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Full Length Research Paper

Competencies of technical-vocational teachers of the College of Education: Bases for comprehensive training program

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ABSTRACT

The Bulacan State University evolved from being a school of arts and trades before becoming a state university as it is now. The university charter mandates that the institution shall provide higher technical education primarily to the people of the province of Bulacan and its neighboring provinces. Bulacan State University is known in producing highly skilled graduates in terms of garments technology, food technology, cosmetology, building technology and other technical vocational areas that was because faculty members then where experts of a specialized field. When a paradigm shift in the education system took place, teachers of technical vocational education became jack of all trade because they were mostly graduates of a major known as technology and livelihood education. As a result when referring to specialized set of competency standards set by Technical Skills Development Authority (TESDA) many teachers lack the needed competency. With the retirement of many specialized teachers of Bulacan State University what were left to teach were teachers who where actually graduates of Technology and Livelihood Education. Since TESDA has provided competencies based on the international standard the researcher would like to find out if the level of competencies of the incumbent teachers as regard to the competencies set by Technical Skills Development Authority (TESDA). These competencies were pertaining to those defined by TESDA in each of each test packages being used in assessment for the issuance of National Certification I-IV. The instrument developed made used of the competencies identified by Technical Education Skills Development Authority (TESDA). Research instrument was duly evaluated and validated by experts in the field of technical-vocational education. Respondents of the study were all technical vocational teachers of Bulacan State University from the college of education including laboratory high school. Data gathered were tallied, tabulated using frequency, percentage and weighted mean. Result indicated that majority of the technical- vocational teachers were moderately competent in the various competencies identified by TESDA as indicated by the overall weighted mean of 2.73. Technical – vocational education faculty members of the university is ready for the shift of the Philippine education system but further training is highly suggested. As a result an intervention program in form of training will be the output of this research.

Keywords: Competencies, technical vocational, training program.

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INTRODUCTION

Technical-vocational education is not new in Bulacan State University since its humble beginning was from being a school of arts and trades until becoming a state university. The university then produced highly skilled graduates in technician education because teachers then were graduates of specialized fields like cosmetology, woodworking, electronics, automotive, drafting, welding, plumbing and many others. However, due to the changes in educational system the university's teachers became mostly graduates of technology and livelihood education.

The course does not prepare graduates to become expert in one area but rather students under it has to take various subjects making the graduate jack of all trade instead of concentrating on one area. Due to retirement of many expert teachers, most of the teachers handling technical- vocational educational subjects were no longer expert in one particular area since they had to pass through all areas of technology and livelihood education. With this observation the researcher conducted the study to find out what is the level of competency of technical-vocational teachers of the college of education based on the competencies set by TESDA.

K to 12 curriculum has technical-vocational track and therefore those teachers handling the subjects in said track must be experts or specialist.

In the K to 12 curriculum, the students of grade 7 will have to pass through all four (4) areas of technology and livelihood education but need to concentrate in one area once they reached grade 9. From grade 9 to grade 12 the student will focus on studying only one area of the technical vocational track. Since the students will undergo comprehensive training in one area of technical-vocational track, after graduation they may be given a chance to be recognized as technician or professionals in other country.

The same applies to Bachelor of Technical Teacher Education since they will teaching specialized field it is but ideal that teachers handling their major subjects be experts as well.

In line with this, teachers handling the Bachelor of Technical Teacher Education and technical-vocational subjects in the laboratory high school should gear up to meet international standards. Technical-vocational teachers need to take the national certification program ofTechnical Education Skills and Development Authority (TESDA) for them to be qualified to teach the various technical vocational subjects under the Bachelor of Technical Teacher Education program.

Statement of the problem

The general problem of the study is: How may the competencies Technical-Vocational Education faculty members of the college of education of Bulacan State University be assessed as bases for comprehensive training?

