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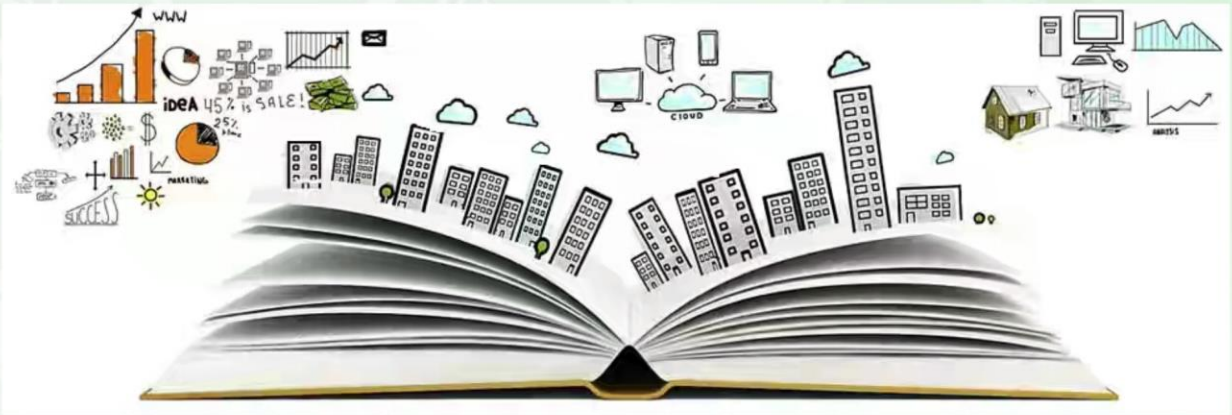
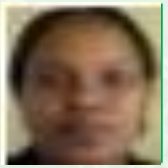


TOWARDS DEVELOPING INDUSTRY-NEEDS BASED CURRICULUM IN TVET PROGRAMMES: **A CRITERIA FOR NATIONAL DEVELOPMENT**



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CAPA 40TH INTERNATIONAL CONFERENCE, ABUJA
AUG 26 - SEPT 1, 2018

PRESENTATION OUTLINES

- Introduction
- Methodology
- Results and Discussion
- Conclusions
- References

Introduction

Education and TVET

- Education is the bedrock of any national development. It is a vital tool for both human and economic development (Orji & Job, 2013).

- The United Nations Educational Scientific and Cultural Organization (UNESCO) defined Technical and Vocational Education Training (TVET) as those aspects of educational process involving the addition to general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life (UNESCO, 2014; UNESCO, 2017).

Present NBTE Curriculum

- The National Board of Technical Education (NBTE) is the regulatory body for technical and vocational institutions studies in Nigeria. The body is responsible for putting together the curriculum run by TVET.

- They also ensure compliance of its use at all levels. The body mandates all institutions under its jurisdiction to use contents only in the available curriculum of the year 2004 and year 2007

- The problem here is that a clear-cut demarcation has not been made between the University curriculum and that of TVET. The TVET programme is established primarily to teach proficiency of skill in individual discipline and graduates from this end to be sound enough to stand on their own. This essence of establishing TVET should be revisited and the Curriculum should be revamped to reflect this (Uwaifo, 2009; Yang, 2008).

