

Impact of competence-based training on employability of Technical and Vocational graduates in Ethiopia

Birhane Sime Geressu*

doi: [http://dx.doi.org/10.18543/tjhe-5\(1\)-2017pp101-119](http://dx.doi.org/10.18543/tjhe-5(1)-2017pp101-119)

Abstract: The purpose of this study is to critically examine the impact of competence based training on employability of technical and vocational college graduates in Ethiopia. Mixed methods of research design, predominantly concurrent nested strategy were employed to conduct the study. The study involved 162 instructors, 123 Level III automotive technology trainees, 87 department heads and 89 graduates, a total of 461 respondents as a sample. Moreover, 24 respondents (6 industry owners, 6 TVET college deans, 6 competence-based process owners and 6 industry trainers' leaders) were purposely selected for interview and focus group discussion. Under the study, the researcher used employability of graduates as dependent variable and competency based training as independent variable. Descriptive and inferential statistics were employed for data analysis. The study result showed that technical and vocational education and training (TVET) colleges in Ethiopia have been performing below expectations in developing demand-based curriculum and implementing competence-based training in TVET colleges and industries. As a result, among the graduates nearly 50 percent are not employed in the past two years. Hence, it is recommended that constantly consulting and involving relevant stakeholders in setting study profile, identifying intended learning outcomes and strengthening competence based learning style are vital for graduates to demonstrate employability skill, knowledge and attitude into the job that consequentially lead to graduate employment.

Keywords: Impact; competences; employability; employment; graduates; training; TVET.

I. Introduction

The concept of competence has a wide variety of meanings. Such perception has been changing overtime depending on the developments in

* Birhane Sime Geressu (birhanesime2012@gmail.com), PhD, is Associate Professor in the Department of Educational Leadership and Management, College of Education and Behavioural Sciences, Arsi University, Ethiopia.

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

the society and changes in contents of schooling. Accordingly, different authorities explained the meaning of competence from different perspectives. For instance, Colline, explains competence as it is a learning outcome that enables graduates to perform activities to the set standards required in employment, using appropriate mix of knowledge, skills and attitude.¹ The concept also comprises knowledge, skills, and the know-how of their application mastered in a specific context.^{2,3} To capture the extent, it embraces knowledge, understanding, practical and operational application of knowledge to certain situations, and living with others in different social context.⁴

Similarly, Biemans describes competence as it is one of many side issues. In broad outline, according to the writers' view, competencies are the sum of interrelated abilities, application of knowledge, behavioural patterns and skills. At the very least, therefore, they presented the six common characteristics of the conceptual word competence that help to understand it more. On this account, thus, competence is 1) context- bound; 2) indivisible (knowledge, skills and attitudes are integrated); 3) subjected to change; 4) connected to activities and tasks; 5) required learning and development process, and 6) interrelated.⁵

The question of competence is an important issue in technical education programmes. The concept is broad and comprises the possession and application of a set of skills, knowledge and attitudes which are necessary to enable graduates successfully compete for jobs in the labour market.⁶ For Goncizi, it is an inescapable component of the intellectual capital required for any meaningful effort aimed at enhancing employability of graduate in the labour market.⁷ It encompasses the capacity to perform a certain tasks

¹ Colline Michael, *Competence in Adult Education: A New Perspective* (London: Oxford University Press, 1987), 10-17.

² Kudwadi and Suryadi, *Development framework of evaluation model based on skill competency standard in high school technology and vocational education* (Ban dung: JPIS FPTKUPI, 2011), 22-30.

³ 3. Sandra Karka, *Competency based education and training. Myths and realitie* (England: Eric Publications,1998), 1-4.

⁴ Dicbois & Rithwell, *Competence-based human resource management* (Palo Alto, CA: Davis Black publishing. 2004), 34-43.

⁵ Biemans Harm, "Vocation and Business Education and Training in Europe: Qualification and the World of Work." no.7 (2004): 17-22.

⁶ Kathleen Santopietro, *Competency based education and content standards* (Colorado: Northern Colorado Literacy Resource Centre, 2006), 7-8.

⁷ Goncizi Andrew, "*Re-conceptualizing competency based education and training*" (PhD, diss., Sydney University of Technology, 1996), 16-32.

that correspond to relevant workplace requirements and other vocational needs.