Specifically, the study seeks to answer the following question:

1. How may the faculty members' profile be described in terms of the following:
    1.1 educational background and;
    1.2 field of specialization?
2. How may the competencies of Technical Vocational Education teachers be measured based on the National Certification criteria?
    2.1 Agri- Fishery;
        2.1.1 Animal Production
        2.1.2 Horticulture
    2.2 Home Economics;
        2.2.1 Garments Technology
        2.2.2 Beauty Care and Nail Care
        2.2.3 Bread and Pastry Production
    2.3 Industrial Arts
        2.3.1 Consumer Electronics Servicing
        2.3.2 Drafting Technology
        2.3.3 Woodworking
        2.3.4 Auto servicing
    2.4 Entrepreneurship
        2.4.1 Bookkeeping?

3. Based on the result of the study, what training may be initiated to enhance the competencies of faculty members for the national certification?

The result of this study is believed to be beneficial to the following:

The results of this research will be beneficial to the technical-vocational faculty members since they will be given an assessment activity that will gauge their level of competencies in the different areas of the technical-vocational tracks.

This will give an idea to the administrators what type of training should be conducted to prepare the faculty members towards the requirements of the National Certifications which is a requirement of the Philippine Qualifications Framework. Result will also be used as basis for budget allocation in the professional development of the faculty members.

Should there be another research to be conducted along technical-vocational education, the researcher suggests that other aspects not included in this study be given attention by future researchers.

Respondents of the study were all seventeen (17) technical-vocational education teachers of the college of education including laboratory high school.

Competency

Competency (mistakenly popularly known as Competence) is a standardized requirement for an individual to perform a specific job properly. According to Wikipedia (2016), competence encompasses a combination of knowledge, skills, and behavior utilized to improve performance. More generally, competency is the state or quality of being adequately or well-qualified, having the abilityto perform a specific role.

For instance, management competency includes the traits of systems thinking and emotional intelligence, and skills in influence and negotiation. A person possesses a competency as long as the skills, abilities and knowledge that constitute that competency is a part of that person, enabling the person to perform effective action within a certain workplace environment. Therefore, one might not

lose knowledge, a skill, or an ability, but still lose a competency if what is needed to do a job well changes.

According to Wikipedia (2016), competency is also used to work with more general descriptions of the requirements of human beings in organizations and communities. Examples are education and other organizations that want to have a general language to tell what a graduate of an education must be able to do in order to graduate or what a member of an organization is required to be able to do in order to be considered competent. An important detail of this approach is that all competencies have to be action competencies, which means that a person shows in action that that person is competent. In the military, the training system for this kind of competency is called artificial experience, which is the basis for all simulators.

Furthermore, Wikipedia (2016) cited that competency is shown in action in a situation and context that might be different the next time a person has to act. In emergency contexts, competent people will react to the situation following behaviors they have previously found to succeed, hopefully to good effect. To be competent, a person needs to be able to interpret the situation in the context and to have a repertoire of possible actions to take and have trained in the possible actions in the repertoire, if this is relevant. Regardless of training, competency grows through experience and the extent of an individual to learn and adapt.

However, there has been much discussion among academics about the issue of definitions. The concept of competency has different meanings, and continues to remain one of the most diffused terms in the management development sector, and the organizational and occupational literature.

Competencies have been prepared in order to determine real working conditions which may have different degrees of complexity, variety, and autonomy. Such degrees represent the different levels of competency required for the performance of a job.

Within the competency standardization and certification system of the United Kingdom, levels have been structured after the analysis of productive functions. The objective was to define a reference framework which could be broad enough to maintain the sense of flexibility and keep individuals' possibilities of transferring their competencies to new labour contexts.

The definition of levels of competency is considered within the structure of standardized systems of labour competency certification. By using this structure, it is feasible to view the possibilities of promotion and transfer among different qualifications.

Boahin (2018) the term 'competence' and 'competency' are confused in the literature and defined from several viewpoints from different researchers. Most of these definitions are centred around "descriptions of work tasks", that is; what a person has to do in a job and "description of behaviour" i.e; how a person does their job. Furthermore he cited that competence is the ability based on work task' and competency(ies) as ability based on behaviour (Whiddett and Hollyforde, 2003). Meanwhile, he further cited the statement of Armstrong (2005) that argues that while competency is a person-related concept, competence is a work-related concept. Supporting the argument, Kouwenhoven (2003) said that 'Competency' is the capability to apply an integrated combination of knowledge, skills and attitudes to perform a task in a given context whilst competence connotes the capacity to accomplish 'up to standard' the key occupational tasks that characterise a profession. Simply put, competences are usually role or job-specific while competencies can cover a wide range of different jobs ((Whiddett and Hollyforde, 2003). It can deduced from the foregoing that competency defines the necessary knowledge, skills, experience and attributes to carry out specific function effectively whilst competence connotes the capability to effectively perform a given task at both individual and organisational levels using required skills, traits, characteristics and behaviours.

