of including them in the process of quality education accreditation; this probably suggesting different conceptions among planners. At the undergraduate level,[54]

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[49] Maria Cinque, "'Lost in translation'. Soft skills development in European countries," *Tuning Journal for Higher Education* 3, no. 2 (2016): 389-427, doi: 10.18543/tjhe-3(2)-2016pp389-427.

[50] Jordi Palés-Argullós and Maria Nolla-Domenjó, "Generic competencies, an unresolved issue in faculties of medicine," *FEM* 19, no. 5 (2016): 227-228.

[51] Pablo Beneitone and Edurne Bartolomé, "Global generic competences with local ownership: a comparative study from the perspective of graduates in four world regions," *Tuning Journal For Higher Education* 1, no. 2 (2014): 331, doi:10.18543/tjhe-1(2)-2014pp303-334.

[52] Lazarus Nabahodoi, "Developing Generic Competences in Life Sciences: the untold story of the Makerere University College of Health Sciences in Uganda," *Tuning Journal For Higher Education* 4, no. 2 (2017): 389-406, doi: 10.18543/tjhe-4(2)-2017pp389-406.

[53] Loon van, et al., "Role of Generic Competencies."

[54] Resolution Nº 1314/07 Ministerio de Educación de la Nación Argentina, Estándares para la acreditación de carreras de Medicina, CONEAU. Resolution Nº1314/07, approved by

the accreditation standards in the medical school do not explicitly mention the term "generic competences." Even though they are included, they are not referred to as such. At the postgraduate level, particularly for in-service training – Medical Residencies – a guide for the elaboration of reference frameworks was proposed as part of the leadership role assumed by the State in order to provide the overall guidelines for the design of framework documents in different specialties, with the agreement of the actors involved – scientific societies, universities, ministries. This guide includes general competences, competence areas and, explicitly, "transversal competences." On the one hand, the guide proposes that the specific contents should be selected in accordance with the type of specialty and, on the other hand, it suggests "transversal contents" common to all specialties. Today, these contents are organised in three "blocks of transversal contents," grouped around three pillars: the role of the professional as part of and actor in the system to secure the right to health; the link between the professional and other legal entities which access health institutions; continuing education and research for care improvement.[55] These pillars tackle central problems for the healthcare system which are common to all specialties. In the different specialty-specific frameworks developed since 2010 to date, the actors involved in framework development have taken into consideration the incorporation of transversal contents diversely, accounting for the progress made in this respect and also for the difficulties in implementing and interpreting them.

The Tuning Project has made significant progress as to the definition of competences, distinguishing between specific and generic competences. In the experience of the Tuning Latin America 2011-2014[56] work group in the

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the Argentine Ministry of Health, determines the accreditation standards for the medical programs. Available: http://www.coneau.edu.ar/archivos/Res1314.pdf. The resolutions approved by the Argentine Ministry of Health in 2006 and 2007, respectively, are the Ministerial Resolutions 450/06 and 1342/07. Resolution 450/06 determines the creation of the National Accreditation System of Health Team Residencies (*Sistema Nacional de Acreditación de Residencias del Equipo de Salud*), which establishes basic criteria and system members, as well as the creation of the National Single Registry of Accredited Health Team Residencies (*Registro Nacional Único de Residencias del Equipo de Salud Acreditadas*) and the Single Registry of Heath Team Residency Assessment Bodies (*Registro Único de Entidades Evaluadoras de Residencias del Equipo de Salud*). Resolution 1342/07 determined the implementation of the National Accreditation System of Health Team Residencies, created by Resolution 1342/07.

[55] Ministerio de Salud de la Nación, Resolution 1342/2007 – Residencias del equipo de salud/Sistema nacional de acreditación de residencias, Official Gazette 26-oct-2007 no. 31268.

[56] Christel H. Altermatt, ed., *Educación Superior en América Latina: reflexiones y perspectivas en Medicina* (Bilbao: Universidad de Deusto, 2013).

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field of medicine, difficulties were observed when trying to materialise this distinction in a reference framework and, even more so, in different practices. When formulating the specific competences of physicians, they made a list containing the specialty-specific competences, some of them markedly illness-oriented, some involving concrete specific disciplinary skills and others of a more generic nature, such as the "ability to participate actively in the health team and the community."

When working on GCs, they decided to treat the generic competence "communication" as both generic and specific, thus revealing the blurred boundaries when it comes to defining it one way or the other. In the context of the Tuning Project, they stated that in practice generic competences seem not to be clearly separated from specific competences as they must always be interpreted in the light of the disciplinary area.

Regulatory frameworks seek to define a common ground, trying to maintain a delicate balance and understanding the need to be explicit and provide definitions so that these can be used for determining the implementation, course and development of training.[57]

Given the fragmentation of the training system, the health system and language, new lines of work have emerged which try not to go further into the same logic, but rather to look for a way of bridging the gap among disciplines by incorporating generic competences in training and by seeking agreements to define a shared language.

However, when it comes to what is termed as "generic competences" there seem to be several interpretations, uses and terms, there being differences in literature, official and public documents. Apparently, but is the same referred to or spoken of? What conceptions do underlie these differences? Planners' conceptions regarding generic and specific aspects might be operating in this situation.

II.1. *The Gap between what is thought and what is said: Underlying conceptions and terms*

As Peters et al. state, "[c]onceptions are beliefs or ideas that function as lenses through which people view and interpret the world… These conceptions are important because they act as cognitive filters that may

[57] Martin Mulder, "Conceptions of Professional Competence," in *International Handbook of Research in Professional and Practice-based Learning*, ed. Stephen Billett, Christian Harteis, and Hans Gruber (Dordrecht: Springer, 2014).

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influence teachers' and workplace supervisors' teaching strategies and students' learning strategies".[58]

From this perspective, a conception is a way of interpreting, understanding and slicing a certain reality, distinguishing what is relevant from what is not, and determining what is included or excluded. Conceptions can materialise in the use of language. They may have theoretical, historical, subjective and contextual components, which render the transition to materialization difficult. In other words, there is a relation between conceptions and terms. This relation is mediated by diverse influences and convenience, and is not devoid of consequences.

One of the functions of language is to articulate and organise thought. According to Gimeno Sacristán, "[c]oncepts, arguments and speeches are tools that reflect the content matter of our thoughts, while the language we use…conditions our pattern of thinking and how we make it objective…"[59] [our translation]. Therefore, the terms we choose and use to name concepts are not naïve. On the contrary, they act as lenses through which reality is seen in a certain way; as the saying goes "it lies in the eyes of the beholder," that is, "the choice of language used is not arbitrary."[60] One same term, depending on the user and the context of use, may carry different meanings.

In the area of medical education, CBME implementation has entailed a change in the way problems are defined, interpreted and tackled. This is a type of lens that impacts on education planning. Conceptions have an impact on curriculum planning, since they limit expectations and the contents which are included and excluded, all of this having an effect on practice – teaching and assessment modes.

Planners might act as agents for change – or resistance. Conceptions come into play in various circumstances. Teaching practices are influenced by teaching and learning conceptions, even when these are not made explicit.[61]

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[58] Sanne Peters et al., "A Qualitative Exploration of Multiple Perspectives on Transfer of Learning Between Classroom and Clinical Workplace," *Teach Learn Med*. 30, no. 1 (Jan-Mar 2018): 22, doi: 10.1080/10401334.2017.1339605.

[59] José Gimeno Sacristán, "Diez tesis sobre la aparente utilidad de las competencias en educación," in *Educar por competencias, ¿qué hay de nuevo?*, comp. José Gimeno Sacristán (Madrid: Morata, 2008), 17.

[60] Ibid.

[61] Johanna Jacobs et al., "Impact of institute and person variables on teachers' conceptions of learning and teaching," *Medical Teacher* 37, no. 8 (2015): 1-9, doi 10.3109/0142159X.2014.970985.

III. **Research design**

This was a qualitative exploratory study. The objective of this study was to explore medical educational planners' conceptions regarding generic competences in Argentina and the language choices they make when referring to them. Semi-structured interviews were conducted with key informants involved in health science curricular planning in Argentina

Healthcare HR training in Argentina is complex and includes government, university, healthcare and scientific society actors. Considering this complexity, non-probabilistic sampling was carried out. Sampling relied on strategic informants from different sectors and fields who participate in health HR planning/training – public/private, undergraduate/postgraduate, education and health ministries/universities/scientific societies. Based on this criterion, a selection was made of medical education experts with active participation in decision-making at different levels of educational planning. Experts in medical training were included as long as they had knowledge on competences and theories of generic and specific competences, as well as some past involvement in educational planning processes. To be included, these key informants had to meet the following criteria:

- Proven expertise in medical/professional healthcare education – either from training/specialization in the subject or from an acknowledged career in the area.
- Current or past involvement in curriculum planning or policy-making in medical education – ministries: frameworks and policies; universities: authorities and program directors or coordinators.

Focus was placed on obtaining a significant sample, thus enhancing the research. Indeed, this methodology boosted the investigation and was not expected to be representative of all the situations that occur within a given structure. It also helped to explore different conceptions from different professional realities and institutional contexts. However, the sample was not meant to be representative. Sample size was based on data saturation, specifically linked to the main goal in this survey. It was decided to stop conducting the interviews once the information for the selected categories – definitions and terms/generic-specific relationship – became repetitive and no new data could be collected in this respect.

Data were obtained from semi-structured interviews conducted in Spanish by one researcher (RIL) between July and September 2017. Interviewees were first contacted by email/phone and then summoned for either a personal interview or a Skype call. Informed consent for anonymous use of collected data

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was provided. All interviews were recorded with interviewee authorization and then transcribed for analysis. A preliminary interview was designed, and was later adjusted during the process of conducting the interviews. These instrument adjustments were the result of an ongoing review process. The interviews were conducted until it was not possible to collect new information on both the categories of "definition and terms" and "generic-specific relationship." This means that the final sample size was determined by the data saturation criterion.

Interview protocol

- What do you think Generic Competences are?
- How do you define generic competences?
- There are different terms–transversal, generic, orphan, domain-independent, soft… do you find them all consistent?
- Do you find one more appropriate or accurate than others?
- Do you think they all refer to the same?
- Why do you think there are so many definitions? And terms?
- Which one do you think is more suitable to describe the process?
- How are specific and generic competences different?
- Advantages of separation?
- In which cases do you consider it useful to separate generic and specific features from professional competence?
- Have you witnessed different moments in educational planning regarding generic and specific competences?
- Which stages do you recognize in this process? When does the difference between specific and generic competences emerge?
- At what point and why is this distinction introduced in the teaching of medicine?
- Do you believe generic aspects of competences should be included in professional profiles? In learning outcomes?
- In those curriculums you have participated, how are generic aspects approached?
- Have you chosen to enunciate them apart from specific aspects? Why?
- What planning decisions have to be made regarding integration or separation of generic and specific aspects of competences, namely in curricular planning, subjects, frameworks, activities?