Competences are described in Occupational Standards (NOS) and developed by people knowledgeable on and experienced in the world of work. From this view point, National Occupational Standards of Ethiopia define competence as the outcome of all training and learning and forms the benchmark of all quality management within the TVET system.⁸

According to Ethiopian TVET strategy document, competence based training in TVET falls under the following four (4) basic components:

Occupational Standards (OS): indicate the level of performance required for the successful achievement of work expectations.⁹ Occupational standards are defined in terms of the activities (duties and tasks) performed by a person in a selected occupation and are intended to specify best practice in a particular employment sector and need for new occupations as well as indicating the need for revision and adaptation of existing national standards, once technological and/or economic developments bring about changes to the qualification needs.¹⁰ Moreover, it constitutes an industry-determined specification of performance, which sets out the skills, knowledge and attitude required to operate effectively in employment.

Competence Based Curriculum (CBC): is a framework or guide for the subsequent detailed development of curriculum and associated methodologies, training, assessment and resources. Besides, it specifies outcomes which are consistent with the requirements of the workplace as agreed through the industry or community consultations. Where competence standard exist, it is used to develop the competence based curriculum and where standard do not exist, curriculum developers need to clearly identify workplace standards and requirements as a basis for identifying the outcomes of the competence-based curriculum.¹¹

In the competence based TVET system, TVET institutions have to develop curricula that consider specific needs of the target groups and local labour market requirements. Thus, each TVET provider may find their own curricular solutions to provide high quality TVET to their specific target groups. Putting the curriculum into operation requires an implementing

⁸ Ministry of Education, *Cooperative training guideline* (Addis Ababa, 2007), 7-10.

⁹ Ministry of Education, *TVET Leaders' and Trainers' Qualifications Framework* (Addis Ababa, 2010b), 13-15.

¹⁰ Ministry of Education, *National TVET Strategy* (Addis Ababa, 2008), 28-37.

¹¹ Ministry of Education, *Guideline on curriculum development* (Addis Ababa, 2006b), 5-7.

agent. In this regard, Ministry of Education identifies trainers as the agent in the curriculum implementation process. According to the document, teachers have roles to create high level of interaction and increasing understanding, monitoring each trainees work, determining what skills and tasks each student has mastered and provide feedbacks.

Modularization in competence based training: should be organized in a modular fashion to meet the requirements as defined in the occupational standards. In this way, each module or combination of modules describes an employable set of competences. Successful completion of each training module shall be dependent on assessment and certification in conjunction with the assessment specifications stipulated in the occupational standards. The modularization of TVET has been a central mechanism of making TVET delivery flexible and providing for flexible entry and exit points.

On the other hand, individual modules or a number of modules may also be delivered in short programs. In this case, trainees acquire an important set of competences (equivalent to a partial qualification) valuable in the labour market, and achieve the first steps of a potentially longer TVET career that may eventually lead to a comprehensive occupational competence. In the course of their individual career, trainees may attend different TVET modules over time, if necessary by different providers, to finally master a comprehensive competence.

Cooperative training as competence based learning approach: is a mode of training provided in partnership between enterprises and TVET institutions. It is directed toward the attainment of a skilled and versatile workforce adaptable to a changing technology to meet industry's current and future manpower needs. Under this system, industries and TVET institutions share the responsibility of providing the trainee with the best possible job qualifications, the former essentially through practical training and the latter by securing an adequate level of specific, general and occupation-related theoretical instruction. As mentioned in cooperative training guideline, cooperative training depends on the willingness of enterprises to supply human resources and materials for enterprise-based training. Besides, it requires a common understanding among partners about rules, commitment to framework conditions, training schedules as well as other issues of regulation.

There is no doubt that the proper development of technical and vocational skills is vital to the economic development of every country especially to the developing ones. Moreover, in today's knowledge driven and competitive global economy, TVET is considered as a fundamental element in the development of knowledge, skill and ability that enable TVET graduates to

adapt to the changes in the dynamic world.¹² However, the quality and relevance of training is handicapped by a number of limitations like shrinking or stagnant wage employment opportunities, especially in the industrial sector; poor quality in the delivery of TVET programs; weak monitoring and evaluation mechanisms, lack of stakeholder's participation, and inefficient leadership and management.¹³ Besides, the base line data obtained from Oromia Education Bureau (2008) indicated that between 2002-2007 due to weak implementation of cooperative training only 17.5% graduate got employment opportunities in government, private, and cooperatives and as self-employees. Hence, the intention of this study is to ascertain the impact of competences based student centred approach on the employability of TVET college graduates in Ethiopia.

To this effect, therefore, the study has attempted to answer the following basic questions.

1. What are the current practices of competence based training student centred approach in TVET colleges in Ethiopia?
2. Is there any significant relationship between competences based approach and employability of graduates in Ethiopia?

II. Methodology

Research design: the empirical investigation is based on the mixed methods (quantitative and qualitative) research design, predominantly on the concurrent nested strategy.

