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Vocational Technological Education Teachers on Facing Challenges of the Restructured Curriculum

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Abstract: Using descriptive research design, this study aimed to evaluate the experiences of Vocational Technological Education (VTE) teachers regarding the adequacy of the tools and equipment they are utilizing in their respective institutions in the areas of Information and Communications Technology (with specialization in computer hardware servicing and technical drafting), Home Economics (with specialization in cookery and dressmaking) and Industrial Arts (with specialization in electrical installation and maintenance and consumer electronics servicing). It also investigated the areas of concern that teachers have encountered as VTE teachers and their proposed measures to meet them. The study found out that adequacy of tools and equipment in teaching VTE in the Department of Education was observed in computer hardware servicing and cookery while inadequacy of materials in technical drafting, dressmaking, electrical installation and maintenance and consumer electronics was noticed. Challenges encountered by VTE teachers on facing the restructured curriculum deals on lack of project materials and completion requirements for students and insufficiency of reading materials and substandard laboratory shop facilities. The recommendations offered by the respondents to meet the challenges include: resourcefulness and creativeness on the part of the teachers in devising instructional materials and textbooks; updating of equipment and tools and strict monitoring and maintaining of facilities to be done by school officials; and additional hands-on training and relevant assessments for teachers and students spearheaded by the supervisor of VTE.

Keywords: Vocational Technological Education Teachers, Information and Communications Technology, Home Economics, Industrial Arts, Restructured Curriculum.

INTRODUCTION

Many educators claimed that Vocational Technological Education (VTE) is the key to the economic and sustainable development of a country. However, the lack of skills that are valued in global and local economies constrains economic growth, jobs and income of many countries especially the third world countries. To address this problem, honing the youth of today is very essential.

According to the author in [1] as cited in [2], a good, demand-driven technical and vocational education and training is potentially one of the most important tools in developing young people's skills. For this reason, many countries are restructuring and introducing reforms in their vocational education system. In Ghana, reform in VTE was focused on the quality of provision and learning outcomes to make it more accessible and attractive to all VTE students and to ensure it is relevant and connected to the world of work [3].

Singapore's unique feature of its educational system is its robust and broad-based technical and vocational education segment. Polytechnics and the Institute of Technical Education educate some two-thirds of students equipping them with skills for employment and entrepreneurship in a high value economy and further education [4]. In a review conducted by the author in [5] regarding the challenges, outcomes and present situation in vocational education and training (VET) programs in some Asian countries. Various country specific studies indicate that the VET system has not responded very well in the South East Asian Region. Despite the growing demand for a skilled labor force in the region, the labor market outcomes of those who have followed the vocational path are not good.

In the Philippines, one of the aims why the restructured new curriculum (K-12) was implemented in 2012 was to train students to be skilled workers so that they will be ready to join the workforce after completing Senior High School. They will be equipped

with vocational skills that will make them proficient in their chosen field.

The abrupt implementation of the new curriculum drew many negative reactions from different groups. Before its implementation, many critics were vocal in their concerns about the readiness of the government and preparedness of the schools and teachers under the Department of Education to implement the new system. Major concerns are about lack of rooms, facilities and equipment especially those who will offer Technical-Vocational courses.

A similar serious concern came from Fr. Onofre G. Inocensio, Jr., SDB, Superintendent of Don Bosco Schools and TVET Centers, on "Implementing the SHS–Tech-Voc Track." Basically, Fr. Inocensio explained that the senior high school "core curriculum" requirement is so heavy that there would be no time to develop the hands-on skills in the students that such as the manufacturing industry requires. There is adequate time to train manicurists and pedicurists, but shall these provide the skills necessary for industrial development of the nation. Within the time-constraints of the senior high school, Fr. Inocensio's thesis claimed that it is not possible to truly develop the multi-skilled students needed for industry [6].