Department of Computer Science Curriculum as a Case Study

- National Diploma (ND) Programming Content

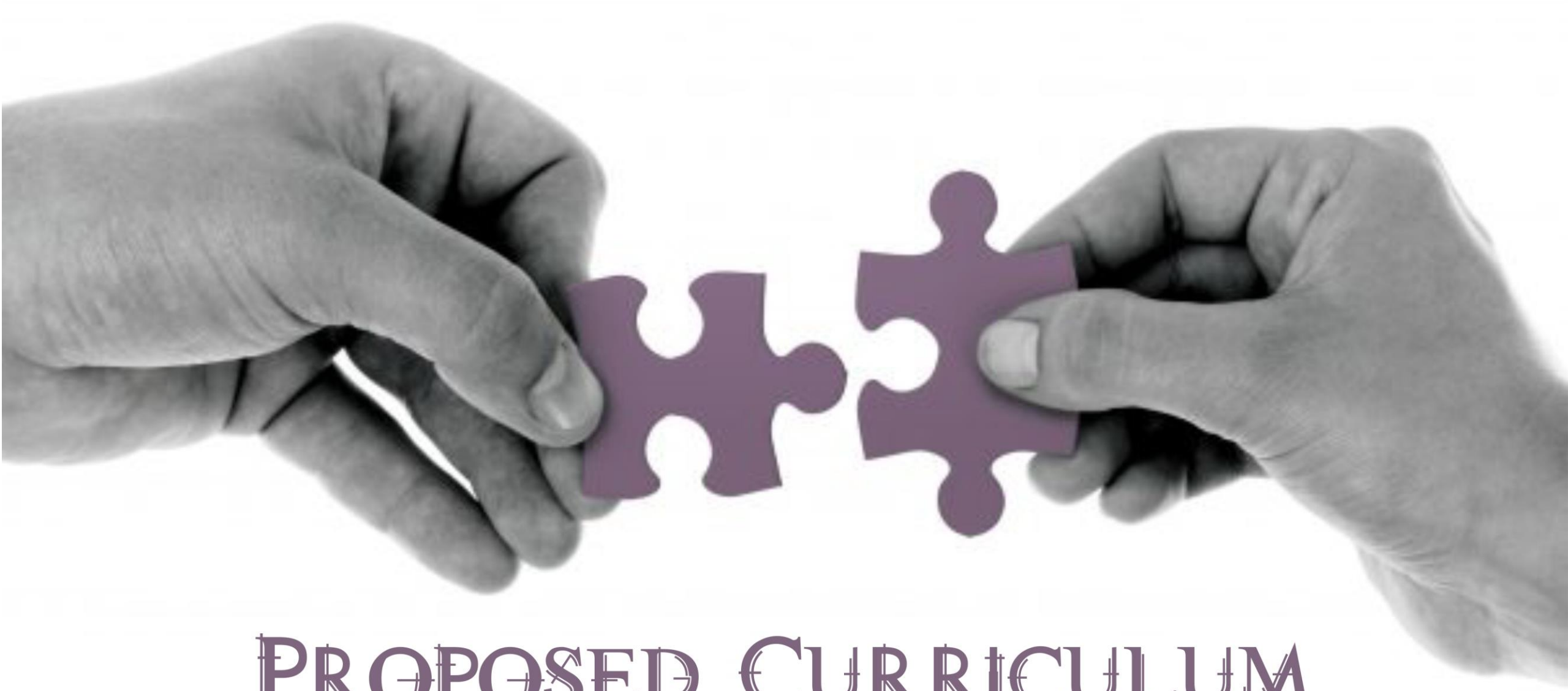
- The National Diploma (ND) 1 first semester contains only 1 programming course out of 9 courses (Introduction to programming). The second semester with only 1 programming course out of 7 courses (Scientific programming using OOJAVA).

- For ND 2 first semester, there are 2 programming courses out of 9 courses (Computer programming using OOBASIC and Commercial Programming language using OOCOBOL). For ND 2 second semester, 2 out of 8 courses are programming courses (Computer programming using OO FORTRAN and Web Technology)(NBTE ND Curriculum, 2004).

Department of Computer Science Curriculum as a Case Study

- Higher National Diploma (ND) Programming Content

- Higher National Diploma (HND) curriculum, first semester HND 1 has 1 programming course as Computer programming using C++ out of 7 courses. The second semester of the same class has 1 programming course also (Assembly language) out of 7 courses. At HND 2, first semester, 1 programming course (Computer Programming using OOPASCAL) out of 6 courses and for the second semester of the same class, no programming course at all (NBTE HND Curriculum, 2004).