Furthermore Boahin emphasized that in recent times, the economy of every nation needs adaptable and flexible workers, supervisor, trainers, bureaucrats and managers. Therefore, the need for routine, technical task skills is declining and that economic aims of every nations are becoming more strategically focused with holistic work approach. Many progressive employers are recognising that the narrow specific approaches to job training are far from adequate to meet their future strategic needs. Competence therefore should be described in general terms as being able to perform whole work roles rather than just specific skills and tasks to the standards expected in employment in real working environments. It must be emphasized that acquiring and developing competences is more than learning a set of skills (Kouwenhoven, 2009).

Meanwhile Wahha (retrieved 9/20/2018) discussed in his article that competency is defined as the individual's ability to use, apply and demonstrate a group of related awareness, knowledge, skills and attitudes in order to perform tasks and duties successfully and which can be measured against well-accepted standards (levels) required in employment as well as assessed against provided evidences at work location. The competency affects both individual's job responsibility and performance on the job and usually fall into two categories, namely technical and behavioral. According to him, the key aspects of the definition of competency are: (1) any job / occupation can be effectively and sufficiently described in terms of the tasks that successful workers in that occupation perform, (2) all tasks have direct implications for the awareness, knowledge, skills, and attitudes, (3) competencies that workers / trainees must acquire in order to perform the tasks correctly, (4) assessment is made on how the individual is actually performing work, (5) an individual is

incompetent no matter how much knowledge he has, as long as he can't apply his knowledge and skills appropriately at work location, (6) the assessment must be objective by conducting it against defined Competency Standards (Levels).

The definition of competency implies a more formal, objective process of assessing performance by clearly knowing what is being assessed and how it is assessed. This approach is quite different than most of the past performance assessment practices utilized in the industry.

Wahha further reiterated that one of the most important and significant developments in the Technical Vocation Education and Training (TVET), was the development of Competence Based Standards to support the design of training programmes and curricula. According to Wahha the instrument developed to enable this change is the concept of an occupational or educational 'standard (level)'. The standard elaborates the level of competence required to perform successfully in an occupation and that description is used, in turn, to develop a closely aligned curriculum.

RESEARCH METHODS

This study employs the descriptive survey method of research. It is the most popular method of gathering data or information through the use of questionnaires, unstructured interview and observations.

Research questionnaire was the main tool used in data gathering for this study. A research questionnaire was prepared and used in gathering information from the respondents. One set of questionnaire was answered by the technical-vocational teacher- respondents. Research instruments were taken from the competencies identified by Technical Education Skills and Development Authority (TESDA). After the research instrument was drafted, the instrument was validated by five (5) experts technical-vocational and an expert in statistics and research writing to make the instrument more credible.

The questionnaire for technical-vocational teachers had two (2) parts.

Part I covered the profile of the faculty respondents, such as age, gender, length of teaching experience, relevant trainings and seminars and field of specialization.

Part II covered the technical-vocational teachers' level of competencies in the various areas like animal production, horticulture, garments technology, beauty care (nail care), bread and pastry production, consumer electronics servicing, drafting technology, woodworking, auto servicing and bookkeeping.

Respondents were all seventeen (17) technical-vocational teachers of the college of education including laboratory high school.

In taking initial data like the population of technical-vocational teachers the data from the office of the Dean was used. Permission to conduct the study was sourced from the college Dean. Once approved, the questionnaires were distributed personally to all seventeen (17) teacher respondents.

For the profile of the technical-vocational teachers' respondents the frequency and percentage were used to describe the data. In gauging the level of competencies of technical-vocational education teachers the weighted mean was used.

The scale in Table 1 served as guide in identifying the level of competencies of the technical-vocational education teachers.

Table 1. Scale.