The study site: it would have been more appropriate to include all TVET colleges in the country, Ethiopia. To make the study manageable, the researcher decided to conduct the study in Oromia region for a number of reasons. First and perhaps for most, it would be time taking and expensive endeavour. In the second instance, as compared to other regions Oromia took the lion's share both in the number of trainees and institutions. The study was further delimited to 6 (33.3%) government TVET colleges established before 20 years, those who have relatively experienced teachers and leaders and 6 cooperative training offering firms in the Region.

¹² UNEVOC, "Technical and vocational education and training for sustainable development: The challenges of implementation," no. 10 (2005): 1-4.

¹³ African Union, "The proceedings of the conference of the African Ministers of Education on TVET in Africa," (Meeting of the Bureau of the Conference of Ministers of Education of the African Union, add day and month, 2007): 29-31.

Data type and sources: the researcher used both qualitative and quantitative data type through primary source using survey, interview and focus group discussion.

Sample design and data collection instruments: multiple tools of data collection instruments were used to allow triangulation of responses. Data were collected through survey of self-administered questionnaire from 162 (26.04%) instructors, 123 (22.2%) Level III 2016/17 automotive trainees, 87(100%) department heads and 89 (19.14%) (2014/15) graduates, a total of 461 informants. To select sample respondents simple random sampling technique has been used for trainers, department heads and trainees and snow-ball sampling technique for graduates. Besides, 6 industry owners , 6 college deans, 6 competence-based process owners and 6 industry trainers were purposely selected to provide qualitative data through semi structured interview and focus group discussion.

Data processing procedures: after collecting the necessary data, the researcher used data processing procedures like editing, coding, classification and tabulation to make the data amenable for analysis.

Methods of data analysis: the collected data after data processing is analysed using descriptive statistics (i.e., mean, standard deviation) and inferential statistics such as one way ANOVA, Pearson Momentum Correlation coefficient and Multiple Regression Analysis to see the relationship between learning outcomes acquired as the result of competence based training approach and employability of graduates. Besides, the qualitative analytical process lasted from the coding to the categorising of concepts/themes, through to the contextualising, linking and interpretation thereof. In this connection, from the relevant documents, important information has been considered to substantiate the quantitative data analysis results.

III. Results and discussion

III.1. *Implementing competence-based learning approaches: existing practices*

A) Readiness for implementation

In the Table 1, an attempt was made to assess readiness made by TVET colleges before actual implementation of competence based training. An assessment has been made by using a five point Likert scale ranging from once in a while to frequently. Accordingly, respondents rate their response on each item as follows.

Table 1
Preparation made for implementation

| No. | Items | Mean | SD | F | Sig |
|-----|--|------|------|-------|-------|
| 1 | Up-to-date labour market information has been collected | 1.84 | 0.46 | 2.66 | 0.03 |
| 2 | Skill gaps have been identified | 1.94 | 0.52 | 13.13 | 0.000 |
| 3 | Competences to be achieved known by trainees | 1.38 | 0.49 | 6.46 | 0.002 |
| 4 | TVET industry partnership have been established | 1.50 | 1.08 | 2.45 | 0.08 |
| 5 | Stakeholders agreed upon study profiles | 1.81 | 0.39 | 0.34 | 0.85 |
| 6 | Full collaboration of industries ensured | 1.63 | 0.48 | 1.02 | 0.36 |
| 7 | Non - threatening images created | 1.19 | 0.40 | 2.19 | 0.000 |
| 8 | Training modules describes set of competences | 1.80 | 0.54 | 12.5 | 0.000 |
| 9 | Adequate resource granted | 1.70 | 0.46 | 7.71 | .001 |
| 10 | Relevant teaching, learning and assessment method identified | 1.90 | .49 | 19.7 | .000 |
| 11 | Sustainability of program granted | 1.62 | .48 | 1.08 | .34 |

N= 461; df=2; P < 0.05.

Source: Output of SPSS Version-20.

The prevailing condition finds its expression in a dynamic changing world with complex industrial and occupational structure that necessitates the training for institutions to seek labour market information.¹⁴ Connected with this, the first issue raised for respondents was the availability of up-to-date labor market information and the data shows as it has not been adequately collected (Mean= 1.84). Result of items 2 and 3, in the Table 1, also, shows that TVET colleges have no adequate information about skill gaps of graduates (M= 1.94 ; 1.38). Trainees were not adequately informed about the competences to be achieved (M=1.50). Similarly, in focus group discussion, participants agreed that TVET colleges lack information about training needs by skill category that may help them for human resource planning that in turn

¹⁴ Herschbach Zidman, *VET management in the United States* (Geneva: ILO, 1995), 42-45.

affects the implementation of competence based training and producing competent graduates with employable skills, knowledge and ability.