PROPOSED CURRICULUM

Industry-need based Curriculum

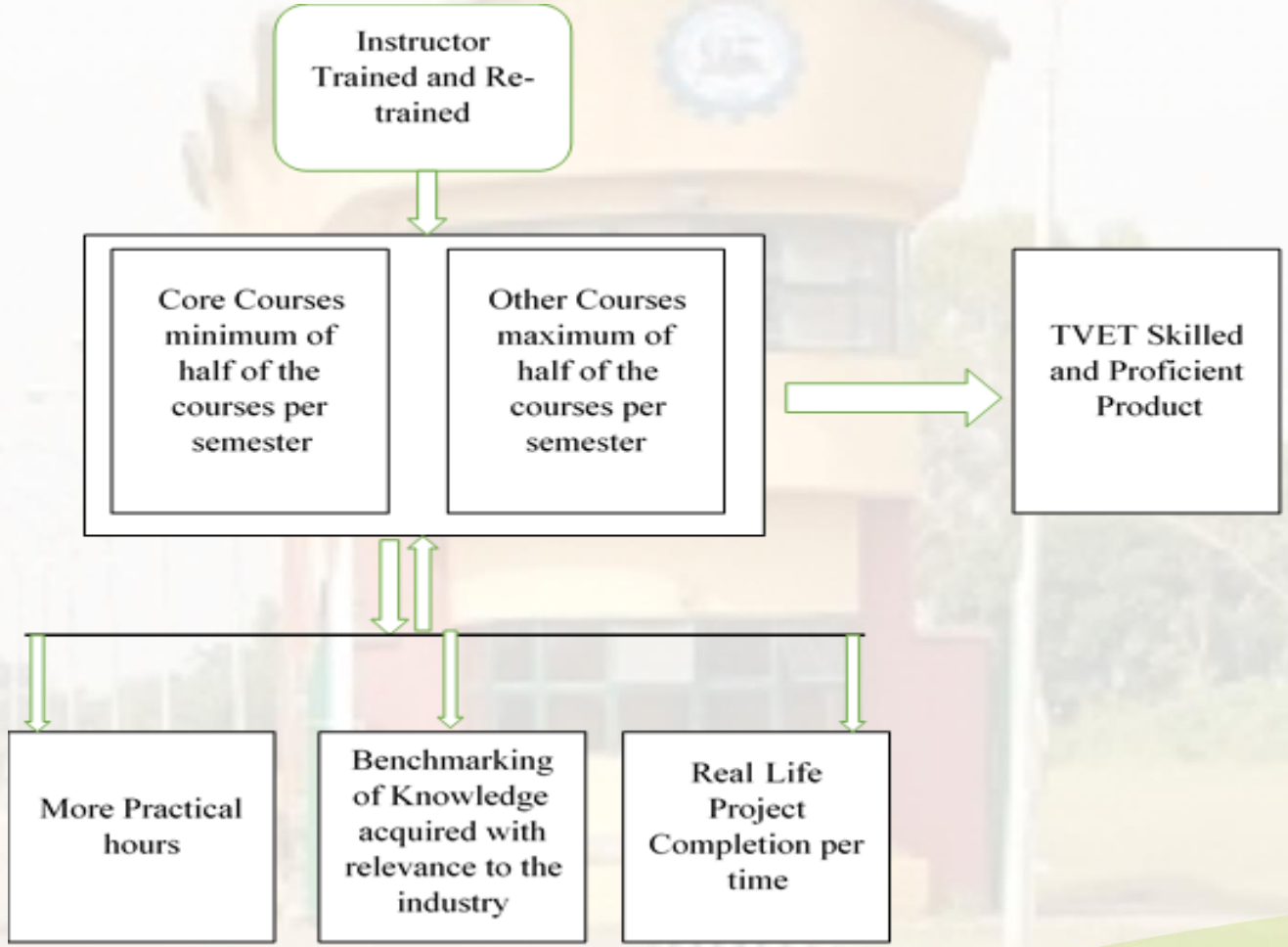


Figure 1. The Proposed Model for Industry-need based Curriculum

Industry-need based Curriculum

- Minimum of half of the courses per semester for each discipline will be the core area that they needed to be skilled and proficient.

