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# **Technology and Livelihood Education (TLE) Instruction in the Secondary Schools in Northern Samar Division, Eastern Philippines**

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### **Author's contribution**

*The sole author designed, analyzed, interpreted and prepared the manuscript.*

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## **ABSTRACT**

This study used the descriptive design as it aimed to explore the Technology and Livelihood (TLE) instruction in the secondary schools in Northern Samar Division in terms of level of attainment of the objectives of Technology and Livelihood Education, level of effectiveness of the methods and techniques used in the Technology and Livelihood Education Instruction, level of adequacy of instructional materials and equipment used in the instruction of Technology and Livelihood Education, and the problems encountered in the Technology and Livelihood Education instruction. This study was conducted in selected public high schools in the Division of Samar which includes the following secondary schools: University of Eastern Philippines Laboratory High School, Catubig Valley National High School, Hibubullao National High School, Somoroy Agro-Industrial School, and Las Navas National High School. The respondents of the study were one hundred twenty eight (128) fourth year students who were taking up Technology and Livelihood Education subjects. The main tool in gathering data and information from the respondents was the questionnaire. The goal of technology education is to promote technological literacy of a broad and encompassing nature. Technology and Livelihood Education has techniques in teaching focuses on the quality of the acts used by the teacher in representing the subject matter to the pupils. It may also include the skill of the teacher in accomplishing the task of learning. It is a technical skill, or artistic execution. Technique in teaching is a factor which promotes learning through teaching with the aid of devices.

Results of the study, brought out remedial measures may be developed to improve the Technology and Livelihood Education instruction in Northern Samar Division such as: The national vocational schools or public secondary schools should endeavor to offer cluster of practical courses rather than concentrating in only one or two popular courses, so that students should be fully aware that in all occupational endeavor, they should have a knowledge of marketing and selling of their goods or services, and consequently, bookkeeping and accounting. Moreover, entrepreneurship or self-employment of the students need this knowledge when running his own business; Measures should be made by the schools in providing adequate and needed essential facilities, tools, equipment, and supplies and materials to fully implement their program of practical arts in order to attract more students in interest of improved learning; The institutions need to exert greater efforts in securing more community resources to aid in the implementation of the program and to argument insufficient funding for the purchase of materials to enrich curricular offerings; Teachers need to improve their skills and competence in imparting knowledge to their students, likewise, the institutions should adequately provide for the shortage such as lack of books, instructional materials, equipment/tools and the like in order that the students may be able to derive for the instruction.

*Keywords: Technology and livelihood education (TLE); instruction; northern samar division.*

## 1. INTRODUCTION

Technology and Livelihood Education (TLE) is one of the significant features in the secondary education development program curriculum. It is concerned with activities related to the development of a person or group of learners. It is a subject that prepares high school students endeavors that will provide them the knowledge and skills to be productive and earn a living early should the possibility of Tertiary Education becomes elusive for one reason or the other. Technology and Livelihood Education is a work education course. It teaches the love and respect for work. It is the provision of skills to be productive and responsibility to economically uplift the family, the community and the country [1,2].

Vital factors are needed in teaching TLE: First the curriculum should be enriched and kept abreast to changing conditions; The methods and techniques applied in teaching, the use of updated and operational equipment, effectively constructed instructional materials and the teacher herself who professionally grow, learn and develop skills and expertise. In as much as the teachers are the pillars of the educational system, it is necessary to develop their potentials by updating their competencies through seminars, workshops and upgrading their educational growth and qualifications as well. Dedicated teachers should endeavor to keep with the latest trends, not only in their field of specialization, but also in other related areas so that the foundation of teaching is strengthened. Innovations in education depends on the resourcefulness, creativity, and innovativeness of

the teachers, while the school administrators should meet these challenges with sincere cooperation, and a firm solution to update themselves professionally to produce better and well-prepared students for the world of work.

The TLE teachers must possess qualities necessary in all good teachers like poise, self-confidence, knowledge, friendliness, genuine interest in learning scholastic and personal problems, a sense of humor, impartially, consistency, physical fitness and neatness [3,4]. Moreover, they must have virtues like intelligence wherein a teacher understands the subject matter will be in position to pass it on to her students; good command of the English language. As long as English is the medium of instruction in the Philippines, all teachers must possess a mastery of the language; the third is diligence wherein laboratory work should be supervised, equipment should be checked, devote more hours of extra-curricular activities to address the weakness, strengths and recommend possible solutions to the problems encountered in teaching the subject [5,6].

