Level of Knowledge and Skills of Grade 10 Students in Technology and Livelihood Education Course Specializations in Sorsogon National High School

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Abstract
This descriptive correlational method of research study utilized summative tests and performance tests to purposively selected 56 Grade 10 students of the different specializations in Sorsogon National High School. The gathered data were treated statistically using percentage and mean. Findings revealed that the level of knowledge of the students in Consumer Electronics Servicing, Cookery, Dressmaking, and Electrical Installation and Maintenance are average, in Mechanical Drafting and Beauty Care it was limited. Students in Consumer Electronics Servicing are skilled while in other courses students are moderately skilled. There is no significant relationship between the level of knowledge and skills of the students in the identified courses except for Mechanical Drafting.There are identified concepts along the different specializations that are least mastered. Learning Activities are proposed as an intervention to improve the least mastered concepts along the Technology and Livelihood Education Courses in Grade 9. Hands on activities lead to the retention of the largest amount of information, but emphasis must also be given on developing strategies that will help students understand and recognize core concepts and theories which leads to better retention and effective application of learning.

Keywords: level of knowledge and skill, course specializations, grade 10 students, technology and livelihood education, descriptive correlational

1. INTRODUCTION

Addressing the crisis in quality learning requires redefining what education systems are for. The skills, knowledge, values and attitudes that learning and teaching promotes must reflect and respond to the needs and expectations of individuals, countries, the global population and the world of work today. [1] The passage of Republic Act No. 10533, otherwise known as the "Enhanced Basic Education Act of 2013", brought a major educational reform in the educational system of the country. By adding two years to the current educational system, K+12 aims to provide mastery of skills for lifelong learners and prepare them for career opportunities. The curriculum also prepares graduates to acquire mid-level skills that will allow them more opportunities in the global job market.

According to Burke [2], education is very much about developing skills, independent of specific roles or occupations, such as the broad intellectual abilities of critical thinking, problem solving and synthesis, communication and other characteristics of personal effectiveness and enterprise. Education is often concerned with extending capabilities in an academic or a range of academic subjects. However, education is also about preparing individuals for employment and some educational programs are about preparing individuals for specific employment opportunities.

Gough [3], states that Technical and Vocational education and training has become a priority area in the education program activities of many countries. UNESCO's 193 member states have identified TVET as being one of three essential pillars of the UNESCO education program. According to Kazanas [4], the main purpose of vocational and technical education is to help individual develop desirable and effective work habits and acquire the necessary knowledge and skills of an occupation to either enter and/or make progress in it.Okoro [5], asserts that Technical Vocational Education Training (TVET)is an education program that aims to prepare students mainly for occupations requiring manipulative skills. These are in the fields of Mechanical and Automobile Trade, Agriculture, Business Education, Electrical Electronics Technology, Building Technology, Home Economics, Painting, Decorating and others.

The Technology and Livelihood Education (TLE) of the K to 12 Program provides tech-voc-based TLE Curriculum which is designed based on the training regulations of the Technical Education and Skills Development Authority (TESDA). It focuses on technical skills development in any area of specialization that the students want to pursue. [6] TESDA pursues the assessment and certification of the competencies of the middle-level skilled

workers through Philippine TVET Competency Assessment and Certification System (PTCACS). The assessment process seeks to determine whether the graduate or worker can perform to the standards expected in the workplace based on the defined competency standards. Certification is provided to those who meets the competency standards.

Naelga and Sonsona [7], assessed the competencies of the Grade 9 TLE students in the following specifications- Bread and Pastry Production, Dressmaking, Cookery and Consumer Electronics and Servicing. The study found out that among others they are equipped with the necessary skills and competencies since 90% of them were rated as competent and were issued Certificate of Competency (COC) while those who are rated not yet competent were advised to take the refresher course for reassessment. Valera [8], conducted a study to evaluate the performance of the third year college students taking up Bachelor in Secondary Education (BSEd), major in Technology and Livelihood Education (TLE) at the ASIST Bangued Campus. A high level of knowledge, skills and attitudes was attained along Home Economics, "adequate" for Agricultural arts "high" for Entrepreneurship. He recommended that TLE major students must undergo TESDA NCII assessment every semester to evaluate their performances in their field of specialization and to acquire certificate of competency or eligibility.