- Half or less than half will be spread across the other relevant courses that could assist the core courses

- Using the case study as an example, out of 8 courses, 4 or 5 should be programming courses, while the remaining 3 or 4 courses should be spread across other relevant courses to the core courses.

- For the core courses, thorough, regular and up-to-date practical should be implemented by allocating enough practical hours

Industry-need based Curriculum

- Also, the skill acquired during the certain period should be benchmarked against the skill needed in the industry by carrying out collaborative projects with them

- Finally, the real-life project should be implemented per time to test the depth of knowledge impacted on the students

- Teachers are not left out in this process, they should be trained from time to time to keep pace with current technology and happenings in their own field that will be impacted on the students also

METHODOLOGY

Methodology

- The survey was the method adopted

- A sample of 50 past students of the Department of Computer Science working in the Information Technology firms as developers were randomly selected in their various firms to identify whether the skills and knowledge acquired were sufficient for their career take-off including their general perception on TVET programmes.

- The form of the questionnaire used provided an easy and quick way of collecting objective information from primary sources without necessarily allowing the respondents to strain his or her brain for answers.

- Descriptive and Inferential method of data analysis was applied to scale statements and examine the order of importance using frequency and percentage table and pictorial representation. The analysis was done using Statistical Package for Social Sciences (SPSS) Version 20 (IBM Inc.).

Results & Discussion

Statistical Analysis

Table 1: Frequency and Percentage Analysis of Participants Perception to TVET

Item Nos.	Variables	Participants' Response Level				
		SD	D	U	A	SA
1	TVET programmes contribute to the skilled workforces of the country for national development	2 (4.0)	2 (4.0)	4 (8.0)	20 (40.0)	22 (44.0)
2	TVET curriculum equipped me with everything needed for the world of work and become an economically active citizen as a former student of TVET	20 (40.0)	20 (40.0)	- (-)	6 (12.0)	4 (8.0)
3	The present TVET curriculum used in training entails what is required to handle specific jobs through the relevant knowledge and skills that enhanced employability.	21 (42.0)	21 (42.0)	1 (2.0)	5 (10.0)	2 (4.0)
4	There is specific skills acquisition training that must be acquired in order to fit into the labour market demand and be relevant.	- (-)	- (-)	- (-)	15 (30.0)	35 (70.0)
5	Going through further skill acquisition training after using present TVET curriculum for training is required for employment opportunities so as to complement what obtains in the fast-growing IT world.	7 (14.0)	5 (10.0)	- (-)	21 (42.0)	17 (34.0)
6	A robust and new TVET curriculum that captures the industry needs will be required to have TVET products employable without further training	4 (8.0)	3 (6.0)	- (-)	18 (36.0)	23 (46.0)

- Table 1 depicts the participants' perception of Development of Industry needs-based curriculum in TVET Programmes