Boser [7] stated that one of the goals of technology education is to promote technological literacy of a broad and encompassing nature. To achieve this goal, technology education must prepare students to understand, control, and use technology. Students need to learn how to adapt to technological change and how to deal with forces that influence their lives and potentially control their future.

Likewise, Garcia [8] stressed that a part of the school area maybe designed as a shop where

students may be given actual work. Here the students will be given opportunity to develop manipulating skills. An important function of this workshop is to provide for the development of a good work habits and acceptable social skills. Habits for punctuality and attendance are more readily required in a workshop setting. She further stated skills related to the work performance on jobs common to the community are as follows: a) recognition and use of the basic hand in carpentry and farming, b) gardening and poultry raising tasks, c) simple food preparation, d) custodial task, e) stitching, threading and operation of simple machine, f) assembling and disassembling of electrical gadgets. Further, Gregorio [9] says that technique of teaching refers to acts of the quality of the acts used by the teacher in representing the subject matter to the pupils. It may also include the skill of the teacher in accomplishing the task of learning. It is a technical skill, or artistic execution. Technique in teaching is a factor which promotes or effectuates learning through teaching with the aid of devices; hence, it is defined as the skill of the teacher in manipulating the devices as that the psychological processes of the learner may be stimulated to effective reactions, particularly in dealing with the subject matter that is to be learned. Technique is the teacher's way of containing and emphasizing the elements of the classroom situation. Moreover, he adds the successful classroom instruction depends upon the technique of teaching, through it, learning activity of the pupils is guided. Pupil activity without the organization of effort, and material to achieve a definite goal, would be as a waste of time and effort habits. It is the teaching technique that provides this guidance for the pupils. Therefore, the instructional period should be a learning should have specific application in every actual situation. Whenever a teacher is teaching, the pupil should be engaged in a suitable learning activity by utilizing the proper study technique of learning, which the pupils use in their work. Since the outcomes of teaching as well as that of learning depends upon the learning outcomes being brought by the pupil at any time. This gives the teacher his opportunity to determine the method of teaching that should be used. There is specialized learning technique for each type of learning. From psychology and education, we have the following general conclusion in this respect: knowledge is best gained through the technique called the question and answer; skill and habits may be acquired through the drill and practice technique, attitudes

and appreciation may be best developed by effective use of the learning called appreciation, and knowledge may also be gained through socialized recitation.

With the technological advances that we have today, TLE teachers should adapt to these changes by embracing technology through integration during the teaching and learning process. In this scenario, provision of quality instruction be maintained at highest level, particularly in the subject Technology and Livelihood Education to produce quality and competent graduates. Along with this, the researcher, as a Technology and Livelihood Education teacher, was motivated to explore the basis for Technology and Livelihood Education (TLE) instruction to be more relevant to the needs of the public secondary school students in order to produce effective, skilled and productive graduates whose background in technology and livelihood is strong and solid.

## 2. MATERIALS AND METHODS

This study used the descriptive design as it aims to explore the Technology and Livelihood (TLE) instruction in the secondary schools in Northern Samar Division in terms of level of attainment of the objectives of Technology and Livelihood Education, level of effectiveness of the methods and techniques used in the Technology and Livelihood Education Instruction, level of adequacy of instructional materials and equipment used in the instruction of Technology and Livelihood Education, and the problems encountered in the Technology and Livelihood Education instruction.

This study was conducted in selected public high schools in the Division of Samar which includes the following secondary schools: University of Eastern Philippines Laboratory High School, Catubig Valley National High School, Hibubullao National High School, Somoroy Agro-Industrial School, and Las Navas National High School.

The respondents of the study were one hundred twenty eight (128) fourth year students who were taking up Technology and Livelihood Education subjects. The main tool in gathering data and information from the respondents was the questionnaire. It was made up of profile of respondents and question proper. The research tool was based from the readings of literature related to the study. After the questions were formulated it was presented to the research

adviser for the refinement or further suggestions for clarity and validity of the research tool before it was distributed to the target respondents.

A letter of request was forwarded to the office of the district supervisor with the recommendation of the respective public high school principals, upon approval, the researcher personally distributed and retrieved the questionnaire upon completion of the said tool, which was collated and tabulated later and ready for statistical treatment. The following Likert Scale was used: Level of attainment of the objectives of Technology and Livelihood Education.