Range	Verbal interpretation
4.51-5.0	Highly competent
3.51-4.50	Competent
2.51-3.50	Moderately competent
1.51-2.50	Slightly competent
1.0-1.50	Not competent

RESULTS AND DISCUSSION

In terms of the educational qualification most the respondents were masters degree holder as indicated in the frequency of 9 or 52.94% while the bachelor's degree and doctoral degree both posted a frequency of 4 or 23.52% and most of the respondents were of various majors like garments technology with frequency of 2 or 11.76%, food technology 3 or 17.64%, drafting technology with 4 or 23.52%, electronics/electrical with 2 or 11.76%, work education with 2 or 11.76%, technology and livelihood education with 3 or 17.64 and cosmetology with 1 or 5.8% (Table 2).

In animal production, the item that registered the lowest is item number 12 which asked about competency in selection and management of goats and sheep with a weighted mean of 2.35 moderately competent while the highest is competency in the selection and use of farm tools with a weighted mean of 2.76 also moderately competent which resulted to the grand mean of 2.59 interpreted as moderately competent (Table 3). The result opposes the competency stated in the Arkansas Teaching Standard for Teachers of Agriculture for grades 7-12 which stated that teachers of agriculture should have the ability to classify, evaluate, and select animals based on anatomical and physiological characteristics. Though the standard cited was not on the Philippine context it is believed that teachers competencies in agriculture be at par with other countries.

In the area of horticulture, the lowest mean were recorded to the competencies in performing preventive

Table 2. Profile of the respondents.

Parameter	Frequency	Percentage
Degree level		
Doctorate	4	23.52
Masters	9	52.94
Baccalaureate	4	23.52
Total	17	100
Major/ field of specialization		
Garments Technology	2	11.76
Food Technology	3	17.64
Drafting Technology	3	23.52
Electronics/ Electrical Technology	2	11.76
Work Education	2	11.76
Technology and Livelihood Education	3	17.64
Automotive Technology	1	5.8
Cosmetology	1	5.8
Total	17	100

Table 3. Weighted mean for competency in Agriculture.

Competencies	WM	Verbal Interpretation
A.AGRICULTURE		
ANIMAL PRODUCTION		
1. Select and use farm tools.	2.76	Moderately Competent
2. Select and operate farm equipment.	2.59	Moderately Competent
3. Perform preventive maintenance.	2.65	Moderately Competent
4. Perform estimation.	2.65	Moderately Competent
5. Perform basic workplace calculation.	2.53	Moderately Competent
6. Select and procure stock.	2.71	Moderately Competent
7. Maintain optional environment for poultry.	2.65	Moderately Competent
8. Observe and assess chick health.	2.59	Moderately Competent
9. Select brood/ layer stock.	2.65	Moderately Competent
10. Perform pre and post laying activities.	2.59	Moderately Competent
11. Perform preventive and therapeutic measures.	2.47	Slightly Competent
12. Select and manage breeders' goats and sheep.	2.35	Slightly Competent
13. Provide feed and implement feeding practices.	2.59	Moderately Competent
14. Implement herd health program.	2.53	Moderately Competent
15 Maintain and analyze records	2.65	Moderately Competent
Grand Mean	2.59	Moderately Competent

maintenance, perform basic workplace calculation and apply corrective measures, they all registered a mean of 2.53 while the highest were determining areas of concern for safety measures items (items 16, 17, 18) with a mean of 2.88 which is interpreted to be moderately competent. The grand mean is 2.67 moderately competent (Table 4). This result supports the findings of Svensson et al. (2013) that common causes of increased occupational fatalities among migrant farm workers is that because they have little training in accident prevention, as a result they are more prone to accidents such as crushing from farm equipment, accidental slicing with hand labour tools, and falling from ladders. Therefore, falls, cuts, amputations, and other injuries are common risks that migrant farm workers face in their daily work due to lack of training.

For garments technology, the teachers perceived that their competency with the highest weighted mean were identifying tools and equipment and obtaining measurements both got 3.53 with a verbal interpretation of competent and the competency they perceived to be

Table 4. Weighted mean as competency in horticulture.