Sano [9], conducted a study on the level of competence of Grade 9 students in Technology and Livelihood Education Exploratory mini-courses. The study found out that the level of competence of the students along Agriculture, Bread and Pastry Production, Beauty Care/Nail Care, Consumer Electronics, Commercial Cooking, Dressmaking, Electrical Installation and Maintenance, and Mechanical Drafting did not meet expectations. Dealca [10], conducted a study to determine the level of competency of Grade 8 students in Nail Care Services in Casiguran Cluster Division of Sorsogon School Year 2015-2016. The competencies on manicuring, pedicuring, hand spa and foot spa was described as somewhat competent and moderately competent. Catoy [11], conducted a study to determine the level of performance of Grade 9 students in Cookery in the secondary schools of Gubat Cluster for SY 2017-2018. The students have poor level of performance in Cookery along the preparation and presentation of appetizer, salad and dressing, and sandwich.

To be qualified and ready for a Competency Assessment there is a need to ascertain the level of knowledge and skills of the Grade 10 students in different specializations. It is necessary to determine if students have acquired the necessary competencies promulgated by

TESDA. Students' level of knowledge and skills must be identified to find out whether the students are competent in their chosen field of specialization.

2. OBJECTIVES

This study aims to identify the level of knowledge and skills of Grade 10 students in TLE Course Specializations in Sorsogon National High School, school Year 2018-2019. The following are specific objectives: (1) identify the level of knowledge of the students along; a. Beauty Care (Nail Care), b. Consumer Electronics Servicing, c. Cookery, d. Dressmaking, e. Electrical Installation and Maintenance, and f. Mechanical Drafting, (2) identify how skillful are the students along the identified course specializations, (3) identify the least mastered concepts along the different TLE Specializations, (4) determine the significant relationship between the level of knowledge and skills of the students, and (5) propose an activity based on the pursuit of the study.

3. METHODOLOGY

This study used the descriptive correlational study. It is descriptive because it identifies the level of knowledge and skills of Grade 10 students in TLE Course Specializations. According to Sevilla [12], the descriptive method is designed for the investigator to gather information about the present existing conditions. Likewise, it is correlational because it determined the relationship between the level of knowledge and skills of the students.

Due to limited materials, equipment and facilities needed in the conduct of Performance Test for each specialization, a small sample size for each specialization was used. Sixty students were purposively selected from the sections taking up the specializations. Thus, 10 students from each specialization were taken as respondents. On the 10 target student respondents, 2 were absent during the conduct of written and performance tests in the courses of Consumer Electronics Servicing (CES) and Dressmaking, thus 8 students were taken as respondents.

The research instrument used in the study are summative tests adopted from the TLE Grade 9 Learning Modules [13] of the different course specializations. The tests are composed of questions derived from the topics in Grade 9. It was used to determine the level of knowledge of the students. A 50-item test was used for Beauty Care, CES, Cookery, and EIM. A 40-item test was used for Dressmaking and Drafting.

The performance tests for each specialization covers the core competency/competencies in Grade 9 specialization courses reflected in the learning modules. In Beauty Care, respondents performed Hand and Foot Spa, and Manicure and Pedicure. In Consumer Electronics Servicing, respondents troubleshoot and diagnosed Electric Fan. In Cookery, respondents prepared appetizer, salad, sandwich, and dessert. In Dressmaking, respondents sewed a set of Pajama. For EIM, respondents installed a 20-watts fluorescent lamp. In Drafting, respondents made Isometric and Orthographic Drawing. An adopted rubric from the TLE Learning Modules specific to each specialization course was used to rate the students' performance. Rubrics was used as an assessment tool to determine the level of skills of the students.