A content pre-analysis was conducted, consisting of an overall reading of the interviews. Then, a category system was developed using an open coding system. Categories were defined based on the theoretical framework and the interviews. The information surveyed in this study was systematised using codification, comparison and synthesis processes, crossing textual units and interpreting them contextually. An independent analysis was conducted by both researchers (RIL-CIH) to minimise interviewer subjectivity. In addition, a document survey was carried out to "augment and support" the data obtained in the interviews, with a view to using different sources for a more

in-depth study and consistent analysis. The document sources used comprised official and public documents[62].

The following table presents the selected categories and their operationalisation. Even though the interviews delved into other relevant aspects – relative to contexts, actors, and the health HR training field – the priority was to explore the categories connected to definitions and terms, as well as the generic-specific relationship.

Dimension	Category	Category operationalization
Conceptions	Definition and terms	Competence definition Generic competences
	Specific-generic relationship	On their incorporation On their enunciation

IV. **Results**

A total of twelve interviews were conducted, each lasting 26 to 86 minutes – an average of 56 minutes. Interviewees come from different areas in the educational practice, undergraduate and postgraduate levels, public and private environments and professions.

During the interviews, the interviewees provided data on their involvement in HR training in Argentina, their affiliation, their role in different contexts, and their training on medical or healthcare professional education. As to gender, the sample was made up of 8 female (F) and 4 male (M) subjects. Considering profession, it was mostly made up of 8 physicians and 4 Educational Science professionals. The eight physicians stated that they had training in education. Four interviewees had a bachelor's degree in education. Even though their professional background was related to education in other disciplines, they were connected with healthcare professionals' training.

Both the undergraduate and postgraduate levels of medical education were represented in the sample. Almost all the interviewees in the sample were involved both in undergraduate (Gr; 11) as well as in postgraduate medical education (PGr; 10). They played a role at the level of program direction or coordination and participated in curricular design not only in the medicine degree but also in specialisation programs and medical residencies.

[62] Antonio Alaminos Chica and Juan Luis Castejón Cost , *Elaboración, análisis e interpretación de encuestas, cuestionarios y escalas de opinión* (Alicante: Universidad de Alicante, 2006).

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Furthermore, as regards management types, interviewees were distributed in two categories: public (Pu; 5)/private (Pr; 7) management. Seven of them were involved in training at national or provincial ministry levels (Health and Education), either as members/officials or as participants in the processes setting standards and framework documents for regulating training. Six interviewees worked in the Health system (H) carrying out care, management, and/or research tasks. Seven interviewees were involved in ministerial/ reference framework-building.

As explained before, due to the characteristics of the Argentine Health System, actors' – planners' – labour insertion, affiliation, and performance entail simultaneously different contexts, management types, and different roles in the healthcare and educational systems. Interviewees' different roles in the healthcare and educational systems are shown in Table 1 below.

Table I

Characteristics of Interviewees (as reported by them)

Gender (F/M)	Female: 8 Male: 4
Profession	Physician: 8 Educational Science: 4
Undergraduate medical education involvement (Gr)	11
Postgraduate medical involvement (PGr)	10
Ministerial/reference framework-building involvement (Mi)	7
Public/private management (Pu)/(Pr)	Public: 5 Private: 7
Health system participation (H)	6

For the purposes of this article and based on our study objectives, the most relevant categories of analysis were selected. These categories are presented in the matrix format below, including a selection of the most representative quotations. Texts have been translated verbatim from Spanish.

It is worth noting that the interviews provided data concerning the factors and tensions as to the incorporation of generic competences in healthcare professionals' training. While these data were not connected to the main study objectives, they contribute to ongoing discussions and show the implications of this research in the context of healthcare HR. These data are included at the end of the matrix.

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IV.1. *Conceptions and terms*

Definitions and terms	Competences	
	• They are linked to professional performance in a certain area. • They involve a located and contextualised side. They cannot be regarded in abstract. • For some, competences involve some specificity. • They are a useful construct/model, helping practice to be operative, despite implied learning fragmentation. Observable matters allow planning and assessment. • Models are viewed as a means to approaching complexity; yet they are partial views, leaving other sides "blind." • The term competence itself is viewed as trouble-leading. Outcomes rather than competences might be mentioned.	*"…Speaking about competences would be like denaturalizing some part of the educational phenomenon, the social phenomenon… when it comes to practice you see the need for competences… it is a very useful conceptual construct but I perceive it as rather limited, failing to embody other issues I find relevant…"* *"…Sometimes I'd rather not use the word competences and say 'what outcomes are you thinking about?' or 'what are you expecting to…?'…"* (F,P, Pg,Mi,Pu). […] *"….One needs to understand a model of competences… any model, precisely as such, entail models to understand a rather complex concept"* (M,P,G,Pg,Pu,Pr).

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Definitions and terms	Generic competences (GCs)	
Everyone manifested difficulties in finding a precise definition. GCs were agreed to be those which go across different specialties, but they describe them mainly in healthcare professions. GCs are those everyone should have. Depending on each profession, some might require further development. GCs are context-dependent according to most of the interviewees. Some believe there are "generic competences," and then generic ones that are unique to healthcare professions, they become specific within the context of professional activities. GCs are linked by many of the interviewees to humanistic domains, social in general..., something exceeding technical intervention and going beyond what is unique and specific to a professional area or discipline. Most consider they need to be stated separately in order to make them visible. Tensions were manifested regarding the term "generic competence." Most of them think there is tension, a conceptual cross between the terms "generic" and "competence" and a certain lack of consistency as a competence is expressed as a whole. By generating a category that names them as generic competences, a differentiation, dissociation, is generated. Some would rather use other terms in view of the meaning they refer to, e.g., *"core," "basal," "long-lasting," "sub-competences," "transversals," "general ," "genericattributes," "genericvalues."*	*"*[GCs]*are hard to denominate, to delimit... they're slippery... they run the risk of being confused with good manners or good practices, i.e. the proper thing..."* (F, P,U,Pg,Pr,H). *"...I see them as transversal to different professions... they go across the different fields of work in varying degrees. If you think of different workplaces then competences are transversal to all of them, yet in different professions or places you need some more than others... generic competences are necessary for all professions..."* (F,P,Pg,Mi,Pu). *"...One thing is for sure, there are generic competences that are unique to some professions and become specific..."* (F,P,U,Pg,Mi,Pr,H). *"... Indeed, the point is if you create the category then you're already stating that it's different... in fact it's a part of your performance, you can't split it. You don't first learn anatomy and then learn generic skills."* (M,P,U,Pg,Mi,Pr,H) *"...some difficulty with the generic and competences issue, as far as competences have a located question and a contextual question and* ***specificity****...I think there is a crossing in terms of what's generic and what's a competence... I find there's a certain difficulty in linking generic and competence in one term... competences are defined as a whole; therefore, what is the generic part within that whole that's namely a specific competence?..."* (M, P, U,Pr, Mi, Pu, H). *"... [GCs] are all those that aid towards the effort coming together in processes that are beneficial to people they work with, people they work for, and for the community... making that specific competence result in positive, beneficial outcomes..."*(F,P, Pg, Mi, Pu).	

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Generic-Specificratio		
About their Enunciation	The generic-specific division results from utilitarian enunciation purposes to understand a highly complex issue. Attention must be paid to the way they are enunciated, risks are implied: Intent statements might be void Might be presented as complementary Might not be viewed as part of something more comprehensive/integrated Might be taken as optional	*"…a positive discrimination concept might be used. If we fail to talk about it we risk not placing them in training, not taking them into account. So we need to enunciate them in order to get rid of this notion that only the competence that is specific for a discipline is valid… If you place them there then we're like saying keep in mind you need to work on this. So I think that's their practical use, not to make them lose visibility…" (M,P,U,Pg,Pu,Mi,H)* *"…if I fail to include it then it will get lost and if I include it in isolation then it becomes banal.."(M,P,U,Pg,Pu,Mi,H)* *"…first I think everything needs to be enunciated, what you pursue as essential. The way it is enunciated is crucial, as it might lead to interpretation… What is not enunciated, what is not objectively stated, what cannot be approached concretely and formally from an education… eventually turns up from a different side…" (F,P,Pg,Mi,Pu)*
About their inclusion	Most interviewees consider that generic competence learning needs to be regarded within discipline and practice. A competent action or a competence does involve both something generic and something specific, taking place within a context. They are linked "in action;" they actually coexist. Competence is one in action. Interviewees agree that GCs must be visible in the curriculum for practical purposes.	*"…I think there's only one competence and there are activities where professionals showcase their competences… I think if you keep this in mind then any model, whether specific or generic, will be a valid model as long as you consider that if you paint generic green and specific blue the overlapping spot will be where the competence really is, not either on one side or the other" (M, P, U, Pg, Pu, Mi, H).*

IV.2. *Field factors operating on the reform process*

It was pointed out that both the healthcare and the educational systems are to be involved in the process of changing different logics and different predispositions towards it. Regarding this topic some stated that:

> *…teaching teams which, in our case, respond to two logics, namely, those of the healthcare system and the educational system – the former not always prone to change* (F,E,U,Pu).

> *…Once you finish [the medical program] the discipline matrix is so strong, so strong that deconstructing it or being able to work with generic competences would require double effort…I think it's a major challenge. I believe it's being increasingly considered and approached…* (F,P,Pg,Mi,Pu).

The degree of medicine continues to support a deeply-rooted disciplinary approach which acts as a hindrance to change. GCs have only been included recently in health science curricular planning as a result of an approach opening towards other disciplines and their inputs. Some refer to this issue by saying:

> *…Actually this has evolved with the growth of health science careers, research in medical education, with increasing acceptance of contributions from other disciplines in the health science career* (F,E,U,Pg,Pr).

> *…I believe one of the main change drivers is thinking you can improve what you're doing…there are high stakes favouring their feuds, let's say, so why would they change when they're OK like that. No one is willing to risk their power, so it's hard to budge in such a structure. Change is unlikely…* (M,P,U,Pg,Mi,Pr,H).

> *I believe these are hard roads to tread since power stands in the middle. And this also needs to be said, each one exerts power over their own piece and, therefore, any process… any cross-cutting process would involve yielding power. When you cross-cut you yield power. You're surrendering a piece of your lot. Interdiscipline means yielding power. You're surrendering to someone else something you owned… it's a loss of power both at an individual and an institutional level...* (F,P,Pg,Mi,Pu).