5	4.50-5.00	Very Highly Attained	VHA
4	3.50-4.49	Highly Attained	HA
3	2.50-3.49	Moderately Attained	MA
2	1.50-2.49	Less Attained	LA
1	1.00-1.49	Not Attained	NA

I. Degree of Effectiveness of the Methods and Techniques used in Technology and Livelihood Education instruction

5	4.50-5.00	Very Effective	VE
4	3.50-4.49	Highly Effective	HE
3	2.50-3.49	Moderately Effective	ME
2	1.50-2.49	Less Effective	LE
1	1.00-1.49	Not Effective	NE

II. Level of Adequacy of Instructional Materials and Equipment used in Technology and Livelihood Education

5	4.50-5.00	Highly Adequate	HA
4	3.50-4.49	Adequate	A
3	2.50-3.49	Moderately Adequate	MA
2	1.50-2.49	Less Adequate	LA
1	1.00-1.49	Not Adequate	NA

The weighted mean and average weighted mean - were used to interpret the descriptive data, while the t-test was used to test the null hypothesis of the study.

**3. RESULTS AND DISCUSSION**

**Table 1. Profile of the respondents in terms of age**

Age	Students	
	F	P
15 – 16 years old	105	82.03
17 – 18 years old	23	17.97
Total	128	100.00

As shown above Table 1, 82.03% of the respondents belongs to the age bracket of 15-16 years old. Basing on the entrance of the students during their Grade 1 Level, the average age of entrants were six years old, hence, when they reached fourth year level, majority of them were 15 or 16 years old 23 or 17.97% of the students belongs to the age bracket of 7-18 years old, perhaps these students were repeaters or stop schooling for a year or two, during their elementary or secondary level, hence, they were older than the rest of the fourth-year students.

**Table 2. Profile of the respondents in terms of gender**

Age	Students	
	F	P
Male	52	40.62
Female	76	59.38
Total	128	100.00

As presented in Table 2, majority of the student respondents were females (59.38%), perhaps these students were the ones willing to participate in the survey during the floating of the questionnaire and they are taking up Technology and Livelihood Education basing on where they are interested such as basic Baking, Cooking, Dressmaking, Beauty Culture, Food Processing, etc. Around 40.62 per cent of them were male student respondents who are interested in Drafting, Carpentry, Welding, Agriculture, Electronics, Automotive and etc.

**3.1 What is the Level of Attainment of the Objectives of Technology and Livelihood Education in the Public Secondary Schools in Northern Samar Division?**

The male student respondents perceived that the objectives of Technology and Livelihood Education were highly attained as indicated by the average weighted mean of 3.75. The highest mean was 3.92 or highly attained, "To explore various opportunities and make intelligent choice of entrepreneurial activity and to learn the distribution, utilization, and conservation of human and material resources" Followed by "To understand the processes and products of production, demonstrate understanding of the basic skills in lettering, and manifest knowledge and skills in cut flower production" which got the mean of 3.38 or highly attained. Then, a mean of 3.75 or highly attained. Then, a mean of 3.75 or

highly attained, “To acquire working knowledge of the materials, tools, equipment used in the subject”. The least was, “Demonstrate knowledge and skills in selecting materials and applying art principles in recycling” with a mean of 3.50 or highly attained.

As for the female student’s perception, the average weighted was 4.14 or high attained. “Demonstrate knowledge and skills in selecting materials and applying art principles in recycling” got the highest mean of 4.96 or very highly attained. Followed by a mean of 4.26 or highly attained, “To gain livelihood experience through training”. Then “to acquire working knowledge of the materials, tools, equipment used in the subject,” which got a mean of 4.18 or highly attained. Next, “to understand the processes and products and production,” and a mean of 4.10 or highly attained. The least was a mean of 3.90 or highly attained “Demonstrate understanding of the basic skills in lettering.”

In every subject, there should be objectives that needs to be attained. These objectives would serve as the parameters for the learners to attain its goals for an effective teaching-learning

process to take place. Objectives in the teaching of Technology and Livelihood Education (TLE) should be fully explained and enriched to obtain a high level of attainment since it is significant in the development of students. The component areas of technology when properly taught can promote critical thinking, problem solving, scientific attitude, research, experimentation, discovery, inventiveness, creativeness and intellectual discipline that are vital elements in culture characterized by technological development. Many fields are offered and included in the curriculum of Technology and Livelihood Education (TLE) and the task of teaching should continue and must be aimed at the preparation of citizens for a better world.

As stated by Boser (2008), one of the goals of technology education is to promote technological literacy of a broad and encompassing nature. To achieve this goal, technology education must prepare students to understand, control, and use technology. Students need to learn how to adapt to technological change and how to deal with forces that influence their lives and potentially control their future.