Horticulture	WM	Verbal Interpretation
16. Determine areas of concern for safety measures.	2.88	Moderately Competent
17. Apply appropriate safety measures.	2.88	Moderately Competent
18. Safekeep/maintain/dispose tools, materials and outfit.	2.88	Moderately Competent
19. Prepare and use farm tools.	2.59	Moderately Competent
20. Perform preventive maintenance and procedures/ practices.	2.53	Moderately Competent
21. Perform estimation.	2.59	Moderately Competent
22. Perform basic workplace calculation.	2.53	Moderately Competent
23. Apply corrective measures as necessary.	2.53	Moderately Competent
Grand Mean	2.67	Moderately Competent

Table 5. Weighted mean as competency in garments technology.

Garments technology	WM	Verbal Interpretation
24. Identify sewing tools and equipment.	3.53	Competent
25. Obtain measurements.	3.53	Competent
26. Perform simple calculations	3.47	Moderately Competent
27. Estimate appropriate quantities.	3.41	Moderately Competent
28. Sketch simple project design.	3.35	Moderately Competent
29. Produce simple project.	3.41	Moderately Competent
30. Operate machine and assess its performance.	3.47	Moderately Competent
31. Clean and lubricate machine.	3.41	Moderately Competent
32. Identify and evaluate hazards risks.	3.41	Moderately Competent
33. Control hazards and risks.	3.41	Moderately Competent
Grand Mean	3.44	Moderately Competent

their lowest was sketching simple project design with a mean of 3.35 equivalent to Moderately Competent and thereby having grand mean of 3.44 Moderately Competent (Table 5).

In the area of nail care, the competency with the lowest mean was creating basic nail design as shown in the mean of 3.29 equivalent to moderately competent and the competency with the highest mean were the competencies in terms of using and storing of nail care tools both registered a mean of 3.53 equivalent to competent (Table 6). The grand mean of 3.43 which is moderately competent.

For bread and pastry production the competency was the practice safe and hygienic handling, storage and disposal of food, beverage and materials with a mean of 3.24 and the competency with the lowest mean was on producing accurate and complete data according to the requirements as registered in the mean of 2.59 interpreted to be moderately complete. Moderately competent was the grand mean as shown in the mean of 2.94 (Table 7).

For the area of consumer electronics servicing, the area with the lowest registered mean was competency in interpreting technical drawing with a weighted mean of 2.06 and the competency with the highest mean was preparing hand tools as indicated in the mean of 2.47 with the verbal interpretation of moderately competent and with a grand mean of 2.3 (Table 8). The result supports the study of Chedi (2015) that there are difficulties faced by both learner and teacher of technical drawing and especially in the teaching and learning situation. Furthermore he cited that there is problem in visualization in the teaching of technical drawing.

In the field of drafting technology, the competency with highest mean was carrying out measurements and calculations as revealed in the mean of 3.0 equivalent to moderately competent and the lowest competency was ability to interpret drawings and plans with a mean of 2.71. The grand mean was recorded to be 2.84 moderately competent (Table 9). Garmendia (2007) in his paper titled “First-year engineering students' difficulties in visualization and drawing tasks cited in one of his findings that visualizing parts, meaning interpreting the views of an object which has been represented in a drawing”, is a fundamental skill in engineering. He further stated, learning deficiencies and difficulties have been observed among engineering undergraduates, and there is a high failure rate in drawing courses.

For woodworking area (Table 10), a weighted mean of 2.94 moderately competent was registered at the

Table 6. Weighted mean as to competency in nail care.

Beauty care (Nail care)	WM	Verbal Interpretation
34. Prepare necessary tools and equipment for the specific nail care activity.	3.47	Moderately Competent
35. Use nail care tools and equipment.	3.53	Competent
36. Check condition of nail care tools and equipment.	3.47	Moderately Competent
37. Perform basic preventive and corrective maintenance.	3.47	Moderately Competent
38. Store nail care tools and equipment.	3.53	Competent
39. Identify hazards and risks.	3.47	Moderately Competent
40. Evaluate and control hazards and risks.	3.35	Moderately Competent
41. Identify nail structure, shapes and nail diseases/ disorders.	3.35	Moderately Competent
42. Create basic nail design	3.29	Moderately Competent
Grand mean	3.43	Moderately Competent

Table 7. Weighted mean as to competency in bread and pastry.