V. **Discussion**

The main objective of this study was to identify educational planners' different conceptions of generic competences, as well as to look into the role of the language and terms used to refer to them. These objectives were

established based on the assumption that the conceptions of the actors involved influence curricular planning decisions. It was also considered that these conceptions are made explicit in language and that this, in turn, affects curriculum implementation. In other words, conceptions and language are related and both have a conditioning effect on practice.

The results show that medical education planners in Argentina have varying conceptions as to what generic competences are, and do not share a common language in this respect.

In general, interviewees connected competences to a certain field of knowledge and professional practice. They all considered that competences are situation- and context-bound, and, therefore, cannot be isolated from their environment or be thought of in the abstract.[63] Interviewees conceived of competences as a construct, a useful model which makes it possible to determine expected outcomes and, in this way, "operationalise" practices. They agreed with the literature[64] that competences must be defined by observable behaviour, so that they are measurable and subject to assessment. Indeed, interviewees considered that observable phenomena enable planning and performance assessment. Most of them expressed the need for a competence-based approach in practice, even if this entails a fragmentation/ denaturalisation of the learning process.

In relation to this,[65] the benefits of making explicit the significant components of competences are acknowledged, since this is extremely useful for assessment and feedback. However, the act of "breaking down competences in order to see them more clearly" neglects fundamental aspects of human behaviour. In this respect, it was not clear among interviewees which important aspects are not taken into account, even though they stated that there is a limit to this theoretical framework. Some believed, in agreement with Lorelei Lingard' concepts,[66] that models or taxonomies facilitate addressing complex issues, even if they always provide a partial view of a phenomenon and "blind" its other side.

Regarding the term "competence," interviewees stated that the term itself presents difficulties. They suggested that it would be possible to speak of

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[63] Carlos A. Brailovsky, "Educación médica, evaluación de las competencias," in *Aportes para un cambio curricular en Argentina 2001*, ed. PAHO/WHO (Buenos Aires: Facultad de Medicina, 2001), 103-120.

[64] Talbot, "Monkey see, monkey do."

[65] Holmboe et al., "A call to action."

[66] Lorelei Lingard, "What we see and don't see when we look at 'competence': notes on a god term," *Adv Health Sci Educ Theory Pract*. 14, no. 5 (November 2009): 625-8, doi: 10.1007/s10459-009-9206-y.

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outcomes without referring to competences. The literature describes similar difficulties with the term "competences."[67]

V.1. *How generic are generic competences?*

Interviewees expressed their difficulty in providing a precise definition of what generic competences are. However, they conceived of generic competences as those which are common to different professions. In connection to this, several authors have conducted research on generic competences at the international level. The Tuning Project considers that generic competences are those which can be present in different professions.[68] However, some of the interviewees thought generic competences were related to healthcare professionals instead of all professions. This shows a disciplinary bias and reveals a tension resulting from blurring disciplinary boundaries.[69]

Everyone should have generic competences. However, depending on the profession some competences may require more development or specificity than others.[70] Several interviewees indicated that there are "generic" competences and generic competences specific to medicine. This means that a generic concept turns into a specific one in this context. This is in line with what the Tuning Project has pointed out, in terms of the difficulty of setting a clear boundary between what is generic and what is specific.[71]

Most interviewees linked generic competences with "humanities-related issues," social matters in general, exceeding technical intervention and the specific concerns of a discipline or profession. Likewise, without much precision regarding the concept, they thought of generic competences as opposed to hard competences and similar to soft ones, like in the literature.[72]

In this context, the guide for the elaboration of framework documents by the Argentine Ministry of Health (MSAL) refers to these competences as those which "*bring richness, value and quality to practice*"[73] [our translation].

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[67] Fernandez et al., "Varying conceptions of competence."

[68] Beneitone et al., eds., *Reflections on and Outlook*.

[69] Torres Santomé, *Globalización e interdisciplinariedad*.

[70] Altermatt, "El proyecto Tuning latinoamericano."

[71] Christel H. Altermatt, ed., *Educación Superior en América Latina: reflexiones y perspectivas en Medicina* (Bilbao: Universidad de Deusto, 2013).

[72] Marcos F. Barrera Morales, *Modelos epistémicos en Educación y en Investigación* (Caracas: Sypal, 2007).

[73] Ministerio de Salud, *Guía para la elaboración*, 10.

There are several works arguing that "when problems arise in practice, these competences are involved."[74]

Most interviewees stated that generic competences are determined by the context and depend on it. Studies support this belief,[75] showing that different actors, disciplines and contexts prioritise different generic competences.

To refer to generic competences publications use different terms,[76] sometimes interchangeably and not necessarily alluding to the same concept or using precise definitions. Several terms, which are used in the bibliography, were coined in journals. Other terms, like "core," "basal," "long-lasting," "sub-competences," "transversals," "general," "generic attributes," and "generic values," were also introduced. Interviewees showed different preferences for one or the other, depending on the meaning they convey. The lack of consistency in the use of terms may be the result of wrong interpretations, since some of these words are used to describe other concepts in the field of training and are not equivalent to generic competences.

As Gimeno Sacristán notes, "*language is not naïve*"[77] [our translation]. The choice of a term is always driven by certain convenience[78] and arbitrariness. Apart from this structural condition of language, the term "generic competence" seems to carry/entail itself a problem, since most of the interviewees observed a conceptual overlapping between the terms "competence" and "generic," producing a cognitive dissonance.[79] There seems to be a contradiction, because "competence" alludes to certain context-bound specificity and "generic" indicates the possibility of repetition/reproduction in different contexts.

The similarity between the terms "generic" and "general" may cause a problem. The 2013 MSAL guide for the elaboration of framework documents mentions the general competence and defines it as a

> complex and integrated set of functions, capacities and abilities that professionals in the area can employ in various real-life work situations in

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[74] Palés-Argullós and Nolla-Domenjó, "Generic competencies."

[75] Beneitone and Bartolomé, "Global generic competences."

[76] Cinque, "Lost in translation." '

[77] Gimeno Sacristán, "Diez tesis," 17.

[78] Michel Foucault, "La prosa del mundo," in *Las palabras y las cosas. Una Arqueología de las ciencias humanas* (París: Éditions Gallimard, 1966), 26-52.

[79] Leon Festinger, *A theory of cognitive dissonance* (Standford California: Stanford University Press, 1957).

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> order to solve the problems these situations pose, according to professional standards and social accountability criteria[80] [our translation].

In other words, the term "general competence" is used with a different meaning from "generic competence."

V.2. *Separating 'generic' from 'specific'?*

Some interviewees expressed their reluctance to place generic competences separated from other competences, suggesting that creating a category to name them as such produces a forced separation. Therefore, the use of the term seems to exacerbate a fragmentation in language that already existed when competences were separated in domains for operationalisation purposes.

Interviewees also agreed that there is a tension between considering generic competences to be integrated and as part of a whole and the need to separate them in order to make them visible. While these seem dichotomous choices, in other similar ongoing discussions in the field of CBME, it has been argued that different approaches can coexist and that it is necessary to determine when and with what objective to apply one or the other.[81]

The generic/specific distinction, made by several authors and present in competence frameworks – such as those developed in the Tuning Project – intends to prioritise these transversal competences, considered of great value given the current dynamism of knowledge. However, this professional practice fragmentation might result artificial and carry frequently unacknowledged consequences.

Interviewees agree the generic competences must be visible in the curriculum for practical purposes, and they agree that separation is useful in planning. They acknowledge the risk of this decision and note that attention must be paid to the way in which they are enunciated. Otherwise, concepts may end up being void of meaning, can be viewed as "non-medical," "soft," extra, optional, non-pertinent or supplementary notions. They might not be viewed as part of a more comprehensive/integrated whole. Interviewees consider that nothing relevant should be taken for granted and that whatever is relevant must be made explicit.

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[80] Ministerio de Salud, *Guía para la elaboración*, 5.

[81] Markku T. Nousiainen et al., "Implementing competency-based medical education. What changes in curricular structure and processes are needed?" *Med Teach*. 39, no. 6 (June 2017): 594-598, doi: 10.1080/0142159X.2017.1315077.

Literature suggests that "if languages change in the field of knowledge, it is because there are social changes that demand these languages...[C]hanges do not happen out of context...but result from a relationship that translates into prioritised concepts and arguments"[82] [our translation]. This means that the tension expressed by most interviewees arises out of ongoing changes in healthcare professionals' education.

It is worth noting that, even if out of the scope of the analysis in this article, the interviews evidenced certain issues accounting for the tension in the field of training, mainly concerning the various actors and interests involved.

The contributions from other disciplines, interprofessional training and integrated work with the health team enrich physicians' training and enable them to develop a more comprehensive view.

Interviewees are immersed in the current discussions on CBME which are most frequently described in the literature, such as the criticisms to reductionism, the usefulness of breaking down complex practice into manageable units or domains, the need to think about outcomes, the usefulness of frameworks as planning organisers and the several conceptions of competences. However, the disciplinary matrix is still so strong that incorporating generic competences is still a very complex process. In this context, any change entails "yielding power" and the actors involved are not always willing to do it. Interests have even more declarative than action power.

Language is limited, for it can never name everything. This structural condition is inevitable. Only agreements and consensus are viable, ensuring that when a term "x" is used it means "x." The terms used also have "power" and can cause more fragmentation – dissonance – or favour inclusion – consonance – depending on what they are used for. Assuming language arbitrariness means assuming the responsibility for its effects.

The choice of the word "generic" was made at a certain time. It was the result of the need to prioritise whatever was considered not belonging in the discipline, whatever was not specific of a profession. The term has had a positive impact in the last years, because it has contributed to prioritising the subject and placing it on the HR training international agenda. Nowadays, it generates dissonance, which must be made explicit, since it may become a hindrance for implementation when teaching these aspects of competences. Hence, acknowledging term arbitrariness and the need for term contextualization, the word "transversal" – meaning "from one side to the other," something that "joins two points" – appears to convey the idea of working with others, which is key for healthcare professionals in today's world.

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[82] Gimeno Sacristán, "Diez tesis," 17.

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V.3. *Limitations*

This work has clear limitations. On the one hand, it may have achieved better representativeness of a field with so much complexity and diverse actors. On the other hand, these results apply to planners who are immersed in a specific context and theoretical framework, i.e. curricular design planners in healthcare professionals' education. Therefore, results cannot be extrapolated to other contexts.

In addition, this research has not focused on studying all factors connected to the educational reform involved. The study could have been enriched by exploring other aspects that help to reflect on process contextualization and development, as well as on facilitators and resistance. Because all interviewees were involved in medical education, even though they come from different professions, resistance to transversality may have a disciplinary bias.

V.4. *Future perspectives: Consequences and workable applications*

This work focuses on a concrete and current aspect in CBME discussions which blazes a trail for future research and revision in practices especially linked to curricular planning and design.