It is in this regard that this study was conceptualized. This will focus on the evaluation of the Vocational Technological Education (VTE) teachers regarding the adequacy of the tools and equipment they are using in their respective institutions in the areas of information and communications technology (ICT), home economics (HE) and industrial arts (IA). Likewise, it will also look into the areas of concern that teachers have encountered as Voc-tech teachers and their proposed measures to meet them. Findings of the study will serve as benchmark for the Dep. Ed. teachers and researchers to devise plan of actions and interventions that will help improve the VTE program. Thus, helping the government in achieving its goal of producing better skilled workers not only in the province but in the entire country, as well.

MATERIALS AND METHODS

This study utilized descriptive research design. The respondents of the study were 40 Voc-tech teachers of the Department of Education who were enrolled in the Nueva Ecija University of Science and Technology under the program Master of Arts in teaching major in Vocational Technological Education. The questionnaire used to gather data was constructed by the researchers. It was content and face validated by experts in the field while the reliability of the instrument was established using test-retest method. The reliability coefficient of the questionnaire is 0.90 indicated that it was reliable. Data gathered from the instrument were statistically treated using frequency, percentage and weighted mean. The scoring of the responses for the extent of adequacy of tools and equipment in the areas of ICT (with specialization in computer hardware servicing and technical drafting), HE (with specialization in cookery and dressmaking) and IA (with specialization in electrical installation and maintenance and consumer electronics servicing) are:4-Very Adequate (Very Good), 3-Adequate (Good), 2-Inadequate (Poor), 1-Very Inadequate(Very Poor), while for the problems encountered in teaching as to students and physical facilities are:4-Very Serious, 3-Serious, 2-Slightly Serious, 1-Not a Problem. Open ended question regarding the possible solution to address the problems met by the respondents was also incorporated in the questionnaire.

RESULTS AND DISCUSSIONS

Adequacy of tools and equipment in Information and Communications Technology

Table-1: Adequacy of Tools and Equipment in ICT

Information and Communications Technology		
A. Computer Hardware Servicing	Weighted Mean	Verbal Description
1.Desktops	3.12	Adequate
2.Keyboards and Mouse	3.15	Adequate
3.Speakers	2.93	Adequate
4.Chassis	3.00	Adequate
5.Motherboard	3.15	Adequate
6.System Fan	2.93	Adequate
7.Floppy Disk Drive	2.85	Adequate
8.Hard Drive	3.22	Adequate
9.Optical Drive	3.22	Adequate
10.Power Supply	3.24	Adequate
11.Compele Servicing Tools	2.95	Adequate
Overall Weighted Mean	3.07	Adequate
B. Technical Drafting		
1.Cabinets for Drawing Instruments	2.15	Inadequate
2.Drawing Tables	2.12	Inadequate
3.Software Sets (such as Autocad,etc.)	2.24	Inadequate
4.Tack boards for display purposes	2.00	Inadequate
5.T-square and Drawing Instruments	2.02	Inadequate
6.Storage Case and Filing Cabinet	2.17	Inadequate
Overall Weighted Mean	2.12	Inadequate
Grand Weighted Mean	2.59	Adequate

Legend: 1.00 to 1.74 Very Inadequate; 1.75 to 2.49 Inadequate; 2.50 to 3.24 Adequate; 3.25 to 4.00 Very Adequate

Table (1) revealed that the tools and equipment are adequate in the area of Information and Communications Technology (ICT) with specialization in computer hardware servicing (OWM=3.07) especially power supply (WM=3.24), hard drive (WM = 3.22) and optical drive (WM = 3.22). This finding tends to convey that things utilized in teaching and learning computer hardware servicing in computer hardware servicing are sufficient.

However, tools and equipment are inadequate in the area of ICT with specialization in technical drafting (OWM=2.12) particularly tack boards for display purposes (WM=2.00), T-square and drawing instruments (WM = 2.02) and drawing tables (WM = 2.12). This proves that stuffs used in studying technical drafting lack the required quantity.

Overall, tools and equipment in information and communications technology in the school of the respondents were adequate. This implies that they can provide good vocational and technical education in ICT especially in computer hardware servicing.