The data gathered were analyzed, tabulated, and interpreted by the use of the appropriate statistical tools and measures. To determine the level of knowledge and skill in the different course specializations, raw scores in the summative tests and performance tests were transmuted into a zero based percentage grade. The mean percentage score (MPS) of the students in the summative tests was used. Similarly, in the level of skills of the students, the mean percentage score (MPS) in the performance tests was also used. Adopted from Sorsogon National High School, Technology and Livelihood EducationDepartment Test Result Analysis [14], the MPS scale were used for the level of knowledge and level of skills.

MPS	Level of Knowledge	Level of Skills
96 - 100	Excellent	Highly Skilled
86 – 95	Above Average	Skilled
66 – 85	Average	Moderately Skilled
35 – 65	Poor	Unskilled
34 and below	Very Poor	No Attempt

To determine the least mastered concepts in the administered summative tests along the different course specializations, the test item with seven (7) or more than 7 incorrect answers was identified. The equivalent percentage of the number of students with incorrect responses for each test item was used following its corresponding description of mastery, as reflected in the Test Result Analysis of the TLE Department of SNHS. Following the modified scale, the Low Mastery, Very Low Mastery and Absolutely No Mastery were considered as Least Mastered Concepts.

Percentage	Description
0 – 4	Mastered
5 – 14	Closely Approximating Mastery
15 – 34	Moving towards Mastery
35 – 65	Average Mastery
66 – 85	Low Mastery
86 – 95	Very Low Mastery
96 – 100	Absolutely No Mastery

To determine the significant relationships between the levels of knowledge and skills of the students in the different course specializations, Pearson Correlation Coefficient was used.

4. RESULTS AND DISCUSSIONS

The level of knowledge of the students along: a. Beauty Care (Nail Care), b. Consumer Electronics Servicing, c. Cookery, d. Dressmaking, e. Electrical Installation and Maintenance and f. Mechanical Drafting.

Table 1 shows the specialization courses, mean percentage score (MPS) and level of knowledge of the students.

TABLE 1 Level of Knowledge of the Students

Specialization Course	MPS	Level of Knowledge
a. Beauty Care	65.2	Poor
b. CES	84.75	Average
c. Cookery	70.6	Average
d. Dressmaking	81.75	Average
e. EIM	69.8	Average
f. Mechanical Drafting	64.6	Poor

1.1 Beauty Care. The course revealed a mean percentage score of 65.2 interpreted as Poor level of knowledge. In a 50-item test, 38 is the passing score which is equivalent to 76%. As reflected in table 2.a (Appendix E), the equivalent rating of the scores of the students in

the test was all below 76, their ratings ranges from 50 - 74. The result implies that students have not retained their knowledge on the theories and concepts in the course.

The result was comparative to the findings of Sano [9], when she identified the Level of Competence of Grade 9 students in TLE Exploratory Courses. One of the authors findings is the level of competence of the students in Beauty Care (Nail Care) did not meet expectations.

1.2 Consumer Electronics Servicing (CES). The course revealed a mean percentage score of 84.75 interpreted as Average level of knowledge. In a 50-item test, 38 is the passing score which is equivalent to 76%. The equivalent percentage of the scores of the students in the test was all above 76, it ranges from 76-96. All students got a passing score which shows that most of the respondents have retained their knowledge on the theories and concepts in the course.

CES is under Industrial Arts Curriculum, thus the result was related to the study of Lazo [15], when he conducted a study on the level of attainment of T.L.E. I in the Old National High Schools in Region I. In his findings, Industrial Arts manifested a general rating which is on a very satisfactory level in terms of knowledge, attitudes, and skills.