As regards curricular planning and the enunciation of competences, this study is highly relevant as it sets out certain conceptions influencing decision-making and change implementation.

In particular, regarding the way competences are enunciated it provides information for understanding the advantages and risks of separating enunciation and it warns about the need to present competences as linked to specific contexts and settled to avoid being seen as disintegrated or ad hoc.

It also highlights the need for a consensus regarding a shared language in the education of health care professionals, and sets forth a concrete proposal on the usage of the term *transversal*. Synthetic proposals such as EPAs, currently used in CBME, are likely to include GCs explicitly lest they fade away. It will be necessary to consider that, at different training levels, their treatment and inclusion might have different implications.

As for research, this work demands the approach to several aspects inherent to education in the field of healthcare – stakeholders, forces, tensions, resistances. It is likewise essential to dwell deeper into the relationship between language and practices as well as discourse outcomes.

Before considering the use of other terms it would be of the essence to conduct this exploration in groups from different professions, in order to

clear out whether or not a disciplinary bias is at stake and find out whether this tension is also present in other disciplines with a different theoretical CBE framework.

Being able to think of new names and designs is at this point a necessary step towards consensus efforts. Perhaps not long from now we will be able to simply speak of competence, with the term "competence" as a whole, including transversal components or domains.

VI. **Conclusions**

The planners' conceptions explored in this study have revealed the existence of lack of consistency and a shared language as regards generic competences, as well as lack of agreement with respect to terms and their meanings. These locally generated data have shown that medical educators in Argentina do not have a precise common definition of generic competences.

The difficulties around the term "competence" and its use in practice increase when reference is made to generic competences. Here, there is also the contradiction between both words and the tension between the terms "competence" and "generic," which refer to opposed meanings.

Interviewees acknowledge the relevance of generic competences for quality training and care. Most of them agree that at this moment of educational transformation it would be useful to enunciate them separately from the specialty-specific competences. They also state that this fragmented enunciation entails potential risks for curricular planning and assessment, and add that when enunciating them attention has to be paid so that they do not appear as supplementary, empty and *ad hoc* concepts.

It has to be understood that term choices are arbitrary and have to be interpreted in their context of occurrence. At a certain point in time it was highly relevant to mention generic competences, in order to prioritise them and make them visible. However, the undoubted relevance of generic competences and the importance of enunciation clarity – so that "all of us speak of the same thing" even in different application contexts – demands consensus building regarding their definition and visibility in the curricula, and a decision on the most convenient way of naming them.

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Harmonization of higher education in Africa and Europe: Policy convergence at supranational level

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Abstract: While the Bologna Process in Europe is the leading example, regional efforts towards harmonization of higher education are taking place in every corner of the world. In Africa, such a process has its roots from decades ago, although more coordinated activities are only recent phenomena. This paper looks back at the harmonization processes in Africa and Europe, and argues that although the process in Africa has been influenced by its European counterpart, the former has its own unique features, among other things, in its thematic and sub-regional initiatives. The paper notes similarities and differences between the two processes, appreciates the strengths and shortcomings of the African process, and highlights the importance for the African Union to more effectively utilize its leverage as a coordinating body, with a wider and more meaningful involvement of higher education institutions and other stakeholders. It also calls for more exploration into the potential strengths and risks in harmonization initiatives strongly rooted at sub-regional level.

Keywords: Higher Education; harmonization; Bologna Process; regional integration, African Union.

I. Introduction

In the past couple of decades, one of the major developments in the global higher education landscape is the growing role of supranational organizations. As a result, phrases such as regionalization, harmonization, tuning, credit transfer, and mutual recognition of qualifications have become

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common in the vocabulary of higher education policy discussions in different parts of the world. New agreements, conventions, partnerships, networks, coordinations, and revitalization and/or reframing of the higher education role of regional organizations are constantly taking place.

While it is not possible to ignore the possibility of locally growing convergence in higher education policies, there seems to be a more recognizable trend that regions and supra-national organs learn from, and influence the practices of, one another. In this regard, the influence of the European Bologna Process is enormous. Initiated in 1999, the Bologna Process not only covered 48 countries in the European Union and beyond, but also the tenets of its policy ideas and methods of reform have diffused to different regions and inspired similar initiatives.[1,2] The Bologna Process is generally one of the most influential policy reforms in Europe with significant contributions to the formation of a more coherent higher education and research area in the continent.[3,4]

In Africa, the last decade has seen a number of regional and sub-regional initiatives geared toward harmonization of higher education systems in the continent. This process has been accelerated not only by the growing engagement of the African Union, but also by the direct and indirect influence of the European Union and its initiatives – besides, of course, the impact of the Bologna Process. Hence, there are observably growing similarities between the higher education harmonization efforts in Europe and Africa.

This paper, using the concepts of policy convergence/transfer as theoretical framework, attempts to explain this growing similarity in the higher education harmonization initiatives in the two continents. More specifically, it looks at harmonization initiatives in the two continents, with a historical spectacle, and compares the two in terms of rationales, policy goals, organizational settings, components, and so on. The paper finally

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[1] David Crosier and Teodora Parveva, *The Bologna Process: Its Impact in Europe and beyond* (Paris: UNESCO, International Institute for Educational Planning, 2013).

[2] Emnet Tadesse Woldegiorgis, "Historical and Political Perspectives: On Regionalization of African Higher Education," in *Regionalization of African Higher Education:Progress and Prospects*, ed. Jane Knight and Emnet Tadesse Woldegiorgis (Rotterdam, Boston, Taipei: Sense Publishers, 2017).

[3] Hans De Wit, "European Integration in Higher Education: The Bologna Process Towards a European Higher Education Area," in *International Handbook of Higher Education*, ed. James. J.F. Forest and Philip. G. Altbach (Dordrecht: Springer, 2007).

[4] Emnet Tadesse Woldegiorgis, "Conceptualizing Harmonization of Higher Education Systems : The Application of Regional Integration Theories on Higher Education Studies," *Higher Education Studies* 3, no. 2 (2013), https://doi.org/10.5539/hes.v3n2p12.

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draws some conclusions regarding the similarities and differences between harmonization of higher education in the two continents under consideration.

II. **Policy convergence: setting a conceptual frame**

The debate about whether higher education policy is going in the direction of convergence or divergence has been around for some time. The earlier implies the growing similarity in the policy goals and instruments of implementation across different systems, while the later suggests differences and growing diversification in policy formation and practice.[5] Elaborating on these competing lines of thought, situated within the broader context of impact of globalization, Vaira[6] noted that convergence stresses on the trend of homogenization in cultural, political and economic spheres and is based on "top-down and sometimes deterministic causal explanation". Divergence, on the contrary, emphasizes heterogeneity in the outcomes of globalization on the local level (national, regional and even organizational). Thus, it assumes non-linear and non-deterministic explanations which accord greater importance to "bottom-up processes of manipulation, localization, interpretation, mediation, resistance and so on".

Policy convergence according to Drezner[7] is the tendency that policies grow more alike over time, in the form of increasing similarity in structures, processes, and performances. This generally happens because of overall similarities between societies through industrialization and modernization. Policy convergence happens as modern societies face similar problems and tend to solve them in similar ways.[8] The ability of ideas to permeate across national boundaries has, indeed, a long history, but it is discernable how it has recently been accelerated by the advancement of communication technologies. Hence, it can be argued that convergence, more than divergence, is likely to have increased in recent decades, and is likely to keep increasing in the foreseeable future.

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[5] Pam Watson, "Regional Themes and Global Means in Supra-National Higher Education Policy," *Higher Education* 58, no. 3 (2009), https://doi.org/10.1007/s10734-009-9203-3.

[6] Massimiliano Vaira, "Globalization and Higher Education Organizational Change: A Framework for Analysis." *Higher Education* 48, no. 4 (2004), 484.

[7] Daniel W. Drezner, "Globalization and Policy Convergence," *International Studies Review* 3, no. 1 (2001): 53-78, https://doi.org/10.1111/1521-9488.00225.

[8] Colin J. Bennett, "What Is Policy Convergence and What Causes It?" *British Journal of Political Science* 21, no. 2 (1991).

Different theories can be used to explain the growing similarities in higher education policies. The World Society Theory[9] suggests that the increasing similarities across societies are attributable to the views that advocate conformity to the dominant, legitimate, or taken-for-granted. Conventional ideas, for instance about higher education, can be seen as molds or blueprints that provide the framework to define what is 'normal' or 'appropriate'. The *Resource Dependency Theory*, on the other hand, associates growing similarities with coping mechanism and the need for survival. The one with less resource control (it could be an individual, organization or a system) is likely to accept the rules of, and to imitate the behavior of the one that has control over desired resources.[10] This theory, however, has an implication of a unidirectional relationship between developing and developed regions which correspond with resource control. As Africa is considerably dependent on resources from the West, or in this case Europe, in the form of aid and loan, it is more likely to be driven by policy goals and processes coming from, or at least favored by, the latter.

Yet another alternative to explain this phenomenon is to employ the concept of policy transfer.[11] Policy transfer can be conceptualized as the process of emulating elements of policy (such as policy goals, administrative arrangements, and/or institutions) of one time and/or place in the policy making process at another time and/or place. This process is likely a result of complex interactions between multiple actors in the respective systems, and could take place with different scopes – from general ideological orientation to routine practices. In their model of 'policy transfer continuum', Dolowitz and Marsh[12] outline that policy transfer could possibly occur anywhere between 'lesson drawing' on one extreme – where the receiving system takes a rational approach to decide the elements

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[9] John. W. Meyer et al., "The Structuring of a World Environmental Regime, 1870-1990." *International Organization* 51, no. 4 (1997), https://scholar.google.com/scholar?hl=en&as_sdt=0%2C22&q=The%21+structuring%21+of%21+a%21world%21+environmental%21+regime&btnG=.

[10] Werner Nienhüser, "Resource Dependence Theory – How Well Does It Explain Behavior of Organizations?" *Management Review* 19, no. 1&2 (2008): 9-32, https://doi.org/10.5771/0935-9915-2017-2-192.

[11] David Dolowitz, and David Marsh, "Who Learns What from Whom: A Review of the Policy Transfer Literature," *Political Studies* 44, no. 2 (June 29, 1996), https://doi.org/10.1111/j.1467-9248.1996.tb00334.x.

[12] David Dolowitz, and David Marsh, "Learning from Abroad: The Role of Policy Transfer in Contemporary Policy-Making," *Governance* 13, no. 1 (January 2000), https://doi.org/10.1111/0952-1895.00121.