Technical education operates in a complex environment owing to the multiplicity of stakeholders, primarily the users and providers of technical education. It requires a close linkage between the providers and the end users, who are the employers of graduates from technical education institutions. The need for such linkage between these two players are made more imperative because of the fast technological changes affecting the relevance of programme curricula, facilities and other components of technical education. This is just some of the many critical concerns that need to be considered in technical education.

Based on the stated fact, the researcher examined the relationship TVET colleges have with industries. Accordingly, items 4, 5 and 6 show that, TVET colleges didn't work out and establish full collaboration with potential partner industrial sectors and other relevant stakeholders. Also study profiles did not jointly studied before implementation of competence based learning. Overall, the practices are inconsistent with tuning methodologies that magnifies the importance of consulting stakeholders on identifying competences, setting study profile, specifying the result and outcomes of the learning process.¹⁵ ANOVA test result (Table 1) shows that out of eleven items insignificant perception difference occurred only in item 4, 5,6 and 11 ($P < 0.05$). Tukey's HSD post Hoc test result showed the perception difference occurred between trainers and trainees and no statistically significant difference between trainer and department heads, therefore, it implies that trainers and department heads have common idea on TVET- industry partnership.

Moreover, respondents were asked to rate the extent to which non-threatening perceptions has been created before implementation of competence based learning. In this case, the results show low response rate with grand mean 0.92. Furthermore, as per the data in Table 1, items 8, 9,10 and 11 revealed training modules moderately describes set of competences ($M=0.1.80$); TVET colleges were not granted adequate resources for implementation of competence based learning approach ($M=1.70$). Besides, relevant teaching, learning and assessment method were not adequately identified ($M=1.90$), there fairly set strategies for sustainability of programs ($M=1.62$).

However, they frequently monitor programs delivery. This was supported by interviews held with competence based process owners. The unanimity of the informants indicates that measurement criterion and standards set to

¹⁵ Tuning Africa, *Tuning and harmonization of higher education: the African Experience* (2014).

measure competence based learning approach were found weak. The ANOVA test result reveals that there was a statistically significant perception difference among the respondents on items 8, 9 and 10. The result of multiple mean comparisons using Tukey's HSD shows that perception difference occurred between trainers, on the one hand, and graduates and trainees, on the other. As the data obtained from key respondents through FGD, the dissimilarity might be lack of information of trainees and graduates about state of readiness made by TVET Colleges before the implementation of competence based learning.

B) Implementation process

The relevance of any training and its curriculum is determined heavily by the extent it meets the ultimate educational and training objectives and the degree it gears towards the socio-economic needs of the country.^{16,17,18} Specifically, a competence based curriculum is a framework or guide that specifies outcomes which are consistent with the requirements of the workplace as agreed through the industry or community consultations.^{19,20} Connected with item 1 of Table 2 asks about the relevance of curriculum to local labour market needs and national occupational standards. As can be seen from table it was fair (M=2.83).

Item 2 deals with delivery of training program. Accordingly, respondents replied that the training delivery was not fully student centred (M=1.53) because due to lack of sufficient industries for cooperative training, trainees did not spent much time in their industry (M=2.75). Moreover, learning outcomes/competences are measurable (M=2.81) and assessment is moderately based on actual demonstration of competences (M=1.00). The ANOVA test result for item 2 and 3 indicates that the non-existence of perception differences between groups of respondents on training strategies and place of learning. However, for item 1, 4 and 5 shows statistical significant

¹⁶ ILO, "Implementing Competency-Based Training (CBT) in Bangladesh," Bangladesh, 2012, 3-5.

¹⁷ Dyson and Jack, "Skills, Knowledge and Employability," Geneva, 2005, 22-27.

¹⁸ Deibinger Mannhiem, "Structures and Functions of Competence- based Education and Training : A Comparative Perspective," Inwent (2005), 3-4.

¹⁹ Frere Cathryn, *Developing a Competency Based Curriculum* (Virginia: New Jersey: Pearson, 2010), 5-7.

²⁰ Wakington, "Curriculum change in engineering," *European journal of engineering education* no.27 (2002), 135-139.