1.3 Cookery. The course revealed a mean percentage score of 70.6 interpreted as Average level of knowledge. In a 50-item test, 38 is the passing score which is equivalent to 76%. Three (3) out of 10 students got a passing score which ranges from 76 – 80 while the rest got a rating of below 76% ranging from 60-74. The scores show that some students have retained an average knowledge on the theories and concepts in the course.

In the study of Catoy [11], when she assessed the Performance of Grade 9 students in Cookery, one of the problems met by the students were lack of module. Lack of printed modules in Grade 9 Cookery in SNHS could have been a factor that affects knowledge acquisition of the students.

1.4 Dressmaking. The course revealed a mean percentage score of 81.75 interpreted as Average level of knowledge. In a 40-item test, 30 is the passing score which is equivalent to 75%. The equivalent rating of the scores of the students in the test ranges from 75-90 and was all above 75%. The scores show that most of the students have an average knowledge on the theories and concepts in the course.

The result was relative to the findings of Sano [9], when she identified the Level of Competence of Grade 9 students in TLE Exploratory Courses. The level of competence of the students in Dressmaking did not meet expectations with a rating of 73%.

1.5 Electrical Installation and Maintenance (EIM). The course revealed a mean percentage score of 69.8 interpreted as Average level of knowledge. In a 50-item test, 38 is the passing score which is equivalent to 76%. Two (2) students out of 10 got a passing rating of 76 and 78 while the rest got below 76 as it ranges from 62-72. The scores of the students show that most have not retained their knowledge on the theories and concepts in the course.

In the Test Result Analysis in EIM there were 12 items in the test that was answered incorrectly by more than 70% of the students who took the test. This supports why 8 out of 10 students got low ratings in the test.

1.6 Mechanical Drafting. The course revealed a mean percentage score of 64.6 interpreted as Poor level of knowledge. In a 40-item test, 30 is the passing score which is equivalent to 75%, only 2 out of 10 students got a passing grade of 75. The rest was all below 75 ranging from 55-70. The scores of the students show that most have not retained their knowledge on the theories and concepts in the course.

In the Test Result Analysis in Drafting there were 9 items in the test that was answered incorrectly by more than 80% of the students who took the test. This supports why 8 out of 10 students got low ratings in the test.

The level of skills of the students along the identified course specializations

Table 2 shows the specialization courses, mean percentage score (MPS) and level of skills of the students.

TABLE 2 Level of Skills of the Students

Specialization Course	MPS	Level of Skills
a. Beauty Care (Nail Care)	76	Moderately Skilled
b. CES	94.75	Skilled
c. Cookery	79	Moderately Skilled
d. Dressmaking	84.88	Moderately Skilled
e. EIM	83.5	Moderately Skilled
f. Mechanical Drafting	67.9	Moderately Skilled

2.1 Beauty Care. The level of skills of the students in Beauty Care was *Moderately Skilled* with an MPS of 76. Considering 75% as the passing grade, 8 out of 10 students passed with a rating that ranges from 75-83, while 2 students failed with a rating of 73.Some of the students did well in the performance tests which is performing Hand and foot Spa, and Manicure and Pedicure. Some failed to follow systematic application of procedures in doing the task and needed time to time supervision from their teacher.

In the study of Dealca [10], about the Level of Competency of Grade 8 students in Nail Care Services, one of the findings of the author on the factors that affects students' performance in the course is demonstration. It suggests that actual demonstration given by the teachers can contribute much in the performance of the students.

2.2 Consumer Electronics Servicing (CES). The level of skills of the students in CES was *Skilled* with an MPS of 94.75. Considering 75% as the passing grade, all students passed with a rating that ranges from 92-96. All the students did well in the performance tests which is troubleshooting and replacing defective parts of an Electric Fan. They have identified the defective part & made it functional.The result in the performance test of the students was relative to the result in the written test were all the students got a passing grade. It suggests that students in CES have acquired enough knowledge and skills in their course. Sorenson [16], points out that students with potential for learning and with high intelligence manifest good academic performance. They perform better than their counterparts both in the cognitive aspect and practical skills.