Adequacy of tools and equipment in Home Economics

Table (2) showed that there are adequate tools and equipment in the area of home economics (HE) with specialization in cookery (OWM=3.12) particularly storage cabinets (WM=3.20), food utensils (WM=3.17) and cooking pots and pans. This finding manifested that materials employed in Home Economics are enough.

Table-2: Adequacy of Tools and Equipment in Home Economics

Home Economics		
A. Cookery	Weighted Mean	Verbal Description
1.Cooking Pots and Pans	3.15	Adequate
2.Food Utensils	3.17	Adequate
3.Cabinet for Keeping Utensils	3.05	Adequate
4.Fire Extinguisher	3.12	Adequate
5.Gas Stove	3.05	Adequate
6.Storage Cabinets	3.20	Adequate
Overall Weighted Mean	3.12	Adequate
B. Dressmaking		
1.Sewing Set	2.46	Inadequate
2.Edger Machine	2.15	Inadequate
3.Filing Cabinet	2.07	Inadequate
4.Sewing Machine	2.41	Inadequate
5.Boards for Display Purposes	2.15	Inadequate
6.Wooden Mannequin's for Display Purposes	2.34	Inadequate
Overall Weighted Mean	2.26	Inadequate
Grand Weighted Mean	2.69	Adequate

Legend: 1.00 to 1.74 Very Inadequate; 1.75 to 2.49 Inadequate; 2.50 to 3.24 Adequate; 3.25 to 4.00 Very Adequate

But as for the tools and equipment used in the area of HE with specialization in dressmaking, inadequacy of the materials was very evident especially filing cabinet (WM=2.07), edger machine (WM=2.15) and boards for display purposes (WM=2.15). The result clearly exhibited that things used in the teaching and learning of dressmaking was not enough.

When taken collectively, tools and equipment in home economics, in the school where the respondents are employed, were adequate implying that they can address the needs of the learners particularly in learning how to cook food and they can provide good vocational and technical education in HE particularly in cookery.

Adequacy of tools and equipment in Industrial Arts

Table (3) exhibited that inadequacy of tools and equipment were noticeable in the two considered areas of industrial arts (IA) such as electrical installation and maintenance (OWM=2.10) and consumer electronics servicing (OWM=2.22). The top 3 insufficient materials in electrical installation and maintenance were hydrometer (WM = 2.05), coil winding machine (WM=2.05) and air compressor (WM=2.07).

Table-3: Adequacy of Tools and Equipment in Industrial Arts

Industrial Arts		
A. Electrical Installation and Maintenance	Weighted Mean	Verbal Description
1.Air Compressor	2.07	Inadequate
2.Alternator	2.12	Inadequate
3.Coil Winding Machine	2.05	Inadequate
4.Hydrometer	2.05	Inadequate
5.Oscillator Audio Range	2.10	Inadequate
6.Oscillator Beat Frequency	2.12	Inadequate
7.Portable Drill (Light and Heavy)	2.22	Inadequate
Overall Weighted Mean	2.10	Inadequate
B. Consumer Electronics Servicing		
1.File Set, needle, 5 ½"	2.10	Inadequate
2.Set of Screw Drivers	2.12	Inadequate
3.Long Nose Pliers 6"	2.20	Inadequate
4.Soldering Iron	2.27	Inadequate
5.Soldering Tool, Double End	2.27	Inadequate
6.Electrician's Pocket Knife	2.27	Inadequate
7.Tool Bag/Case	2.32	Inadequate
Overall Weighted Mean	2.22	Inadequate
Grand Weighted Mean	2.16	Inadequate

Legend: 1.00 to 1.74 Very Inadequate; 1.75 to 2.49 Inadequate; 2.50 to 3.24 Adequate; 3.25 to 4.00 Very Adequate

Likewise, lack of file set, needle, 5 ½" (WM=2.10), screw drivers (WM=2.12) and long nose pliers 6" (WM=2.20) were identified insufficiency in the materials of industrial arts.