Table 2
Implementation process

| No. | Items | N=461 | | | |
|----------|---|-------|------|-------|------|
| | | Mean | SD | F | Sig. |
| A | Responsibilities executed by TVET colleges | | | | |
| 1 | Curricula considered local labour market | 2.83 | .93 | 3.263 | .040 |
| 2 | Training strategies are student centred | 1.53 | .83 | .915 | .455 |
| 3 | The bulk of practical training takes place in an enterprise | 2.75 | 1.07 | 8.08 | .000 |
| 4 | Learning outcomes/competences are measurable | 2.81 | .86 | 8.74 | .000 |
| 5 | Assessment is based on actual demonstration of competences | 1.00 | 0.02 | 12.3 | .000 |
| B | Responsibilities executed by Enterprises | | | | |
| 6 | Industries accommodate trainees for cooperative training | 1.09 | .03 | 36.51 | .05 |
| 7 | Industrial trainers follow unit of competences | 1.77 | .76 | 1.351 | .292 |
| 8 | Enterprises provide supervision to train the trainees | 2.01 | .82 | 3.11 | .007 |
| 9 | Enterprises offer facilities to train the trainees | 2.13 | .79 | 2.61 | .032 |
| 10 | Enterprises afford range of work to train the trainees | 2.35 | .78 | 1.563 | .256 |
| 11 | Industry trainer evaluates the trainee's progress | 2.44 | .33 | 6.201 | .000 |
| 12 | Industry trainer daily observes and provides feedback | 2.22 | .81 | 4.15 | .006 |

N= 461; df=4; P <0.05 ;Mean = 0.5- 1.49 once in a while; 1.5-2.5 sometimes; 2.51-3.5 fairly often; 3.51-4.00 frequently, if not always; 4.01-5 always

Source: Output of SPSS Version-20.

difference between respondents on relevance of curriculum to the labour market, measurability of learning outcomes (competences) and on assessments approaches that are based on actual demonstration of competences.

Items 6 to 12, in the Table 2, have been intended to know role played by industry trainer and commitment of enterprises in the implementation of competence based learning approach. To all items, group of respondents affirmed that as competence based learning was not frequently done.

Specifically, as can be seen from item 6, industries were not adequately accepting trainees for cooperative training. The interviews conducted with six competence based core process owners also reflect similar opinion about the lack of willingness of enterprises to accommodate trainees for cooperative training. The common idea was that TVET collages were not regularly visiting industries before and during cooperative training.

Item 7, requested respondents to rate their level of agreement or disagreement on the extent of the industrial trainers following the unit of competences, motivate and encourage trainees to experience the real world of work. On top of this it also raises the degree of their willingness to help trainees whenever problem occurred during cooperative training. Moreover, the item also hints on how they keep control over work place safety rules, the extent he/she knows unit of competence on the occupational standards for the occupation, follow trainees during the cooperative training, evaluate the trainee's progress and provide feedback. Even though items were differently rated by respondents, for all the above question items respondents gave negative responses. This low level of mean score indicates that industries and industry trainers are discharging their responsibility below the expectation.

Supporting this, one college Dean during FGD said that "To meet the major challenge in the implementation of competence based training is the willingness of enterprises to accept the trainees. Mostly, the trainees are not assigned in their proper occupation. Besides, industrial trainers were not performing the training duties as expected". Supporting this, three competence-based process owners said that they attach the units of competencies with the list of trainees when they send trainees to cooperative training providers. But, industrial trainers do not check the integrity of TVET training and cooperative training. One of competence based process owner says, in this regard, that "Cooperative training is not properly implemented according to cooperative training guidelines. The availability of training contract and training plan was at a lower level. In this respect, the practice of using these documents for competence-based training was not satisfactory"

According to Regional TVET agency representative "... in TVET colleges there exists the annual plan to send trainees to industries together with

performance data which indicates the number of trainees sent for cooperative training increased in number from time to time, even completed and signed performance evaluation formats are available. But nothing is attached to indicate trainees were trained in line with required unit of competencies”.

C) Acquired competence, graduate employability skills and employment

This sub title presents the outputs of competence based student centred approach (getting graduates completion certificate and occupational assessment results) and the impact of competence based student centred approach (employability of graduate and degree of their satisfaction). To this end, trainees, graduates, department heads, and trainers have been considered.

i. *Employability Skills of Graduates*

In the Table 3, an attempt has been made to assess the extent that TVET graduates possess skill and knowledge which are relevant with the current job.

Table 3
Demonstrated competence

| No. | TVET graduates have skill | Mean | SD | F | Sig |
|-----|--|------|------|-------|------|
| 1 | Needed for the job | 1.68 | 0.47 | 4.67 | .01 |
| 2 | To use appropriate technologies | 1.85 | .50 | 16.00 | .000 |
| 3 | To use standard operating procedures | 1.84 | .44 | 4.48 | .002 |
| 4 | To solve work related problems | 1.68 | .47 | 5.61 | .004 |
| 5 | To work in an intercultural context | 2.46 | 1.24 | 5.67 | .000 |
| 6 | To handle stress and pressure on the job | 1.16 | 0.37 | 5.95 | .000 |

N=461; df=4; P < 0.05.

Source: Output of SPSS Version-20.