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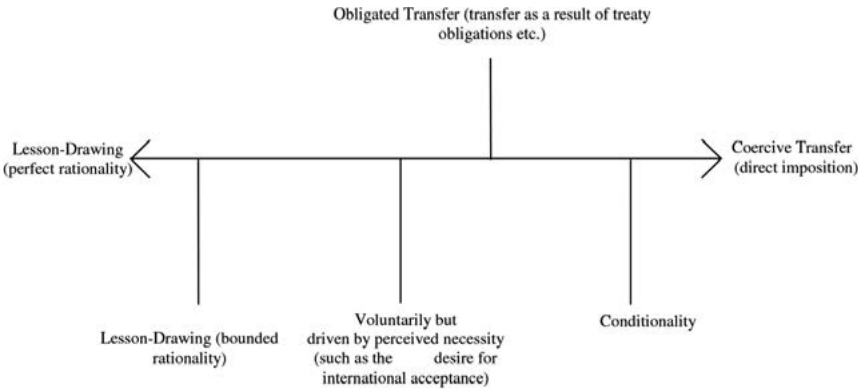
and methods of adoption that are most beneficial, to 'coercive transfer' on the other end – where policy is directly imposed by one system on the other.



Source: Dolowitz and Marsh, 2000, p. 13.

While policy transfer takes a broader view at a system level, institutional isomorphism, as an alternative, focuses more on the change that takes place at institutional level. This theory suggests that institutions tend to grow similar to one another as a result of the continuous change they undergo to respond to shift in their environment; and that the internal change takes place in three different forms: coercive, mimetic and normative.[13] Coercive implies changes that are imposed or enforced by external body, while mimetic presumes the willingness of institutions to mimic others in similar business, and normative changes happen in gradual and complex process where institutions look elsewhere to see and learn from the norm. There are similarities in the concepts of policy transfer and institutional isomorphism, albeit their varying units of analysis. Also, both appear to fall short to explain a phenomenon that is happening at regional level and where a supranational organ is the major actor.

Lastly, it is important to underscore that as much as the theories highlighted above are useful in explaining policy convergence in higher education, they are limited in their consideration of local factors as drivers of

[13] Paul J. DiMaggio and Walter W. Powell, "The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields," *American Sociological Review* 48, no. 2 (1983), https://doi.org/10.1016/S0742-3322(00)17011-1.

change. As proponents of the policy divergence thesis hold, varying local conditions enable and force actors to interpret global developments in different ways and respond with nuances pertinent to their own circumstances. The implication of this argument is that policy convergence should not be taken synonymous with uniformity of policy.

There are scholars who, in an attempt to find a middle ground for the convergence-divergence dichotomous debate, articulate tiers of forces that contribute to changes in local policies and institutions. Marginson and Rhoades,[14] for instance, proposed a *glonacal* agency heuristic which stresses the roles of global, national and local agencies in comparative higher education policy analysis. Similarly, Vaira[15] introduced a concept called "organizational allomorphism", which acknowledges the existence of multiple actors at different levels that exert force on organizational change. The micro level actors enable organizations to respond differently to global forces.

III. **Policy harmonization and emergence of supranational organs**

Policy harmonization and regional integration have emerged as major subjects of discussion since the end of the Second World War. According to Cini,[16] in the post war world a new notion of political structure started taking shape, which, at its core questioned the legitimacy of the traditional structure that gave absolute dominion of policy formulation and implementation for the nation-state. In the following decades, the growing power of globalization, or more specifically, as Vaira[17] calls it, the "globalization meta-myth" has pushed for the realization of this newly emerging global political structure. The myth has three major features that can be directly related with this development in higher education.[18]

(a) Minimalist state: this feature represents the trend in the reduction of the level of centralization of power in the state and its interventionist role, in favor of decentralized and less bureaucratized system where

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[14] Simon Marginson and Gary Rhoades, "Beyond National States, Markets and Systems of Higher Education: A Glonacal Agency Heuristic," *Higher Education* 43, no. 3 (2002).

[15] Vaira, "Globalization and Higher Education."

[16] Michael Cini, "Intergovernmentalism," in *European Union Politics*, ed. Michael Cini, 93-108 (Oxford: Oxford University Press, 2003).

[17] Vaira, "Globalization and Higher Education," 487.

[18] Ibid., 487-488.

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the state is more of regulative body. With reducing state funding, government uses steering at distance and with broader policy instruments, focusing more on evaluation of performance and outcomes, than on the routine process.

(b) Entrepreneurialization/managerialization: this goes hand in hand with the minimalist state. As public funding was reduced, a trend towards a more entrepreneurial and managerial mode of organizational operation emerged. The coming-in of such concepts from the business world to higher education marks this shift: flexibility, innovation and quality in production and products to meet customer demands.

(c) Knowledge society: the advancement of technology and the growth in competitiveness in the global economy led to the emphasis on knowledge production and information processing for better competitive advantage. The shift from labor intensive manual workers as the engines of production to the flexible knowledge workers pumped the role of higher education in human capital development. Therefore, higher education institutions gained more power as drivers of economic development.

The concepts are largely promoted by, and in return gave more legitimacy to international organizations such as UNESCO, the World Bank, IMF, and the OECD. Sehoole and de Wit[19] also point to the importance of regional trade and economic cooperation, such as the North American Free Trade Agreement (NAFTA), the Asia Pacific Economic Cooperation (APEC), Mercado Comun del Sur (MERCOSUR), the Association of South East Asian Nations (ASEAN), in policy diffusion and harmonization. All in all, in addition to the enormous power of international organizations, the growth of multinational corporations, the growing interest of countries to attract foreign direct investment leading to the free flow of capital, and the growing power of unaccountable market forces slowly diluted the sovereignty of the state in policy making.[20] This, in turn, led to the formation and strengthening of supranational policy actors playing an increasingly important role in higher education policy reform.

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[19] Chika Sehoole and Hans de Wit, "The Regionalisation, Internationalisation, and Globalisation of African Higher Education," *International Journal of African Higher Education* 1, no. 1 (2014), https://doi.org/http://dx.doi.org/10.6017/ijahe.v1i1.5648.

[20] Woldegiorgis, "Conceptualizing Harmonization of Higher Education Systems."

IV. **Harmonization of higher education in Europe**

Neave[21] traces the beginning of higher education harmonization in Europe to the European Education Action Program, which began in 1976. Several other agreements were signed in the following years building up to the regional integration of higher education in Europe. The prominent agreements include the Bologna Magna Charta Universitatum in 1988 and the Sorbonne Declaration of 1998, which ultimately culminated by the signing of the Bologna Declaration in 1999.[22] The number of countries participating has increased from just four signatories to the Sorbonne Declaration to 29 at the signing of the Bologna Declaration in 1999, and 48 countries currently, along with the European Commission, according to the website of the European Higher Education Area [EHEA].[23]

Sorbonne Declaration, an important precursor to the Bologna Declaration, was signed by education ministers representing France, Germany, Italy, and the United Kingdom. The declaration laid down the important steps needed to be taken towards creating an open European area of higher learning. It focused on making European higher education internationally attractive and comparable by way of creating common qualification framework and making degree structures common across countries. It also underscored the importance of student mobility and the need to align degree programs with the European labor market.[24]

The following year came the Bologna Declaration, marking the beginning of an unprecedented process of harmonization. Crosier and Parveva[25] note that these developments coming at that specific time is not a mere coincidence. They identify two major forces traceable to the drive for harmonization.

- In the last decades of the 20th century, there was a considerable increase in the number of student population, in most European countries. This created a strong demand for the higher education systems to expand and also to respond to new social demands.

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[21] Guy Neave, "The Bologna Declaration: Some of the Historic Dilemmas Posed by the Reconstruction of the Community in Europe's Systems of Higher Education," *Educational Policy* 17, no. 1 (January 25, 2003), https://doi.org/10.1177/0895904802239290.

[22] Crosier and Parveva, *The Bologna Process*.

[23] European Higher Education Area [EHEA], "Members – European Higher Education Area and Bologna Process," 2017, https://www.ehea.info/pid34250/members.html.

[24] Sorbonne Declaration, "Sorbonne Joint Declaration. Joint Declaration on Harmonization of the Architecture of The European Higher Education System," 1998, http://media.ehea.info/file/1998_ Sorbonne/61/2/1998_Sorbonne_Declaration_English_552612.pdf.

[25] Crosier and Parveva, *The Bologna Process*.

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- Knowledge-based economy emerged as a mainstream rhetoric in the political discourse as the only path to competitiveness in the world of accelerating globalization. Knowledge based economy not only brought higher education to center stage as a policy domain by underscoring the importance of human capital, but also called for the easy cross-border movement of skills in the labor market. This is further legitimized within the EU, with the coming of the Lisbon Strategy, in 2000, which targeted on promoting Europe as the most competitive and dynamic knowledge-based economy in the world.

The realization of these forces demanded that countries needed to make far reaching reforms in their higher education systems to ensure competitiveness as well as comparability. This could, perhaps, explain what attracted much more countries to participate in the Bologna Declaration – jumping from only four to 29 signatories in just a year. This was reflected in the declaration's intension of making European higher education more compatible and comparable, more competitive and attractive, not only for students and scholars form with in Europe but also globally.

The Bologna Declaration, with the ultimate goal of creating European Higher Education Area (EHEA), reiterated the main focus points of the Sorbonne Declaration. The signatories outlined the following six areas of emphasis.[26]

(a) The adoption of easily readable and comparable degrees, along with the implementation of Diploma Supplement

(b) The adoption of a system based essentially on two main cycles – undergraduate and graduate

(c) The establishment of a system of credits (such as ECTS),

(d) Supporting the mobility of students, teachers, researchers, and administrative staff, by overcoming obstacles to free movement

(e) Promoting European cooperation in quality assurance with a view to developing comparable criteria and methodologies

(f) Promoting the European dimensions in higher education particularly with regards to curricular development, inter-institutional co-operation,

[26] Bologna Declaration, "The Bologna Declaration of 19 June 1999. Joint Declaration of the European Ministers of Education," 1999, http://media.ehea.info/file/Ministerial_conferences/02/8/1999_Bologna_Declaration_English_553028.pdf.

mobility schemes and integrated programs of study, training and research.

The Bologna Declaration marked the beginning of the Bologna Process. It is set up as a process such that there would be follow-up ministerial meetings every two years to assess the progress made and to determine further steps needed to be taken. While the consecutive ministerial meetings reaffirmed the original goals of the Declaration, there have been incorporations of new dimensions (of course also the admission of new countries). The Prague meeting in 2001 reemphasized the importance of lifelong learning and the need for partnership with higher education institutions.[27] It also established the Bologna Follow-up Group (BFUG), composed of representatives of all signatory countries, the European Commission, and key stakeholder organizations, and charged with overseeing the continued development of the process.[28]

Another important development came with the Berlin meeting in 2003, where the cultural benefits of higher education were emphasized, and higher education was once again reaffirmed as a public good. The need for regional qualification framework and quality assurance principles were also among the major issues discussed in this meeting.[29] In the Bergen meeting in 2005, the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) and the Framework of Qualifications for the European Higher Education Area (FQ-EHEA) were adopted.