2.3 Cookery. The level of skills of the students in Cookery was *Moderately Skilled* with an MPS of 79. Considering 75% as the passing grade, 2 out of 10 students failed and got a rating of 60 and 74, while 8 students passed and got a rating that ranges from 77 to 88 percent.Most of the students work independently with ease and confidence during the performance test. But some have asked assistance from others. The finished products are attractive but some are not enticing to appetite. One respondent failed to make a dessert due to time constraint and got the lowest rating of 60.

The study of Catoy [11] which focuses on the Performance of Students in Cookery, reveals the less learned skills in the course. Miseen place, knowledge and palatability, and cooking techniques were the less learned skills in preparing appetizer, sandwich and salad.

2.4 Dressmaking. The level of skills of the students in Dressmaking was *Moderately Skilled* with an MPS of 84.88. Considering 75% as the passing grade, all the students passed with a rating that ranges from 79-91. Most of the students has an average performance in the

test which is to produce sleeping garments or a set of Pajama for kids. In drafting the pattern for pajama, most of the students were able to draft all the pattern details correctly and accurately. Students have followed correct methods and procedures in sewing the pajama.

The "Average" level of knowledge of the students was relative to their level of skills which is "Moderately Skilled". The students show an average retention of knowledge and an average performance in the skills test.

2.5 Electrical Installation and Maintenance (EIM). The level of skills of the students in EIM was *ModeratelySkilled* with an MPS of 83.5. Considering 75% as the passing grade, 2 students out of 10 students got a failed rating which is 70. The rest of the students passed with a rating that ranges from 80-90.Most of the students performed well in the performance test. Their interest was seen on how they actively perform tasks in EIM. They are asked to make wiring for 20-watts Fluorescent Lamp. Wirings are correctly and completely installed and energized, thus all the lamps light. But 2 respondents made an incorrect wiring and failed to light up the lamp.

In the study of Sano [9], when she identified the Level of Competence of Grade 9 students in TLE Exploratory Courses, the result of the Aptitude Tests in EIM implied that there were some factors that affect the students level of competence. These were students' interests, peers and physical facilities.

2.6 Mechanical Drafting. The level of skills of the students in Mechanical Drafting was *Moderately Skilled* with an MPS of 67.9. Considering 75% as the passing grade, 5 students passed with a rating that ranges from 80-93. The rest of the students got a failed rating that ranges from 40-73.

Students are tasked to interpret Orthographic views and Pictorial drawings according to drawing standards. Five respondents made an isometric that was drawn with incorrect measurements and they have failed to observe properly the use of the alphabet of lines. As cited by Gloriane [17], student's performance deteriorated due to some circumstances. It can be from the learning environment and even because of teaching incapacities of the education institutions.

The Least Mastered Concepts along the different specializations.

3.1 Beauty Care (Nail Care). In the 50-item summative test, 5 items have more than 70% of students who got incorrect answers.Students have Low Mastery in the concepts of nail

care product that helps prevent nail stain 70%, proper maintenance of callous remover 80%, and proper maintenance of nail file 70%. Very low mastery in technique for removing non-living tissue from the foot 90%. Absolutely no mastery on the implement used to trim away excess cuticle at the base of the nail 100%.

The result was relative to the findings of Sano [9] when she identified the Level of Competence of Grade 9 students in TLE Exploratory Courses. Students in Beauty Care did not meet expectations in the topics of sterilization and sanitization, and in nail care tools and equipment.

3.2 Consumer Electronics Servicing (CES). In the 50- item summative test, only 2 items have more than 70% of students who got incorrect answers. Students have low mastery in the concepts of positive and negative test for diode 80% and resistance in a semiconductor diode 80%. The result presented supports why students got high scores in the summative test given.