Bread and pastry production	WM	Verbal Interpretation
43. Identify and access key sources of information on the industry.	3.0	Moderately Competent
44. Access, apply and share industry information.	2.94	Moderately Competent
45. Update continuously relevant industry knowledge.	2.94	Moderately Competent
46. Practice personal grooming and hygiene.	3.18	Moderately Competent
47. Practice safe and hygienic handling, storage and disposal of food, beverage and materials.	3.24	Moderately Competent
48. Identify and explain the functions, general features and capabilities of both hardware and software.	3.18	Moderately Competent
49. Prepare and use appropriate hardware and software according to task requirement.	3.0	Moderately Competent
50. Use appropriate devices and procedures to transfer files/ data.	2.88	Moderately Competent
51. Produce accurate and complete data according to the requirements.	2.59	Moderately Competent
52. Maintain computer system	2.76	Moderately Competent
53. Practice workplace safety, security and hygiene systems, processes and operations.	2.94	Moderately Competent
54. Respond appropriately to faults, problems and emergency situations in line with enterprise guidelines.	2.82	Moderately Competent
55. Maintains safe personal presentation standards.	2.88	Moderately Competent
56. Apply effective verbal and non- verbal communication skills to respond to customer needs.	2.88	Moderately Competent
57. Provide prompt and quality service to customer.	3.06	Moderately Competent
58. Handles queries promptly and correctly in line with enterprise procedures.	3.0	Moderately Competent
59. Handles customer complaints, evaluation and recommendations.	2.94	Moderately Competent
60.Developing and updating industry knowledge.	2.82	Moderately Competent
61.Observing workplace hygiene procedure.	3.06	Moderately Competent
62. Performing computer Operations	3.0	Moderately Competent
63.Maintaning Computer and Equipment System	3.0	Moderately Competent
64.Performing Workplace and Safety Practices	2.82	Moderately Competent
65.Providing Effective Customer Service	2.82	Moderately Competent
Grand Mean	2.94	Moderately Competent

competency pertaining to identifying materials and tools applicable to a specific job meanwhile the lowest mean was posted in the competency on identifying access, and interpret specification and manuals with a mean of 2.59 equivalent to moderately competent. The grand mean was 2.81 moderately competent. Such finding supports the study of Shih (1993) titled “A comparison of competencies required by the woodworking industry and those taught in industrial vocational senior high schools, as perceived by former students and teachers of woodworking in Taiwan, Republic of China” revealed that woodworking skills should include engineering drawing, woodworking drafting, and computer applications; and woodworking knowledge, viz., woodworking tools and

Table 8. Weighted mean as to consumer electronics servicing.

Consumer electronics servicing	WM	Verbal Interpretation
66. Plan and prepare for task to be undertaken.	2.35	Slightly Competent
67. Prepare hand tools.	2.47	Slightly Competent
68. Use appropriate hand tools and equipment.	2.41	Slightly Competent
69. Maintain hand tools.	2.41	Slightly Competent
70. Select measuring instruments.	2.47	Slightly Competent
71. Carry out measurements and calculations.	2.35	Slightly Competent
72. Maintain measuring instruments.	2.35	Slightly Competent
73. Identify different kinds of technical drawings.	2.29	Slightly Competent
74. Interpret technical drawing.	2.06	Slightly Competent
75. Prepare/ make changes on electrical/ electronic schematic and drawings.	2.12	Slightly Competent
76. Assess quality/ receive materials.	2.24	Slightly Competent
77. Engage in quality improvement.	2.29	Slightly Competent
78. Plan and prepare for task to be undertaken.	2.35	Slightly Competent
79. Input data into computer.	2.29	Slightly Competent
80. Produce output/ data using computer system.	2.24	Slightly Competent
81. Use basic functions of web browser to locate information.	2.35	Slightly Competent
82. Maintain computer equipment and systems.	2.29	Slightly Competent
83. Plan and prepare for termination/ connection of electrical wiring/ electronics circuits.	2.24	Slightly Competent
84. Terminate/ connect wiring/ electronic circuit.	2.35	Slightly Competent
85. Test termination/ connections of electrical wiring and electronic circuit.	2.35	Slightly Competent
Grand mean	2.31	Slightly Competent

Table 9. Weighted mean as to competency in drafting technology.