In 2007 the London meeting established the European Quality Assurance Register (EQAR), which registers quality assurance agencies that comply with the standards and guidelines in the ESG. Also in this meeting the ministers agreed to develop national strategies emphasizing social dimensions and a collective strategy for the global dimension of the European higher education.[30] The Leuven/Louvain-la-Neuve meeting of 2009 looked back and assessed the positive achievements made in the last ten years – better compatibility and comparability through structural changes and implementation of ECTS and Diploma Supplement. Nonetheless, acknowledging that the EHEA has not yet been fully realized, the ministers also agreed to set strategic priorities for another decade, until 2020.

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[27] Watson, "Regional Themes and Global Means."
[28] Crosier and Parveva, *The Bologna Process*.
[29] Watson, "Regional Themes and Global Means."
[30] Crosier and Parveva, *The Bologna Process*.

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V. **Harmonization of higher education in Africa**

Referring to the regionalization of higher education in Africa, Woldegiorgis[31] notes that integration in higher education should not be seen as an independent process; instead it has to be situated with in the broader political and economic initiatives and developments in the region. Hence, the history of regional collaboration on various policy issues goes as far back as the 1950s with the emergence of several African countries from colonization. The newly independent states were internally weak, with illegitimate institutions inherited from their colonizers, and inefficient to represent Africa on the global stage. At the same time, there was a sense of solidarity with those countries still under colonial control, leading to the rise of African Nationalism and Pan-African movement among the elites. With these precursors, the first Pan-African conference was convened in April 1958, in Accra, Ghana, with eight independent states with the objective of establishing a regional body that could serve as a forum for regional policy dialogue.[32] A series of meetings in the following period ultimately led to the establishment of the Organization for African Unity (OAU), in 1963, which, among other things, targets on strengthening unity and solidarity among African states, and promoting political and socio-economic coopration among them.

In the post independence era, African intellectuals and political elites, like the Tanzanian leader and a prominent Pan-Africanist Julius Nyerere, advocated for education as the only means to emancipate the continent from its multifaceted predicaments.[33] Countries established and strengthened their higher education institutions, although the colonial model was adopted as a wholesome. The establishment of the Association of African Universities (AAU) and the strong enthusiasm with it regarding the expectation of higher education in the transformation of the continent was enormous.[34]

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[31] Woldegiorgis, "Historical and Political Perspectives."

[32] Woldegiorgis, "Historical and Political Perspectives."

[33] Joel Samoff and Bidemi Carrol, "The Promise of Partnership and Continuities of Dependence: External Support to Higher Education in Africa," *African Studies Review* 47, no. 1 (2004), https://scholar.google.com/scholar?hl=en&as_sdt=0%2C22&q=The+Promise+of+Partnership+and+Continuities+of+Dependence%3A+External+Support+to+Higher+Education+in+Africa+&btnG=.

[34] Y. G. M. Lulat, "The Development of Higher Education in Africa: A Historical Survey," in *African Higher Education: An International Reference Handbook*, ed. Damtew Teferra and Philip G. Altbach (Bloomington: Indiana University Press, 2003).

In the 1960s and 1970s, African ministers of education, in collaboration with regional organizations such as OAU, AAU, United Nations Economic Comission for Africa (UNECA) and UNESCO, had organized consequitive conferences focused on the development of regional plan for the future of education. Intergovernmental conferences of Ministers of Education of African Member States were held in Addis Ababa (1961), Abidjan (1964), Nairobi (1968), Lagos (1976). Indeed, in these conferences higher education was not the exclusive subject of discussion, but it was part of the agenda.[35] These meetings, however, are important in their contributions leading up to the seminal meeting in Arusha in December 1981.

Continental harmonization of higher education in Africa has its roots back in the early 1980s with the signing of the Arusha Convention. This is the first prominent legal framework established at continental level towards mutual recognition of degrees and qualifications in higher education. Originally ratified by 19 countries and set to take effect in 1983, the Convention was meant to contribute to UNESCO's initiative to promote international mobility and to support the implementation of the charters of Organization of African Unity (OAU) especially in regional co-operation and training of human resources. It was also meant to promote the creation and application of knowledge towards sustainable human development.[36] Signatories also agreed to improve collaboration and sharing of resources and to cooperate in curriculum development, promoting lifelong learning and democratization of education.[37] However, although ratified by the required number of Member States of the the OAU, the Convention was never implemented.[38]

In 1982, one year after the Arusha convention, another conference of ministers of education was held in Harare, Zimbabwe. This conference largely focused on regional cooperation in the area of higher education, specifically in science and technology which was generally evaluated to be very low.[39] However, the following years were dormant for regional initiatives in higher education in the continent. This can be seen in light of the overall decline of higher education in Africa during that period, as the policies of the

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[35] Woldegiorgis, "Historical and Political Perspectives."

[36] Karola Hahn and Damtew Teferra, "Tuning as Instrument of Systematic Higher Education Reform and Quality Enhancement : The African Experience," *Tuning Journal for Higher Education* 1, no. 1 (2013), http://www.tuningjournal.org/public/site/01/7_Tuning_as_Instrument_of_Systematic_Higher_ Education_Reform_and_Quality_Enhancement.pdf.

[37] Watson, "Regional Themes and Global Means."

[38] Hahn and Teferra, "Tuning as Instrument."

[39] Woldegiorgis, "Historical and Political Perspectives."

World Bank dictated countries otherwise.[40] Woldegiorgis,[41] however, attributes the lack of implementation of the Arusha convention to the fact that it is set in general terms and specific modalities, strategies and procedures for execution among African countries had not been harmonized. Even though these instruments were clarified, it is difficult to see that such an initiative in higher education is being implemented – getting required attention and resource in overall gvernment policies – considering that the period was generally unfavorable for the development of higher education in the continent.

The Arusha Convention was reinitiated right after the turn of the century. It was ammended first in 2002 in Cape Town, followed by several others which finally resulted in a more comprehensive revision in Addis Ababa in 2014 (also referred to as the Addis Convention). This revived interest in higher edication can be attributed to three factors. First, there was a change of policy by the World Bank encouraging African Nations to invest more in higher education. As the Bank is a major actor in the continent not only in the amount of resources it provides but also in the level of influence it has over the direction of other donors,[42] the change of heart by the Bank was a major shift. Second, the reorganization of OAU into African Union (AU), which more or less was an immitation of the EU,[43] had a more diverse and dynamic focus on various issues of socio economic policy. Besides, since higher education was one of the major areas of policy focus in the EU, it is likely to be replicated by the AU. Third, an overall paradigm shift that put higher education at the center of the continental development strategy had started in the first decade of the 21st century. This shift, according to Hahn and Teferra,[44] has been instrumental in the revitalization of higher education across the continent, driven by national, regional and international imperatives.

The process of higher education harmonization in Africa is happening far more intensely at sub-continental level than at the continental level. Therefore,

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[40] Stephen P. Heyneman, "The History and Problems in the Making of Education Policy at the World Bank, 1960-2000," *International Journal of Educational Development* 23, no. 3 (2003): 315-37, https://doi.org/10.1016/S1479-3679(04)06002-5.

[41] Woldegiorgis, "Historical and Political Perspectives."

[42] Ayenachew A. Woldegiyorgis, "The Indelible Footmarks of the World Bank in the Higher Education of the Developing World : The Case of Ethiopia," *International Journal of Research Studies in Education* 3, no. 3 (2014): 93-106.

[43] Amadu Sesay, "The African Union: Forward March or About Face-Turn?" Claude Ake Memorial Papers, 2008, http://nai.diva-portal.org/smash/get/diva2:278874/FULLTEXT01.pdf

[44] Hahn and Teferra, "Tuning as Instrument."

understanding this process requires the context of these regional initiatives towards harmonization and integration. Hahn and Teferra[45] have identified the following sub-regional initiatives, most of which are extensions of sub-regional cooperations in economic, political and other areas of relevance.

i. Southern African Development Community (SADC): The Protocol on Education and Training (1997), aims at achieving equivalence, harmonization and, in the long term, standardization of higher education in the sub-continent. Ratified by all member states except three (Angola, DR Congo and Seychelles), it came into force in 2000. Two articles (7&8) of the Protocol specifically refer to higher education and training cooperation, and identifies key areas of harmonization.

ii. East African Community (EAC): East African Common Market Protocol was signed by five countries in 2009. In Article 11, the protocol addresses issues related to mutual recognition of qualifications, and harmonization of curricula, examination, standards, certification and accreditation of institutions to promote free movment of labor in the region. Prior to this protocol, regulatory bodies for higher education of three countries (Kenya, Uganda and Tanzania) signed a memorandum of cooperation in 2006, which outlined their common areas of concern. This agreement ultimately led to the establishment of the Inter-University Council for East Africa (IUCEA).

iii. Economic Community of West African States (ECOWAS): Protocol on Education and Training and General Convention on the Recognition and Equivalence of Degrees, Diplomas, Certificates and Other Qualifications was the basis to the region's education policy developed in 2002. The convention focused on promoting recognition of qualification, skills exchange and reducing braindrain. Regional integration and harmonization is also part of the ECOWAS Vision 2020, signed in 2008.

iv. Association of Arab Universities (AArU): Founded in 1964 and working within the general framework of the Arab League, AArU is undertaking harmonization initiatives. However, unlike the other sub-continental initiatives, AArU is not limited ot the Arab states in North Africa; it covers the entire Arab region. Another geographically

[45] Ibid., 130-134.

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similar initiative is the Arab Network for Quality Assurance in Higher Education (ANQAHE), established in 2007. The network has national quality assurance agencies as members, and works in different areas related to quality, and development of a regional qualification framework (Arab Generic Qualification Framework).

v. African and Malagasy Council for Higher Education (Conseil Africain et Malgache pour l'Enseignement Supérieur [CAMES]): CAMES covers the Francophone Africa. Established in 1968, CAMES works for the alignment of programs in member states. Since 2005, it is more specifically focused on the harmonization of seven Francophone degrees to to the "Licence-Master-Doctorat" (LMD) format, which is in line with the Bologna process.

The most recent efforts in coordinated continental higher education harmonization begins with the adoption of the Second Decade of Education for Africa (2006-2015) by AU member states. This document outlined principles and goals that recognize the need and importance of harmonization (though not specific for higher education). "Concentration on strategic issues whose implementation will make a significant difference at member state and regional levels"[46] is one of the guiding principles.