3.3 Cookery. In the 50- item summative test,5 items have more than 70% of students who got incorrect answers. The students have Low mastery in the concepts of tool used to hold salad ingredients for mixing, or for tossing 80% and kitchen knife used to cut thick sandwiches 80%. Very low mastery in the concept of ingredients used in making French dressing 90%. Absolutely no mastery in the concepts of factors to consider in salad preparation 100%, and sugar used in making Meringues 100%.

More time and much effort are needed to improve learning acquisition of the students in Cookery. Saymo [18], states that carefully planned activities and adequate facilities are essential to effective teaching and productive learning on the part of the students.

3.4 Dressmaking. In the 40- item summative test, 5 items have more than 70% of students who got incorrect answers. Low mastery in the concepts of test that determines the strength and shape holding qualities of lengthwise and crosswise of fabric 80%, and principles of design depicting a feeling of rest and equilibrium. Absolutely no mastery in steps in sewing pajama 100%.

Sibayan [19], explains that learning will become more productive if they apply what they have learned. Actual manipulation of the tools is necessary to improve learning results.

3.5 Electrical Installation and Maintenance (EIM). In the 50- item summative test**,** 12 items have more than 70% of students who got incorrect answers. Students have Low mastery in the concepts of lamp that creates a bright light directly from its own arc 70%, wire that carry electricity from the bulbs electrical contact to the filament 70%, Code of fluorescent

lamp 70%, and steps in troubleshooting and repairing Tubular fluorescent fixtures 80%. Very low mastery in the concept of steps in wiring a 20-watts fluorescent fixture 90%. Absolutely no mastery in the concept of life expectancy of Lamp 100%. The result explains why 8 out of students got a rating below the passing score which is 76% in the summative test in EIM.

Richey [20], advocates that there are various aspects that affect the level of academic performance of students. These are the curriculum, the teacher, and the students themselves. Teacher's teaching strategy and student's extent of efforts contribute to quality of learning.

3.6 Mechanical Drafting. In the 40- item summative test, 9 items have more than 70% of students who got incorrect answers. The students have Low mastery in the concepts of Ancient Egyptian letters formed in the picture writings 70%, guidelines in lettering 80%, pictorial drawing used in designing a house 70%, method in constructing an isometric drawing 80%, degrees projected from the inclined edge of the front view in constructing auxiliary drawing 80%, and line that is drawn to indicate sectional view 80%. Very low mastery in the concepts of view that is horizontally in line with the front view 90%, and lines used in perspective drawing 90%. Absolutely no mastery in the concept of view located between top and bottom views 100%.

The result explains why the knowledge of the students in Drafting was "poor" or limited. Also, this gives support why some got a very low grade in the performance tests. According to Olawale [21], in order to be competent, there is a need for adequate materials applicable to classroom instruction and demonstration. Materials includes IM's used to facilitate learning for better results.

Relationship between the level of knowledge and skills of the students.

Table 3 presents the relationship between the levels of knowledge and skills of the students in the different course specializations. It was subjected to statistical treatment using Pearson Correlation Coefficient.

Table 3 Relationship between the Level of Knowledge and Skills of the Students

Variables	Beauty Care	CES	Cookery	Dressmaking	EIM	Mechanical Drafting
No. of Respondents	10	8	10	8	10	10

(N)						
Degree of Freedom (df)	8	6	8	6	8	8
Computed r	0.1539	0.6644	0.0091	0.0198	-0.0380	0.6951
Interpretation of r	Weak Positive Correlation	Moderate Positive Correlation	Negligible Correlation	Negligible Correlation	Negligible Correlation	Moderate Positive Correlation
Critical r @ .05	0.6319	0.7067	0.6319	0.7067	0.6319	0.6319
Decision on H_o	Do not Reject	Do not Reject	Do not Reject	Do not Reject	Do not Reject	Reject
Remarks	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Significant

4.1 Beauty Care (Nail Care). Ten students were surveyed on their level of knowledge (MPS=65.2) and their level of skills (MPS=76). A Pearson's r data analysis revealed a computed value for r, which is 0.1539, lower than the tabulated value which is 0.6319 at .05 level of significance. The null hypothesis is accepted and therefore there is no significant relationship between the level of knowledge and skills of the students in Beauty Care (Nail Care).