As can be observed from the analysis of Table 3, in all items, except item 3, respondents rated as low with grand mean below 2.5. Open-ended questionnaire data analysis also depicted that TVET graduate’s lack skill to minimize wastage, improve the quality of product and productivity. During focus group discussion two TVET college Deans disclosed that there has been always complaints from graduates’ side on mismatch between

knowledge and skill acquired in their respective TVET colleges and current technologies they have been using in the labour market. Besides, they are weak in solving work related problems; handling stress and pressure on the job and fail in finding relevant job in different intercultural context. Therefore, it can be concluded that graduate competences in using skill and knowledge acquired in their respective TVET colleges have been found to be weak.

The ANOVA test result revealed that there has been statistically significant difference in all items. That is, in all the cases P-value is less than 0.05 implying the existence of perception difference between graduates on one hand and department heads on the other hand. These perception differences might occur due to dissimilarities among groups of respondents in assessing the capacity that graduates have related to the work.

ii. *Occupational assessment results and graduate employment*

The effectiveness of TVET is the comparison between the objectives set from the outset and the actual results attained at the end of the day. In the delivery of TVET, the objective to be addressed through the training delivery is basically to raise the quantitative and qualitative dimensions of the skills, knowledge and attitude of students thereby driving them for greater productivity and income. In Table 4, an attempt has been made to see results of occupational assessment and rate of graduate employment.

Table 4
Output of training

| No. | Colleges | Assessment results | Total No. of graduate (Auto) | Number of Employed TVET graduates | | | | % of employed graduates |
|--------------|----------|--------------------|------------------------------|-----------------------------------|-----------------|---------------|------------------|-------------------------|
| | | | | Public sectors | Medium Industry | Self-employed | Organized in MSE | |
| 1 | C-A | 37 | 66 | | 5 | 7 | 26 | 38 (57.6%) |
| 2 | C-B | 42 | 61 | | 11 | 8 | 24 | 43 (70.5%) |
| 3 | C-C | 27 | 58 | | | 5 | 19 | 24 (41.4%) |
| 4 | C-D | 35 | 55 | | | 6 | 21 | 27 (49.1%) |
| 5 | C-E | 27 | 45 | | | 2 | 19 | 21(46.7%) |
| 6 | C-F | 25 | 40 | | 5 | 8 | 17 | 30 (70%) |
| Total number | | 193 (59.4%) | 325 | | 33 | 36 | 126 | 183 (56.3%) |

Source: Sample TVET colleges (CA college1), Documents analysis(2014/15), Own calculation.

With regard to the quantitative dimension of effectiveness, the data obtained from TVET colleges show, there was gross mismatch between the demand for and the supply of middle level skilled labour force. Supporting these, in the open ended questionnaire, respondents replied that there is wide spread unemployment among the TVET graduates, on one hand, while there is also a wide market vacancy for TVET graduates, on the other hand. The results also show that only 183 (56.3%) level III automotive technology TVET graduates got employment opportunity in the past two years.

Another indicator for internal inefficiency is the result of the occupational assessment undertaken and the degree of graduates' satisfaction. In this regard and in accordance with the 2014/15 assessment result, it was only 193 (59.4%) out of the 325 TVET graduates assessed were found competent and 132 (40.6 %) were found not yet competent which shows that the training provided was below the minimum quality required. The implication of this all is that the delivery of TVET in Ethiopia in general and Oromia Region in particular is still not fully demand driven.

Table 5
Impacts: graduate satisfaction

| No. | Extent of satisfaction with | Graduates (89) | | | | | |
|-----|---|-----------------|-------|-----------|---|-----------|-------|
| | | Not satisfied | | Undecided | | Satisfied | |
| | | F | % | f | % | f | % |
| 1 | Relevance of current occupation | 47 | 52.81 | 0 | 0 | 42 | 47.19 |
| 2 | Job searching time after graduation | 77 | 86.52 | 0 | 0 | 12 | 13.48 |
| 3 | Utilization of skills acquired | 56 | 62.92 | 0 | 0 | 33 | 37.08 |
| 4 | Utilization of knowledge acquired | 49 | 55.06 | 0 | 0 | 40 | 44.94 |
| 5 | Training outcomes of each module | 64 | 71.91 | 0 | 0 | 25 | 28.09 |
| 6 | Type of assessment in relation to training outcomes | 62 | 69.66 | 0 | 0 | 27 | 30.34 |
| 7 | Earning their living through self-employment | 59 | 66.29 | 0 | 0 | 30 | 33.71 |
| 8 | Occupational assessment results | 45 | 50.56 | 0 | 0 | 44 | 49.44 |

Source: Output of SPSS Version-20.