Drafting technology	WM	Verbal Interpretation
86. Select measuring instruments.	2.94	Moderately Competent
87. Carry out measurements and calculations.	3.00	Moderately Competent
88. Analyzes signs, symbols and data.	2.88	Moderately Competent
89. Interpret technical drawings and plans.	2.71	Moderately Competent
90. Assess quality of received materials.	2.71	Moderately Competent
91. Assess own work.	2.82	Moderately Competent
92. Engage in quality improvement.	2.88	Moderately Competent
Grand Mean	2.84	Moderately Competent

Table 10. Weighted mean as to competency in woodworking.

Woodworking	WM	Verbal Interpretation
93. Identify materials and tools applicable to a specific	2.94	Moderately Competent
94. Request for appropriate materials and tools.	2.82	Moderately Competent
95. Receive and inspect materials.	2.88	Moderately Competent
96. Apply information in manual.	2.88	Moderately Competent
97. Store manuals.	2.76	Moderately Competent
98. Analyze signs, symbols and data.	2.88	Moderately Competent
99. Interpret technical drawing and plans.	2.88	Moderately Competent
100. Apply information in manual.	2.82	Moderately Competent
101. Carry out measurements and calculations.	2.82	Moderately Competent
102. Select measuring instruments.	2.88	Moderately Competent
103. Check conditions of tools and equipments.	2.76	Moderately Competent
104. Perform basic preventive maintenance.	2.76	Moderately Competent
105. Store tools and equipment.	2.76	Moderately Competent
106. Identify, access, and interpret specification/ manuals.	2.59	Moderately Competent
Grand Mean	2.81	Moderately Competent

Table 11. Weighted mean as to competency in auto-servicing.

Auto servicing	WM	Verbal Interpretation
107. Identify appropriate sealant/ adhesive.	2.35	Slightly Competent
108. Prepare surface for sealant/ adhesive application.	2.18	Slightly Competent
109. Store unused and dispose used sealant/ adhesive.	2.18	Slightly Competent
110. Prepare vehicle for driving.	2.29	Slightly Competent
111. Move and position vehicle.	2.24	Slightly Competent
112. Check the vehicle.	2.24	Slightly Competent
113. Select measuring instrument and carry out measurements and calculations.	2.12	Slightly Competent
114. Maintain measuring instruments.	2.12	Slightly Competent
115. Identify/ access manuals and interpret data and specification.	2.12	Slightly Competent
116. Apply information accessed in manual.	2.12	Slightly Competent
117. Store manual.	2.18	Slightly Competent
118. Identify the Type of Lubricant/coolant.	2.24	Slightly Competent
119. Use and apply Lubricant/coolant	2.35	Slightly Competent
120. Inspect /clean tools and shop equipment.	2.29	Slightly Competent
121. Store/arrange tools and shop equipment.	2.35	Slightly Competent
122. Dispose waste/used	2.41	Slightly Competent
123. Report damaged tools/Equipment	2.41	Slightly Competent
Grand Mean	2.24	Slightly Competent

Table 12. Weighted mean as to competency in entrepreneurship.

D. Entrepreneurship	WM	Verbal Interpretation
BOOKKEEPING		
124. Maintain a Professional image.	2.24	Slightly Competent
125. Meet client/customer requirements.	2.24	Slightly Competent
126. Build credibility with customers /clients.	2.35	Slightly Competent
127. Plan own workload.	2.35	Slightly Competent
128. Maintain quality of own performance.	2.41	Slightly Competent
129. Establish credibility with customers/clients.	2.35	Slightly Competent
130. Assess client service needs.	2.29	Slightly Competent
131. Assess own work.	2.35	Slightly Competent
132. Engage in quality improvement.	2.35	Slightly Competent
133. Identify and explain the functions, general features and capabilities of both hardware and software.	2.24	Slightly Competent
134. Prepare and use appropriate hardware and software according to task requirement.	2.18	Slightly Competent
135. Use appropriate devices and procedures to transfer files/data.	2.29	Slightly Competent
136. Produce accurate and complete requirements.	2.12	Slightly Competent
137. Maintain computer system.	2.18	Slightly Competent
Grand Mean	2.11	Slightly Competent

machines, materials and layout finishes and finishing, furniture structure, introductory furniture design production estimation, shop layout and management, and mold engineering the cabinet making/interior.