Overall, tools and equipment in industrial arts provided by the school of the respondents to their students were inadequate. This implies that they cannot give good vocational and technical education as to electrical installation and maintenance and consumer electronics servicing.

Problems encountered in teaching Vocational Technical Education subjects

Table (4) displayed that the problems encountered by teachers in students (WM=2.21) and physical facilities (WM=2.35) were slightly serious.

Lack of project materials (WM=2.73) and completion requirements (WM=2.51) were considered serious problems while lack of communication skills and aptitude/interest in the subjects were not a problem encountered by the teachers in their students. This implies that students have abilities to do things they are required to do and submit on time if complete materials were provided to them. Moreover, serious problems were also observed by the teachers regarding the insufficiency of textbooks and other reading materials (WM=2.54) and substandard laboratory shop facilities (WM=2.53).

The respondents suggested the following to address the problems met:

"Teachers must be resourceful and be creative to minimize or lessen the inadequacy in project materials". "VTE teachers should be engaged in devising materials and in developing textbooks especially for different trade skills".
"The administrators and Department of Education officials should find ways and means to update equipment and buy updated tools".
"The Government may allot additional funds to provide adequate number of laboratory tools and additional units of equipment to accommodate large number of students per class".
"There should be an office in each district that will regularly maintain the facilities, equipment and shop of the VTE schools".
"Additional hands-on training and seminar for teachers and students' assessments should be provided by each division headed by the Supervisor in-charge of the TVE".

Table-4: Problems Encountered by Teachers

Problems Encountered		
A. Students	Weighted Mean	Verbal Description
1.Lack of Communication Skills	1.74	Not a Problem
2.Lack of Aptitude/Interest in the Subject	1.73	Not a Problem
3.Lack of Project Materials	2.73	Serious
4.Punctuality and Regularity in Attendance	2.32	Slightly Serious
5.Lack of Participation in Shop Work Laboratory	2.24	Slightly Serious
6.Completion of Requirements	2.51	Serious
Overall Weighted Mean	2.21	Slightly Serious
B. Physical Facilities		
1.Obsolete Equipment	2.05	Slightly Serious
2.Substandard Laboratory Shop Facilities	2.53	Serious
3.Lack of Textbooks and other Reading Materials in the Library	2.54	Serious
4.Lack of Shop Manuals for Teachers	2.17	Slightly Serious
5.Small Size of Shop Rooms	2.39	Slightly Serious
6.Overcrwoded class (Too many students enrolled per class)	2.41	Slightly Serious
Overall Weighted Mean	2.35	Slightly Serious
Grand Weighted Mean	2.28	Slightly Serious

Legend: 1.00 to 1.74 Not a Problem; 1.75 to 2.49 Slightly Serious; 2.50 to 3.24 Serious; 3.25 to 4.00 Very Serious

CONCLUSIONS AND RECOMMENDATIONS

Adequacy of tools and equipment in teaching Vocational Technical Education in the Department of Education was observed in computer hardware servicing and cookery while inadequacy of materials in technical drafting, dressmaking, electrical installation and maintenance and consumer electronics was noticed.

Challenges encountered by VTE teachers on facing the restructured curriculum deals on lack of project materials and completion requirements for students and insufficiency of reading materials and substandard laboratory shop facilities.

The recommendations offered by the respondents to meet the challenges include: resourcefulness and creativeness on the part of the teachers in devising instructional materials and textbooks; updating of equipment and tools, strict monitoring and maintaining of facilities to be done by school officials; and additional hands-on training and relevant assessments for teachers and students spearheaded by the supervisor of VTE.

However, since this study investigated only the evaluation and experiences of 40 Department of Education teachers who are enrolled in MAT-VTE in NEUST, the findings of the current study does not translate to the entirety of the situation of the VTE in the whole province, thus, the researchers recommend that further research which includes more respondents and more VTE areas may be conducted to further validate the result of the study.

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