The following year a landmark strategic document "*Harmonization of Higher Education Programmes in Africa: A Strategy for the African Union*" was issued which provided general direction for improving capacity and quality in higher education at continental level. As quoted in Watson,[47] the document stated that harmonization of higher education will:

> facilitate the comparability of qualifications awarded across the continent and help drive quality assurance measures which will ultimately contribute to greater quality of education in Africa. Creating a mechanism for benchmarking and comparison of qualifications will allow for professional mobility for employment and further study, as well as expanded job markets. Developing widely accepted standards for quality will also facilitate creation of centres of excellence. Harmonisation will benefit Africa, since it will allow for greater intra-regional mobility, thereby fostering increased sharing of information, intellectual resources, and research, as well as a growing ability to rely on African expertise rather than skills from elsewhere in the world.

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[46] African Union, "Second Decade of Education for Africa (2006-2015): Draft Plan of Action," 2006, 2, http://www.adea-comed.org/version2/IMG/pdf/SECOND_DECADE_OF_EDUCATION_ FOR.pdf.

[47] Watson, "Regional Themes and Global Means."

The production of human resources that have the competencies required for driving Africa's economic and social development is the overarching developmental objective of the strategy. More specifically the major goals include:[48]

- Revision and ratification of the Arusha Convention
- Creation of a central database of African higher education institutions (HEIs) and programmes.
- Establishment of an African system to measure performance of HEIs.
- Development of a continental framework for qualifications.
- Promotion of mechanisms for Quality Assurance at national levels, operating within agreed minimum standards at regional and continental levels.
- Promotion of open, distance and technology-mediated learning and the use of Open Education Resources.

Major initiatives, perhaps consequential to the harmonization strategy, have been launched, including: intera-Africa mobility (Nyerere Program), Tuning Africa, regional qualification frameworks, and African Quality Rating Mechanism.[49,50,51,52] Harmonization also emerged as one of the major priority areas in the Africa-EU strategic partnership.[53]

VI. **Comparison of the two processes**

The overarching goals of the two hrmonizaition initiatives show, as one might expect, strong similarities. At the center of both is the production of

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[48] Goolam Mohamedbhai, "Towards an African Higher Education and Research Space (AHERS) – A Summary Report," 2013, http://www.adeanet.org/en/system/files/resources/ahers_summary_ report.pdf.

[49] Hahn and Teferra, "Tuning as Instrument."

[50] Mohamedbhai, "Towards an African Higher Education and Research Space (AHERS)."

[51] Charles Awono Onana et al., *Tuning and Harmonisation of Higher Education: The African Experience* (Bilbao: University of Deusto, 2014).

[52] Olusola Oyewole, "The African Quality Rating Mechanisms: The Process, Prospects, and Risks," in *Fourth International Conference on Quality Assurance in Higher Education in Africa and Capacity Building*, (Bamako, 2010), http://ifgu.auf.org/media/document/KEYNOTE_Oye_AQRM_Process-Prospect_and_Risks_2.pdf.

[53] African Union and European Union, "Joint Africa EU Strategy Action Plan 2011-2013," 2011, http://www.africa-eu-partnership.org/sites/default/files/documents /03-jeas_action_plan_en.pdf.

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required skills for the respective continents, focusing on the readability and compatability of higher education programs and qualifications to allow free movement of human capital. Both policy settings not only recognize the importance of harmonization for improving quality of education, but also use the same rationales of chaning circumstances in economy and in higher education necessitating the process. It has to be noted, however, that the economic circumstances in the two continents are quite different, although they both operate in a growingly competitive and knowledge driven global economy.

In terms of expected targets, the harmonization process in Europe had it clear: to create the European Higher Educaiton Area by 2010. Upon evaluation of achievments and limitations, a new target is set for 2020, along with other initiatives embedded in the European Union.[54] The African counterpart, although not as clearly stipulated, eyes on the creation of African Higher Education and Research Space (AHERS).[55] This similarity in policy goals can be understood as a result of the natural process of policy convergence in higher education that is being seen not only in these two regions but also elsewhere. Notwithstanding the fact that the Bologna Process has diffused into regional initatives in different parts of the world, one can observe that the erlier harmonzation initiative in Africa, i.e. the Arusha Convention, which came far before the Bologna Declaration, has similar essence.

Nonetheless, this is not to mean that the African harmonization process has not learned from its European counterpart. Indeed, one can argue that the harmonization process in Africa is largely influenced by the one in Europe in many ways.

- The influence of the Bologna Process on similar initiaives of other regions is well documented.[56] The process has produced a substantial volume of knowledge and coherent rethoric about the whole experience that it sets 'the norm' for other regions pursuing similar initiatives.

- Not only that scholars were calling upon the AU to adopt a Bologna-like process, AU comissioned studies and reports also reflected on the Bologna Process and its relevance to Africa.[57,58] The ease in benchmarking

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[54] Crosierand Parveva, *The Bologna Process*.

[55] Mohamedbhai, "Towards an African Higher Education and Research Space (AHERS)."

[56] Crosier and Parveva, *The Bologna Process*.

[57] Mohamedbhai, "Towards an African Higher Education and Research Space (AHERS."

[58] Hamidou Nacuzon Sall and Baye Daraw Ndjaye, "Higher Education in Africa: Between Perspectives Opened by the Bologna Process and the Commodification of Education," *European Education* 39, no. 4 (2007), https://doi.org/10.2753/EUE1056-4934390403.

the rich experience of a longstanding and strong partner, the EU,[59] seemed a reasonable direction to follow.

- Besides the fact that AU has immitated the EU in (too) many ways,[60] and that this is likely to include the different policy goals and initiatives, EU has been a major partner of AU since its inception. Through the Africa-EU strategic partnership and other initiatives, EU not only heavily finances projects but is also involved in the process through its techical assistance.[61,62,63,64,65]

- The ideals of the Bologna Process also premeate through North-South institutional, bilateral and multilateral cooperations. Countries which are members to the Bologna process, and have reformed their higher education system accordingly, are likely to push ideals (elements) of it through the partnership arrangements, to their partners in Africa. This could materialize through the development aid the European countries provide and the legacy of the colonial relationships, which remains instrumental in higher education. Sall and Ndjaye[66] have noted that France, for instance, among other countries, has explicitly expressed its wish for its former colonies to adopt the Bologna process; Belgium has also conducted repeated conferences in the Great Lakes Regions, themed in line with the adjustment of African higher education to the Bologna Process.

- The use of tools that were developed/tested in the European process is another mechanism of influence. Tuning, one of the most instrumental

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[59] Olufemi Babarinde, "The EU as a Model for the African Union: The Limits of Imitation," *The Jean Monnet/Robert Schuman Paper Series* 7, no. 2 (2007), http://aei.pitt.edu/8185/1/Babarinde EUasModellong07edi.pdf.

[60] Sesay, "The African Union."

[61] African Union and European Union, "The Africa-EU Strategic Partnership: A Joint Africa-EU Strategy," 2007, http://www.africa-eu-partnership.org/sites/default/files/documents/eas2007_joint_strategy_ en.pdf.

[62] African Union and European Union, "Joint Africa EU Strategy Action Plan 2011-2013," 2011, http://www.africa-eu-partnership.org/sites/default/files/documents/03-jeas_action_plan_en.pdf.

[63] African Union and European Union, "Fourth EU-AFRICA Summit: Roadmap 2014-2017," 2014, https://www.consilium.europa.eu/media/21520/142094.pdf.

[64] Emnet Tadesse Woldegiorgis, Petronella Jonck, and Anne Goujon, "Regional Higher Education Reform Initiatives in Africa: A Comparative Analysis with Bologna Process," *International Journal of Higher Education* 4, no. 1 (2015), https://doi.org/10.5430/ijhe.v4n1p241.

[65] Ibid.

[66] Sall and Ndjaye, "Higher Education in Africa."

tools being employed in the African harmonization process appears to have been borrowed from the Bologna process[67]. Similarly, the African harmonization process seeks a continent wide credit transfer system. In this regard, there have been calls for the launch of African Credit Accumulation and Transfer System,[68] a parallel of the European Credit Accumulation and Transfer System (ECTS).

Overall, strong similarities are observable in the harmonization processes of the two continents. This is evidenced, more than anything else, by the parallel in the major components of the two processes: student and staff mobility, comparability of degree programs, the creation of qualification frameworks, the establishment of regional quality assurance framework, etc.

This, however, should not preclude the acknowledgement of differences, in some cases nuances, between the two processes. There are some tools that remain unique to the respective systems, or have different versions. The African Higher Education Quality Rating Mechanism, for instance, is an instrument institutions can use to assess themselves within the context of what quality means for an African institution.[69] With a broad continental standards and principles in place, the European Quality Assurance Register (EQAR) keeps record of compliant quality assurance agencies. The Diploma Supplement, an instrument used in Europe to facilitaite comparability is not a component of the African counterpart process. However, since the harmonization process in Africa is at the early stage it is not possible to speculate if it will, or will not, continue to adopt from Europe.

Knowledge production and information sharing is another area of contrast. A stack of background studies, progress reports, country reports, communiques, along with uptodate website information and abundant availability of data in Europe, is in stark contrast with the situation in Africa. As of the writing of this paper (March 2018), for instance, one of the seminal documents, which, in 2007, introduced detail strategic plan for higher education harmonization in the continent – *Harmonization of Higher Education Programmes in Africa: A Strategy for the African Union* – is not avilable online. Although information sharing is stated as one of the major tasks necessary for harmonization, there is also no specific website dedicated to the initiative.

It would be fair to say that the Bologna process, compared to the counterpart in Africa, is far more organized, and evolved over the years as a

[67] Hahn and Teferra, "Tuning as Instrument."

[68] Mohamedbhai, "Towards an African Higher Education and Research Space (AHERS)."

[69] Oyewole, "The African Quality Rating Mechanisms."

more comperhensive and coherent process. The follow up meetings every two years, with diverse stakeholders involved, and the incorporation of new agendas, and action plans, as well as respective consultative memebers, created a coordinated process under the purview of the the Bologna Follow-Up Group (BFUG). The process in Africa can be characterized as rather thematic and sub-regional. There are initiatives which seem to be independently planned and implemented, althouth later brought in as integral components of the harmonization process (e.g. Pan-African University, Nyerere Mobility Program). On the other hand, strengths in the harmonization process are found in the regional initiatives. This being a positive approach in its own, there is a risk that the sub-continental initiatives might not be well coordinated and readable to one another. The strength of coordination, indeed, can be related to AU's resources dependence on expernal parties such as the EU. AU is way too resource dependent on external sources to chart its own comprhensive development trajectory and thus is influenced by the wills of dononrs. Differnet initiatives are desigened and implemented in fragmented manner, often donors being willing to fund on a case-by-case basis. However it is also discernible that the process lacks in clearly articulated long term goals and action plans, as well as framework of implemtnation, to which AU and other stakeholders need to be committed and mobilize resources accordingly.