In terms of auto servicing, the area with the highest mean were competencies on disposing waste and used materials and reporting of damaged tools and equipment both registered a mean of 2.41 on the other hand the competencies with the lowest means were maintaining measuring instruments, identify/ access manuals and interpret data and specification and apply information accessed in manual all registered a mean of 2.12 equivalent to slightly competent (Table 11). The grand mean for this area is 2.24 Slightly Competent.

Meanwhile for Table 12, area of bookkeeping, the competency that recorded the highest mean was maintain quality of own performance with a rating of 2.41 interpreted as slightly competent and the competency

Table 13. Summary of area mean.

Area	Mean	Interpretation
Animal Production	2.59	Moderately Competent
Horticulture	2.67	Moderately Competent
Garments Technology	3.54	Moderately Competent
Nail Care	3.43	Moderately Competent
Bread and Pastry	2.94	Moderately Competent
Consumer Electronic Servicing	2.31	Slightly Competent
Drafting Technology	2.84	Moderately Competent
Woodworking	2.81	Moderately Competent
Auto Servicing	2.24	Slightly Competent
Bookkeeping	2.11	Slightly Competent
Overall Mean	2.73	Moderately Competent

with the lowest mean is the competency on producing accurate and complete requirements with a mean of 2.12 slightly competent. The summary of area mean is given in Table 13.

CONCLUSION

Most of the teachers handling technical-vocational education subjects were moderately competent on the different areas of the technical-vocational streamline of the K to 12 curriculum based on the competencies set by Technical Educations Skills Development Authority.

RECOMMENDATIONS

1. Technical-vocational education faculty of the university were already moderately competent in the competencies set by Technical Education Skills Development Authority however the university may still consider conducting comprehensive training in the various areas of the technical-vocational tracks of the K to 12 curriculum.
2. In–service teachers should be given in-service training in technical-vocational areas to meet the requirements of the Philippine Qualifications Framework.
3. The university may link with training providers and likewise develop facilities for training purposes.
4. Should there be another research to be conducted along this area, the researcher highly recommends that other factors there were not included in this study be considered by future researchers.

REFERENCES

Arkansas Teaching Standards for Teachers of Agriculture for Grade 7-12.

Boahin, P. (**2018**). Competency based curriculum: A framework for bridging the gap in teaching, assessment and the world of work. International Journal of Vocational and Technical Education Research, 4(2): 1-15.

Chedi, J. (**2015**). Technical drawing/ graphic skills acquisition for teaching and learning and challenges in technology education. Journal of Science, Technology and Education, 3(3): 128-132.

Garmendia, M. (**2007**). First-year engineering students' difficulties in visualization and drawing tasks. European Journal of Engineering Education, 32(3): 315-323.

Kouwenhoven, G. W. (**2003**). Designing for competence: towards a competence-based Curriculum for the faculty of Education of the Eduardo Mondlane University: Doctoral Dissertation. Enschede: Twente University.

Kouwenhoven, W. (**2009**). Competence-based curriculum development in Higher Education: A globalised concept. VU University Amsterdam, The Netherlands.

K to 12 Tool Kit, Department of Education 2012. http://www.tesda.gov.ph

Shih, K (**1993**). A Comparison of the Competency Required by the Woodworking Industry and those Taught in industrial Vocational Senior High Schools as Perceived by former students and Teachers of Woodworking in Taiwan, Republic of China: Unpublished Doctoral Dissertation.

Svensson, M., Urinboyev, R., Wigerfelt, S. A., Lundqvist, P., Littorin, M., Albin, M. (**2013**). Migrant Agricultural Workers and Their Socio-economic, Occupational and Health Conditions–A Literature Review. http://dx.doi.org/10.2139/ssrn.2297559.

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