The value of R is 0.1539. Although technically a positive correlation, the relationship between the scores are weak and insignificant. Thus, the scores of the students in both tests are hardly related. Students scored differently in the written and performance test. Their skills don't depend on their knowledge and inversely their knowledge can't be shown in their performance. Some are skillful and some are knowledgeable.

In terms of knowledge and skills acquisition, Edgar Dale [22], theorized that learners retain more information by what they "do" as opposed to what is "heard", "read" or "observed". He asserted that more learning happens through actual hands-on experiences.

4.2 Consumer Electronics Servicing (CES). Eight students were surveyed on their level of knowledge (MPS=84.75) and their level of skills (MPS=94.75). A Pearson's r data analysis revealed a computed value for r, which is 0.6644, lower than the tabulated value which is 0.7067 at .05 level of significance. The null hypothesis is accepted and therefore

there is no significant relationship between the level of knowledge and skills of the students in CES.

The value of R is 0.6644. The result is a moderate positive correlation, which means there is a tendency for high scores in the written test go with high scores in the performance test (and vice versa). Thus, the scores of the students in the written and performance tests are moderately related. Students can be both skillful and knowledgeable in the course.

Asfani et.al [23], cited that the level of student competence can be influenced by many factors. Several factors influence the standard of a student to be categorized as able to master the required competence level. Those factors come from the students themselves, the teachers and the supporting environment.

4.3 Cookery. Ten students were surveyed on their level of knowledge (MPS=70.6) and their level of skills (MPS=79). A Pearson's r data analysis revealed a computed value for r, which is 0.0091, lower than the tabulated value which is 0.6319 at .05 level of significance. The null hypothesis is accepted and therefore there is no significant relationship between the level of knowledge and skills of the students in Cookery.

The value of R is 0.0091. Although technically a positive correlation, the relationship between the scores of the students is negligible. Thus, the scores of the students in both tests are not related nor it can't be associated. Students scored differently in the written and performance test. Their skills don't depend on their knowledge and inversely their knowledge can't be shown in their performance. Some are skillful and some are knowledgeable.

As identified by Dulay [24], the over-all criticism of the poor quality of skills and knowledge of graduates from vocational schools can be traced to the inadequacy of supplies, tools, machines, and equipment and laboratory facilities. It was stressed that machine, tools, equipment and laboratory rooms are vital factors in the success of any education.

4.4 Dressmaking. Eight students were surveyed on their level of knowledge (MPS=81.75) and their level of skills (MPS=84.88). A Pearson's r data analysis revealed a computed value for r, which is 0.0198, lower than the tabulated value which is 0.7067 at .05 level of significance. The null hypothesis is accepted and therefore there is no significant relationship between the level of knowledge and skills of the students in Dressmaking.

The value of R is 0.0198. Although technically a positive correlation, the relationship between the scores of the students is negligible. Thus, the scores of the students in both tests are not related nor it can't be associated. Students scored differently in the written and

performance test. Their skills don't depend on their knowledge and inversely their knowledge can't be shown in their performance. Some are skillful and some are knowledgeable.

There are different strategies to improve the competency of the students. In the study conducted by Nace [25], she suggested that through closer, more intensive, quality supervision and monitoring by administrators, the performance level of the students will improve.

4.5 Electrical Installation and Maintenance (EIM). Ten students were surveyed on their level of knowledge (MPS=69.8) and their level of skills (MPS=83.5). A Pearson's r data analysis revealed a computed value for r, which is -0.0380, lower than the tabulated value which is 0.6319 at .05 level of significance. The null hypothesis is accepted and therefore there is no significant relationship between the level of knowledge and skills of the students in EIM.