VII. **Conclusions**

There are several similarities in the policy goals, rationalizations and implementation processes of harmonization efforts in Africa and Europe. This observation conviniently leads to the conclusion that the African process is modeling itself after the European one, as postulated in the world society theory. It is indeed the case that the African harmonization process is considerably influenced by the one in Europe. This, among other things, predominantly speaks to the limitations of the African process, as explained by the resource dependency and policy transfer theories (and memetic processes in institutional isomorphism). Although the influence of the Bologna Process is enormous in Africa as it is elsewhere, there are also similarities in policy goals that predated the Bologna Declaration. The goals stipulated in the Arusha Convention nearly two decades before the Bologna Process are, in essence, very similar to those in the harmonization processes of both continents in the later years. This implies that there are naturally emerging policy convergences between the two continents. The remarkably

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similar rationales for the initiation of harmonization process speaks to Bennet's (1991) proposition that societies facing similar challenges tend to address them in similar ways.

There are also differences and nuances observed between the two processes. These differences, in line with the localized responses to global forces,[70,71] require more attention for further study. Much more is written about the similarities than about the unique features. The thematic nature of the African harmonization process and the strong structural orinentation in sub-continental processes deserve more exploration. It can be argued, for instance, that the sub-continental focus has strong merits since the participating countries have more in common anchored in their geographic proximity and shared history. In such arrangement, harmonization of higher education can fit in the broader context of cooperation and integration in terms of trade, ecomony, peace and security, and so on. However, it would also be reasonable to be cautious that if the sub-continental processes continue taking deeper roots, it can preclude the realization of continental harmonization. It could lead to the creation of sub-continental systems that have difficulties in reading and comparing each other.

For a continental system to emrge, therefore, there is a need to coordinate the existing efforts into a continent-wide system, while capitalizing on the strengths of the sub-continental initiatives. This can be viewed along with the advantage that AU has as a supranational coordinating body, which the EU did not enjoy with the Bologna Process, at least formally. One of the challenges to the Bologna Process in its initial days was that countries were resistant of any possible external influence, primarily from the EU, on their higher education policies. As a result, the EU had to remain hands-off of the Bologna Process, and use other mechanisms of soft influence– e.g. the EU created related programs that were linked to the reforms in the Bologna Process; it also used resources that were directly allocated for participating institutions, sidestepping the national policy making agencies.[72] The AU, however, does not seem to have such a resistance. It has a central role more or less accepted by its member states. Its education programs, which include

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[70] Marginson and Rhoades, "Beyond National States, Markets and Systems of Higher Education."

[71] Vaira, "Globalization and Higher."

[72] Agnes Batory and Nicole Lindstrom, "The Power of the Purse: Supranational Entrepreneurship, Financial Incentives, and European Higher Education Policy," *Governance* 24, no. 2 (April 2011): 311-29, https://doi.org/10.1111/j.1468-0491.2011.01525.x.

higher education as a focus area, are adopted by heads of states.[73,74] This top-down approach, however, runs the risk of creating a contrived process. The direct involvement of higher education institutions in the whole process, than just implementation, can not be over emphasized.

Some of the differences observed, however, originate from the shortcomings in the African harmonization process. The lack of clear targets and coherent process, the paucity of knowledge and information, are some of the examples. These need to be addressed immediately for the efforts to be effective. All in all, the AU as a continental body in charge of the design and implementation of higher education harmonization, needs to rethink the process towards clearly articluated long term goals, and a roadmap to a (thematically and regionally) coordinated process, that involve higher education institutions and other stakeholders.

Finally, it is imperative to note that comparing harmonization processes in Europe and Africa has its caveats. One needs to be cautious to acknowledge that the two processes do not start at a level field due to inherently considerable differences in resources, infrastructure, the engangement of academics. Besides, in Europe higher education has centuries old history of continued development resulting in well established academic culture and well positioned professional and academic entities, which is not necessarily the same in Africa.

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[73] African Union, "Second Decade of Education."

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More information and correspondence

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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**.

* The term *Editor(s)* as used below refers to Editors, Advisory Editors, Guest Editors, and Editorial Board members when delegated to serve in an editorial capacity.

1. Publishers, Managing Board, Editorial Board

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.

1.6. The Managing Editor is responsible for ensuring that the commercial policies set by the Management Board are carried out.

1.7. Members of the Editorial or Management Boards or employees and, or members of the Tuning Academy should not intervene in or comment on editorial decisions on individual manuscripts.

2. Editors, Advisory Editors, and Guest Editors

2.1. *Editors* of the Journal and Specialist Volumes are expected to carry out editorial duties in a manner consonant with policies set by the Editorial Board.

2.2. The Editor has full responsibility, which he/she may delegate to an Advisory Editor, for editorial and technical decisions on Journal and specialist volume content.

2.3. *Editors* will give manuscripts unbiased consideration.

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2.4. *Editors* should process manuscripts expeditiously.

2.5. The Editor has sole responsibility for acceptance or rejection of a manuscript. Manuscripts should have peer review, but the Editor may reject any manuscript for other causes (inappropriate for journal, clearly of poor quality, contents previously published elsewhere, etc.)

2.6. The Editor should not disclose information about submitted manuscripts except to reviewers, Advisory Editors, Editorial Board members, and staff at the University of Deusto's Publications department. Information about a manuscript may be shared after electronic publication (e.g., news releases or inclusion in a list of contents, etc.).

2.7. Manuscripts submitted by an *Editor* should be delegated to another Advisory Editor or Editorial Board member.

2.8. An *Editor* should not handle manuscripts for which there is a real or perceived conflict of interest. Examples include, but are not restricted to, past (within the last 5 years) or current collaboration, employer or employee, close friend, family relationship, institutional relationship, past or present graduate advisor or advisee, someone with whom the reviewer has had a past or on-going academic controversy, or situations where the *Editor* could stand to gain or lose economically or in any other way by publication or rejection of the manuscript. Editorial responsibility should be delegated to another Editor, Advisory Editor, or Editorial Board member.

2.9. An *Editor* must not use information, data, theories, or interpretations of submitted manuscript in her/his own work unless that manuscript is in press, published or the author has given permission to do so.

2.10. If an *Editor* is presented with convincing evidence that the main substance or conclusions of a publication is/are erroneous, he/she should facilitate publication of a report (e.g., correction, follow-up manuscript, or other appropriate means) pointing out the error and, if possible, correcting it. The report may be written by the person who discovered the error or by the original author. The original publication does not disappear from the published record.

3. Authors and Co-authors

3.1. Manuscripts should contain original, new results, data, ideas and/or interpretations not previously published or under consideration for publication elsewhere (including electronic media and databases).

3.2. Authors should be encouraged to avoid fragmentation of their work where practical, so that the submitted manuscript is as comprehensive and authoritative as possible.

3.3. Authors should inform the Editor of related manuscripts under consideration elsewhere and provide copies if requested.

3.4. Fabrication of data, results, selective reporting of data, theft of intellectual property of others, and plagiarism are unethical practices and unacceptable.

3.5. Information obtained privately (e.g., in conversation, correspondence, or discussion with third parties) should be avoided as it is not in the public domain and is thus unverifiable. If considered necessary, it should not be used or reported in a manuscript without explicit permission from the party with whom the information originated. Information obtained in the course of confidential services (e.g., refereeing manuscripts or grant applications) should be treated similarly.

3.6. Manuscripts will contain proper citation of works by others, especially publications of the original hypotheses, ideas, and/or data upon which manuscript is based or addresses.

3.7. Authorship

a) Authorship should be limited to those who have made significant contributions to the concept, design, execution or interpretation of the work reported in a manuscript; others who have contributed should be acknowledged;

b) Author order should be agreed on by all authors as should any changes in authors and order that occur while the manuscript is under review or revision. Changes in authorship must be submitted to the Editor in writing and must be signed by all authors involved.

c) Authors and co-authors should review and ensure the accuracy and validity of results prior to submission; co-authors should have opportunity to review manuscript before submission.

3.8. Authors should reveal to the Editor any potential conflict of interest (e.g., a consulting or financial interest in a company) that might be affected by publication of the results contained in a manuscript. The authors should ensure that no contractual relations or proprietary considerations exist that would affect the publication of information in a submitted manuscript.

3.9. Authors are encouraged to disclose major funding sources (e.g., government agencies, private foundations, private industry, and universities) for reported research.

4. Reviewers

4.1. A reviewer should disclose real or perceived conflict of interests to the Editor before agreeing to write a review. Examples include, but are not restricted to, past (within the last 5 years) or current collaboration, close friend, employer or employee, family relationship, institutional relationship, past or present graduate advisor or advisee, someone with whom the reviewer has had a past or on-going scientific controversy, or situations where the reviewer could stand to gain or lose economically or in any other way by publication or rejection of the manuscript. The Editor will decide if the conflict is severe enough to prevent the reviewer from writing a fair, objective review.

4.2. A reviewer should decline to review a manuscript if she/he feels technically unqualified, if a timely review cannot be done, or if the manuscript is from a competitor with whom the reviewer has had an acrimonious professional relationship or a conflict of interest as defined above (section 4.1).

4.3. Reviewers should be encouraged, but not required, to sign reviews. The Editor will preserve anonymity of reviewers should a reviewer elect to remain anonymous.

4.4. Reviewers must treat the manuscript as confidential.

4.5. Reviewers must ask the Editor for permission to discuss the paper with others for specific advice, giving names and reasons for such consultation.

4.6. Reviewers must not pass the manuscript to another to carry out the review without permission from the Editor.

4.7. Reviewers must not use information, data, theories, or interpretations of the manuscript in their own work unless that manuscript is in press, published or the author has given permission to do so.

4.8. Reviewers should clearly support and justify the basis for their review analysis.

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4.9. Reviewers should alert the Editor to similar manuscripts published or under consideration for publication elsewhere in the event they are aware of such. However, it is the responsibility of the Editor, not the reviewer, to decide on the proper course of action once so informed.

5. Citation Manipulation

5.1. Citation manipulation is considered unethical. Manipulation may include adding citations not contributing to a manuscript's content or solely aiming at increasing an author's or a journal's citations.

6. Sanctions

6.1. Suspected breaches of this policy may be handled by the Editor or may be forwarded to the Editorial Board for review and recommendation.

6.2. If an *Editor* is determined to have violated the **TJHE Ethical Guidelines for Publication**, the matter will be referred to the Editorial Board.

6.3. If an author is determined to have violated the **TJHE Ethical Guidelines for Publication**, TJHE reserves the right to impose sanctions, which may include restriction from further consideration of accepting the author's work, retraction of a published paper, or withdrawal of a submitted paper.

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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From innovative experiences to wider visions in higher education

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