Statistical Analysis

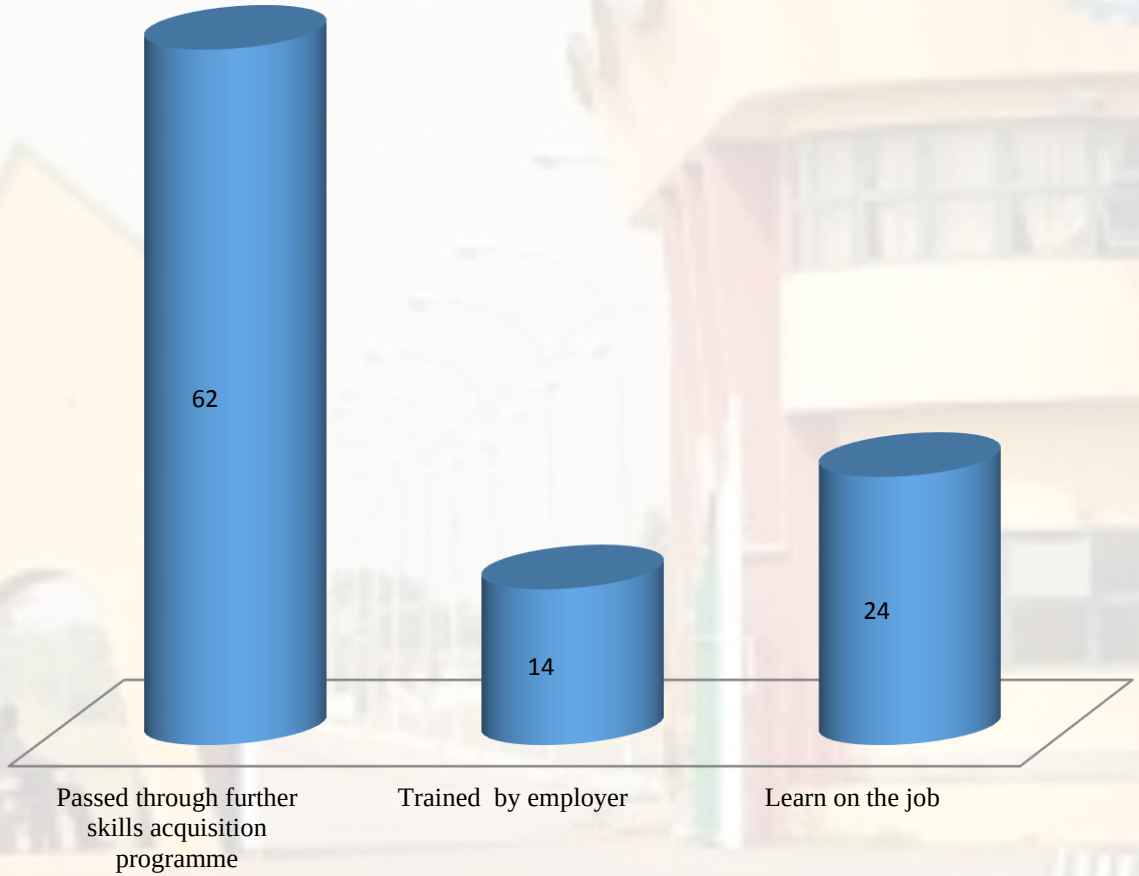


Figure 2: Distribution of Participants Perception to Employment

- Descriptive and Inferential Statistical analysis were carried out on 50 graduates of the department of Computer science explicitly working in Information Technology (IT) firms as Developers

- Figure 2 shows that before the participants could be actively integrated into the labour market demand, 62% of them had to pass through further skills acquisition programme, 14% were trained by the employer while 24% learn on the job.

Statistical Analysis

Table 2: Analysis of Variance

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	24.663	2	12.331	1.690	0.195
Within Groups	342.857	47	7.295		
Total	367.520	49			

Dependent Variable = Total Response Factor = Position in the Organization

- Analysis of variance in Table 2 depicts the significant difference between participants' mean response perception to TVET programmes and their position in the IT firm. Inferential statistics revealed that mean response of participants position in their respective IT firms do not significantly differ in their perception of TVET programmes with F = 1.690 and Sig. 0.195 > 0.05

Conclusion

- The analysis from this study supports the fact that the current curriculum being used in TVET educational institutions are insufficient to equip the products of TVET for the demands in the industry as there are missing links that needed to be filled up.

- The curriculum needs redesigning with contents enriched with practical that meets industrial needs. The National Board of Technical Education alongside with professional bodies in different fields must take up this responsibility and ensure the review is done from time to time if the nation intends to have a sustainable economic development.

- Also, the government should put in place strategies that protect TVET products from being treated inferior to their university counterpart so that they can comfortably use the practical skill and training acquired to the advantage of the nation for economic development.

Acknowledgement

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Thank You
For Listening

QUESTIONS