**Table 3. Level of attainment of the objectives of technology and livelihood education**

Objectives	Male		Female	
	WM	VI	WM	VI
1. To gain livelihood experience through training.	3.67	HA	4.26	HA
2. To acquire working knowledge of the materials, tools, equipment used in the subject.	3.76	HA	4.18	HA
3. To understand the processes and products of production.	3.83	HA	4.10	HA
4. To explore various business opportunities and make intelligent choice of entrepreneurial activity.	3.92	HA	4.00	HA
5. Demonstrate knowledge and skills in selecting materials and applying art principles in recycling.	3.50	HA	4.96	HA
6. Demonstrate managerial and manipulative skills on the principles, practice and techniques in growing crops.	3.75	HA	3.94	HA
7. Demonstrate understanding of the basic life skills in lettering.	3.83	HA	3.90	HA
8. To develop safety working habits.	3.51	HA	4.00	HA
9. To learn the distribution utilization and conservation of human and material resources.	3.92	HA	4.08	HA
10. Manifest knowledge and skills in cut flower production.	3.83	HA	3.98	HA
Average Weighted Mean	3.75	HA	4.14	HA

\* expand WM and VI

**Table 4. Significant difference between the perceptions of the male and female fourth year students on the level of attainment of the objectives of technology and livelihood education**

t-comp.	3.5853
t 0.05	2.101
df	18
Findings	Significant
Decision	Reject Null Hypothesis

As shown in Table 4, the t-computed value of 3.5853 is higher than the tabular value of 2.101 at 0.05 level of significance and 18 degrees of freedom, hence findings was significant, therefore the null hypothesis which states “There is no significant difference between the perceptions of the male and female fourth year students in the public secondary schools in Northern Samar Division on the level of attainment of the objectives of Technology and Livelihood Education,” was rejected.

**3.2 What is the Level of Effectiveness of the Methods and Techniques Used in the Technology and Livelihood Education Instruction in the Public Secondary Schools in Northern Samar Division?**

As perceived by the male respondents, the level of effectiveness of methods and techniques used were very effective as indicated by the average weighted mean of 4.81. The highest mean was 5.00 or very effective, “Hands on Application in the Use of Tools/Equipment”. Followed by “Demonstration Method and Discussion/Lecture Method”, with an average mean of 4.92 respectively or very effective. Then a mean of 4.83 or very effective, “Reporting and Team Teaching.” The least was a mean of 4.67 or very effective, “Peer Teaching, Experimentation Method, Chart/Table Presentation and Question and Answer.” As for female respondents, the average weighted mean was 4.91 or every effective.

The highest mean was 5.00 or very effective. “Hands on Application in the Use of Tools/Equipment and Demonstration Method.” Then, “Reporting and Team teaching”, got a mean of 4.98 or very effective,” very effective, “Chart/Table presentation”. The least was, “Peer

Teaching”, with a mean of 4.62 or very effective. In teaching, the teacher employed different teaching styles or strategies that are appropriate to their teaching learning process. These styles/strategies would lean in delivering quality education to students and would also be significant for the students to learn and understand their lessons properly to the level of their capabilities.

In teaching Technology and Livelihood Education, it is very important for the students to have hands on application on the knowledge they learned from their teachers. Merely reading instructional materials is not adequate for them to learn more effectively. Hands on application would hone their skills or they could practice whatever learning they acquire. For instance, if they are studying nail art, it is more effective for them to improve their skills by doing it actually to their co-students or they will be asking somebody to model their nail art, not just by merely looking at pictures or illustration of nail arts. And for males, if they are into welding, carpentry or agriculture, it is imperative that they have to do an actual project (if they are taking up carpentry, making a stool or side table would be their hands-on application, they could make an iron flowers, if they are into agriculture, they could cultivate a vegetable plot), etc.

The philosophy of “learning by doing” is basic in Technology and Livelihood Education. Students are not only trained how to do things but also how to think about meaning of what they are learning and doing. Based on this philosophy, it is significant that the teacher must be familiar with the list of methods, techniques, or strategies used to provide the learner with this type of experience. Some of these methods and techniques are class discussions; field observation/simple research work and project making processes, approach role-playing and reporting. However, it will focus greatly on demonstration techniques and project method.