In order to examine the impact of competence based training the paradigm shift of student centred approach, it is better to see into the satisfaction level of graduates and access to employment. Further, its impact can be seen in terms of utilization of knowledge and skills acquired or gained through cooperative mode of training in their current job and level of income. By way of contrast, the finding reveals that graduates were not satisfied with skill and knowledge acquired during training program. As it can be observed from the Table 5, employed TVET graduates were asked to indicate their degree of satisfaction in searching and getting relevant job. Accordingly, the majority of the TVET graduate respondents declared that the searching of appropriate job was very difficult therefore, they are dissatisfied. In the open ended questionnaire graduates replied that the reason for working in the area outside their field of study might be the interest they have toward the job. Others connected themselves with lack of appropriate job in their area of training. Also, as it was indicated in item two, majority of the respondents show that trainees did not get job just after graduation. For open ended questionnaires, they replied that the probability of getting appropriate job related to their field of training was below expectation. As a result, the rates of satisfaction of the graduates in their current job were also very low.

Generally, the finding reveals that the difficulty to get job, the job searching period, the less relevance of job to their area of training makes the graduates unsatisfied and forces them to work outside their field of study with low payment.

iii. Relationship between competence-based learning and graduate employment

Before running multiple regression analysis to address the questions, inspection of variables was made in line with assumptions of multiple regression analysis. For instance, the study examined residual plots and then verified whether assumptions of regression were satisfied. The suitability of the regression analysis was also examined for multi-collinearity by checking tolerance. The result of analysis showed that the tolerance value for each independent variable ranges from 0.000 to 1.00. Hence, multiple regression analysis was conducted to examine the variation accounted by implementation of competence based student centred learning approach in TVET colleges to employability of graduates in the labour market, regression Analysis with CBT Implementation as Dependent Variable and readiness for implementation as independent variable.

Table 6
Model Summary^b

| Model | R | R Square | Adjusted R | Std. Error |
|-------|-------------------|----------|------------|------------|
| 1 | .870 ^a | 0.285 | 0.285 | 3.61522 |

a. Predictors: (Constant), Readiness for implementation.

b. Dependent Variable: CBT Implementation.

Source: Output of SPSS Version-20.

Regression analysis was conducted to investigate the relationship between CBT and graduate satisfaction (training, teaching, learning, assessment). The R –square was 0.230 which means that only 23 % of the variances of graduate satisfaction were explained by CBT implementation.

Table 7
Model Summary^b

| Model | R | R Square | Adjusted R Square | Std. Error |
|-------|-------------------|----------|-------------------|------------|
| 1 | .487 ^a | .230 | .187 | |

a. Predictors: (Constant), CBT implementation.

b. Dependent Variable: graduate Satisfaction.

Source: Output of SPSS Version-20.

IV. Conclusions

Based on the international best practices, the Ethiopian Government has reformed the TVET system in 2008. The result of a study made on the impact of competence based learning on employability of graduates revealed that TVET colleges have tried to use the needs of the labour market and occupational requirements from the world of work for TVET delivery. However, as per the result of the detailed data analysis, inadequate allocation of relevant resource (shortage of teaching materials especially in occupational standards newly developed); scarcity of quality academic and support staff; increased enrolment and insufficient industrial internship bases have affected the successful implementation of competence-based training. These situations also affect TVET colleges not to produce competent graduates who have required employability skill, knowledge and ability that consequentially lead

to graduate unemployment and dissatisfaction of different categories of stakeholders. Moreover, qualitative data revealed that some employed graduates were not able to demonstrate employability skill, knowledge into the job. Furthermore, the low competence of TVET colleges to measure the actual skills needed in the labour market and predicting the number of graduates required from TVET colleges in terms of occupational categories, hinders the effective utilization of market opportunities and causes fragile implementation of competence based learning. The study also identified that the weak collaborative work culture among TVET colleges and that of industries limits the opportunity of exploiting the potential of all stakeholders that enables them to be successful in bringing about the expected output to meet the expectation of respective stakeholders and win their commitment in its real sense.

V. Recommendations

Revealing problems alone does not suggest and/or indicate corresponding solution by itself. Hence, in light of the findings of this study and the conclusion made, the following possible recommendations have been forwarded.

TVET programs should meet the current and future labour market needs. Therefore, to provide higher quality TVET to specific target groups and to design flexible need based TVET curricula, it is recommended that TVET colleges' should constantly consult students, employers, teachers and graduates in setting study profile and learning outcomes, determining teaching, learning, assessment and in monitoring process.