The value of R is -0.038. Although technically a negative correlation, the relationship between the scores of the students is negligible. Thus, the scores of the students in both tests are not related nor it can't be associated. Students scored differently in the written and performance test. Their skills don't depend on their knowledge and inversely their knowledge can't be shown in their performance. Some are skillful and some are knowledgeable.

Edgar Dale's Cone of experience suggests that, it is important to remember that involving students in the process strengthens knowledge retention. It reveals that "action-learning techniques" result in up to 90% retention. [22]

4.6 Mechanical Drafting. Ten students were surveyed on their level of knowledge (MPS=64.6) and their level of skills (MPS=67.9). A Pearson's r data analysis revealed a computed value for r, which is 0.6951, higher than the tabulated value which is 0.6319 at .05 level of significance. The null hypothesis is rejected and therefore there is a significant relationship between the level of knowledge and skills of the students in Mechanical Drafting.

The value of R is 0.6951. This is a moderate positive correlation, which means there is a tendency for high scores in the written test go with high scores in the performance test (and vice versa). Thus, the scores of the students in the written and performance tests are moderately related. Students can be both skillful and knowledgeable in the course.

Cited by Limon [26], there are variables that directly impacts the quality of learning acquisition among learners. One crucial factor is the adequacy or lack of school facilities that aid in the reinforcement of knowledge and skills.

Proposed Learning Activities to improve the least mastered concepts along the Technology and Livelihood Education Courses in Grade 9.

Learning Activities were proposed after identifying the least mastered concepts in the different course specializations. The learning activities aims to improve least mastered concepts in TLE Grade 9 Course Specializations. Generally, the proposed Learning Activities for Technology and Livelihood Education Course Specializations aims to improve the level of knowledge of the students in Grade 9 Technology and Livelihood Education Course Specializations, help both teachers and students facilitate teaching and learning activities on the identified least mastered concept in the different course specializations and provide sufficient plan of strategies/activities both for teachers and students.Specifically, the proposed Learning Activities aimsto develop knowledge and understanding on the core concepts and principles in student's course specializations.

5. CONCLUSIONS AND RECOMMENDATIONS

Based from the findings, the following conclusions were drawn: (1) The level of knowledge of the students in Consumer Electronics Servicing, Cookery, Dressmaking, and Electrical Installation and Maintenance are average. In Mechanical Drafting and Beauty Care, the level of knowledge is limited, (2) Students in Consumer Electronics Servicing (CES) are skilled while in Beauty Care, Cookery, Dressmaking, Electrical Installation Maintenance and Mechanical Drafting students are moderately skilled, (3) some concepts along the different TLE Specializations are least mastered, (4) there is no significant relationship between the level of knowledge and skills of the students in the courses of Beauty Care, Consumer Electronics Servicing (CES), Cookery, Dressmaking and EIM, but there is a significant relationship between the level of knowledge and skills of the students in the course of Mechanical Drafting, and (5) learning Activities is developed to improve the least mastered concepts along the Technology and Livelihood Education Courses in Grade 9.

The following recommendations are offered by this study: (1) grade 9 students may be given enhancement activities to enhance their learning in all the course specializations, teachers may use a range of teaching activities and hands-on practice opportunities for better learning, (2) TLE Teachers may continue to enhance identified skilled and improve moderately skilled courses of the students to prepare them for a COC Competency Assessment, it is also necessary to procure adequate equipment and facilities that facilitates

maximum skill acquisition of the students, ways and means must be worked out to address these needs, (3) intensify teaching on the concepts of the weakest areas of each specialization. Enough activities must be given to lead learners in the mastery of the concepts, (4) hands on activities lead to the retention of the largest amount of information, but emphasis must also be given on developing strategies that will help students understand and recognize core concepts and theories which leads to better retention and effective application of learning, (5) the proposed Learning Activities may be utilized and validated to address the identified least mastered concepts of Grade 10 students along the different course specializations, (6) future studies may be conducted focusing on other Grade level taking up TLE specializations.

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