Garcia (2009) stressed that a part of the school area maybe designed as a shop where students may be given actual work. Here the students will be given opportunity to develop manipulating skills. An important function of this workshop is to provide for the development of a good work habits and acceptable social skills. Habits for

**Table 5. Level of effectiveness of the methods and techniques used in the technology and livelihood education instruction**

Methods and Techniques Used	Male		Female	
	WM	VI	WM	VI
1. Demonstration Method	4.92	VE	5.00	VE
2. Reporting	4.83	VE	4.98	VE
3. Peer Teaching	4.67	VE	4.62	VE
4. Team Teaching	4.83	VE	4.98	VE
5. Experimentation Method	4.67	VE	4.86	VE
6. Discussion/Lecture Method	4.92	VE	4.94	VE
7. Chart/Table Presentation	4.67	VE	4.97	VE
8. Question and Answer	4.67	VE	4.92	VE
9. Hands on Application in the Use of Tools/Equipment	5.00	VE	5.00	VE
10. Film watching related to the topic covered	4.92	VE	4.83	VE
Average Weighted Mean	4.81	VE	4.91	VE

punctuality and attendance are more readily required in a workshop setting. She further stated skills related to the work performance on jobs common to the community are as follows: a) recognition and use of the basic hand in carpentry and farming, b) gardening and poultry raising tasks, c) simple food preparation, d) custodial task, e) stitching, threading and operation of simple machine, f) assembling and disassembling of electrical gadgets.

Teachers are the architect of the citizenry. They are the front liners of education where the goals and objectives of education depend much on them. There are varied ways and means presented and it is the duty of a teacher to make a good use of the most appropriate teaching methodology to attain a high level of degree of performance. As an educator, teachers should have a variety of strategies employed in their teaching, all of which are grounded in any educational theories, appropriate to the level of knowledge of their students, would motivate and gain the interest of their pupils, hence, they could be able to share their ideas and involve themselves in the learning process.

Gregorio (2009) says that technique of teaching refers to acts of the quality of the acts used by the teacher in representing the subject matter to the pupils. It may also include the skill of the teacher in accomplishing the task of learning. It is a technical skill, or artistic execution. Technique in teaching is a factor which promotes or effectuates learning through teaching with the aid of devices; hence, it defined as the skill of the teacher in manipulating the devices as that the psychological processes of the learner may be stimulated to effective reactions, particularly in

dealing with the subject matter that is to be learned. Technique is the teacher's way of containing and emphasizing the elements of the classroom situation.

**Table 6. Significant difference between the perceptions of the male and female fourth year on the level of effectiveness of the methods and techniques used in the technology and livelihood education instruction**

t-comp	1.8084
t 0.05	2.101
df	18
Findings	Not Significant
Decision	Accept Null Hypothesis

As gleaned above, the t-computed value of 1.8084 is lesser than the t-tabular value of 2.101 at 0.05 level of significance and 18 degrees of freedom, hence the findings was not significant, therefore the null hypothesis which states "There is no significant difference between the perceptions of the male and female fourth year students on the level of effectiveness of the methods and techniques used in the Technology and Livelihood Education Instruction in the Public Secondary Schools in Northern Samar Division", was accepted.

### 3.3 What is the level of adequacy of instructional materials and equipment used in the instruction of Technology and Livelihood Education in Northern Samar Division?

As shown above, Table 7, as perceived by the male respondents, the average weighted mean was 3.89 or adequate. "Training Aids or

Devices”, got the highest score of 4.08 or adequate. Followed by a mean of 4.02 or adequate, “computer”. Then, teaching guide, “garnered a mean of 3.92 or adequate”. “Magazines/Journal”, got a mean of 3.83 or adequate. The least mean was 3.72 or adequate, “Instruction Sheet”.

As for the female respondents, they perceived that there was also adequate instructional materials and equipment as evidenced by the average weighted mean of 4.14. The highest garnered mean was 4.50 or highly adequate, “Reference Books”. Next, “Training Aids and Devices,” which got a mean of 3.48 or adequate. Then a mean of 4.00 or adequate, “Instruction Sheet”, the least mean was 3.92 or adequate, “Magazines/Journal”.

The adequacy of instructional materials and equipment needed by students is very important in the teaching learning process of the students. These instructional materials and equipment would pave the way for the students to better understand their lessons and gain the objective of each lessons. Also having the needed materials/equipment would help them hone their skills because they could apply what knowledge they gained from lessons. For instance, if their interest is in basic cooking or baking, if they only use instructional materials alone without doing the actual process because there are lacking equipment such as ovens, baking pans, their learning would not be adequate. Simulating what

they have seen or read in baking instructions will be more interesting than just by reading the instructions. Actual application is an important aspect of learning because of the students could be able to apply hands on what they learn. Also, in their interest is in carpentry, how could they improve their skills if there is no hammer, nails, etc. hence, actual application of such knowledge is an added factor for the students to learn more.