The participation pattern of TVET differs from those in other programs of education, possibly because they require trainees to be employed. However, weak collaborative learning style has created problems and introduced inefficiencies in the system. Therefore, to prepare trainees for employment, TVET colleges need to revise the existing competence based learning approach and strengthen partnership with enterprises. Besides, to maximize their respective participation, TVET colleges should develop corresponding strategies that could produce mutual efforts and benefits.

The study result also showed that some graduates were not satisfied with training approach and competences acquired. They were not employed in the occupation that they have graduated in. Besides, majority of graduates reported that they were dissatisfied with current occupation and earning. Hence, to improve employment opportunity and wage, TVET colleges

should collect evidences on labour market performance of graduate and are supposed to ascertain sound generic and subject specific competences accompanied with relevant curriculum development, courses delivery, assessment and quality assurance.

Finally, the researcher initiates future researchers to conduct further research on the impact of Tuning methodologies on graduate employment in Africa. Because continued study on the issue will support generalization and enhance the implementation of tuning methodology.

Bibliography

- African Union. *The proceedings of the conference of the African Ministers of Education on TVET in Africa*. Meeting of the Bureau of the Conference of Ministers of Education of the African Union (2007), 29-31, Addis Ababa.
- Biemans, Harm. "Vocation and Business Education and Training in Europe: Qualification and the World of Work," *Journal of Vocational Education and Training*, no. 7 (2004), 17-22.
- Colline, Michael. *Competence in Adult Education: A New Perspective*. London: University Press of Oxford, 1987.
- Dyson, Jack. *Skills, Knowledge and Employability*. Geneva: International Labor Office, 2005.
- Deibinger, Mannhiem. *Structures and Functions of Competence-based Education and Training (CEBT): A Comparative Perspective*. In Went, 2005.
- Dicobis and Rithwell. *Competence –based human resource management*. Palo Alto, CA: Davis Black publishing, 2004.
- Frere, Cathryn. *Developing a Competency Based Curriculum*. Virginia: West Virginia University (2010), 9-12.
- Goncizi, Andrew. *Re-conceptualizing competency based education and training*. Sydney: University of Technology, 1996.
- Herschbach, Zidman. *VET management in the United States*. Geneva, 1995.
- International Labour Organization. *Implementing Competency-Based Training (CBT) in Bangladesh*. Bangladesh, 2012.
- Karka, Sandra. *Competency based education and training. Myths and realities*. England: Eric Publications, 1998.
- Kathleen, Santopietro. *Competency based education and content standards*. Colorado: Northern Colorado Literacy Resource Centre, 2006.
- Kudwadi and Suryadi. *Development framework of evaluation model based on skill competency standard in high school technology and vocational education*. Bandung: JPIS FPTKUPI, 2011.
- Ministry of Education. *Guideline on curriculum development*. Addis Ababa: Ministry of Education, 2006.
- . *National TVET Strategy*. Addis Ababa: Ministry of Education, 2008.

- . *TVET Leaders' and Trainers' Qualifications Framework*. Addis Ababa: Ministry of Education, 2010.
- . *Cooperative training guideline*. Addis Ababa: Ministry of Education, 2010. Oromia Education Bureau. Baseline Data in Regional TVET system. Addis Ababa, 2008.
- Tuning Africa. *Tuning and harmonization of higher education: The African Experience*, Bilbao: University of Deusto, 2014.
- United Nations, Education, Scientific and Cultural Organization. "Technical and vocational education and training for sustainable development: The challenges of implementation." No. 10 (2005), 1-4.
- Workington, Jackie. "Curriculum change in engineering." *European journal of engineering education*, no. 27 (2002), 12-17.

About the author

BIRHANE SIME GERESSU (birhanesime2012@gmail.com), PhD, is Associate Professor in the Department of Educational Leadership and Management, College of Education and Behavioural Sciences, Arsi University, Oromia Regional State, Ethiopia. He served as a head of the department of Educational planning and management, Adama science and Technology University from March 2009 to December 2012. In the same University as of March 2012, he was posted to the position of Associate Dean for Research, Postgraduate studies, strategic planning and Administration of the school of Educational Sciences and Technology Teacher Education. As a result of launching Arsi University in December 2014, he has been working with a position of Dean of school of postgraduate studies. Besides, representing Ethiopia in general, Adama Science and Technology University, now shifted to Arsi University, in particular he has been selected as one member of the African Universities, and has been actively participating in all phase I and phase II Tuning EU- Africa strategies seminars held in different African countries.

Impact of competence-based training on employability of Technical and Vocational graduates in Ethiopia

Birhane Sime Geressu

Copyright

Copyright for this article is retained by the Publisher. It is an Open Access material that is free for download, distribution, and or reuse in any medium only for non-commercial purposes; provided any applicable legislation is respected, the original work is properly cited, and any changes to the original are clearly indicated.