Lardizabal (2009), pointed out that in order to achieve quality teaching and learning, there must be adequate facilities such as classrooms, books, etc. He stressed that these facilities would help the learners in the educative process. If there are no facilities allocated for the students, they could hardly concentrate and focus their minds in any school activities.

As noted above Table 8, on the t-computed value of 2.0088 is lesser than the t-tabular value of 2.228 at 0.05 level of significance and 10 degrees of freedom, hence findings was insignificant, therefore the null hypothesis which states, “There is no significant, therefore the null hypothesis which states, “There is no significant difference between the perceptions of the male and female fourth year students in the public secondary high schools in Samar Division on the level of adequacy of instructional materials and equipment used in the instruction of Technology and Livelihood Education” was accepted.

**Table 7. Level of adequacy of international materials and equipment used in the instruction of technology and livelihood education**

Instructional Materials and Equipment Used	Male		Female	
	WM	VI	WM	VI
1. Teaching Guide	3.92	A	3.98	A
2. Magazines/Journal	3.83	A	3.92	A
3. Instruction Sheet	3.72	A	4.00	A
4. Computer	4.02	A	3.96	A
5. Training Aids and Devices	4.08	A	4.48	A
6. Reference Books	3.78	A	4.50	A
Average Weighted Mean	3.89	A	4.14	A

**Table 8. Significant difference between the perceptions of the male and female fourth year students on the level of adequacy of instructional materials and equipment used in the instruction of technology and livelihood education**

t-comp.	2.0088
t 0.05	2.228
df	10
Findings	Not Significant
Decision	Accept Null Hypothesis



#### 4. CONCLUSION

Based on the results of the study, the following remedial measures may be developed to improve the Technology and Livelihood Education instruction in Northern Samar Division:

1. That the national vocational schools or public secondary schools should endeavor to offer cluster of practical courses rather than concentrating in only one or two popular courses, so that students should be fully aware that in all occupational endeavors they should be fully aware that in all occupational endeavors they should have a knowledge of marketing and selling of their goods or services, and consequently, bookkeeping and accounting moreover entrepreneurship or self-employment the students need this knowledge when running his own business.
2. That measures should be made by the schools in providing adequate and needed essential facilities, tools, equipment, and supplies and materials to fully implement their program of practical arts in order to attract more students in interest of improved learning.
3. The institutions need to exert greater efforts in securing more community resources to aid in the implementation of the program and to argue insufficient funding for the purchase of materials to enrich curricular offerings.
4. The teachers need to improve their skills and competence in imparting knowledge to their students, likewise, the institutions should adequately provide for the shortage such as lack of books, instructional materials, equipment/tools and the like in order that the students may be able to derive from the instruction.
5. The national vocational schools should endeavor to have well organized and functional occupational and placement service before the students graduated from high school.
6. Technology and Livelihood Education teachers must see to it that the instructional materials and the equipment which are necessary in the effective and systematic teaching-learning of Technology and Livelihood Education must be sufficient in number, functional and updated and school administrators must support the teachers in mapping out lasting

out solutions to the problems which they encountered as they teach the subject.

#### 5. RECOMMENDATIONS

In the light of the findings and conclusions derived from the study, the researcher hereby recommended the following:

1. That the government should allocate more funds to the Department of Education so that the secondary schools with TLE curriculum could be given enough allocation, hence, they could be able to provide more teaching materials such as instructional sheets, magazines and journals and equipment (such as cooking and baking utensils, gardening tools, beauty care materials, welding and soldering materials, carpentry materials, lettering and drafting equipment) so that students could be able to do hands on application of their knowledge.
2. That the schools concerned should improve their objectives in lettering, drafting or recycling lessons in their teaching of TLE curriculum.
3. That teachers concerned should be more committed in their teaching or imparting knowledge to the pupils by improving peer teaching, experimentation method, chart and table presentation and improving their questions and answer method techniques that would result in the improvement of academic achievement of the secondary school students taking up Technology and Livelihood Education.
4. That the school principals should exert more effort in motivating their teachers to be more extensive in their teaching performance.
5. That further studies should be made and with inclusion of other pertinent variables.

#### CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

#### COMPETING INTERESTS

Author has declared that no competing interests exist.

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