TRAINING NEEDS OF TECHNOLOGY AND LIVELIHOOD EDUCATION (TLE) TEACHERS IN THE PUBLIC HIGH SCHOOLS: BASIS FOR A TRAINING DESIGN

MICHAEL C. CABASAN
TEACHER
ANDA, PANGASINAN, PHILIPPINES

Abstract : This study focused on the training needs of Technology and Livelihood Education teachers in the public high school, basis for a training design. It was concern on the professional profile of the TLE teachers, their perceptions on the instructional delivery needs in terms of content knowledge; strategies in the teaching of TLE; and assessment of learning in Technology and Livelihood Education. Based on the analysis of the findings, this study came up with a proposed training design to enhance the capabilities of the TLE teachers in the public high school. The sources of data were the eighty-four (84) TLE teachers in the public high schools. It was delimited to the preparation of the proposed training design. This study assessed the training needs of Technology and Livelihood Education teachers. It also determines the professional profile of the Technology and Livelihood Education teachers in terms of their highest educational attainment, relevant in-service training attended, number of years of teaching, awards/recognition received as a TLE teachers, perception of the respondent teachers in terms of the following instructional delivery needs, content knowledge, strategies in teaching and assessment of learning Technology and Livelihood Education. The locale of this study was the Anda District. The sources of data were the eighty-four (84) Technology and Livelihood Education teachers in the public high schools.The researcher collected the information and data given by the respondents during the course of the study. The facts furnished by respondents are properly and logically treated using the standard tools on research.

IndexTerms – design, TLE teachers, technology, livelihood, training

I. INTRODUCTION

1.1 Rationale

Education is the principal means for preparing people to enter the world of work. She explained this when she said that education in the future must adequately prepare our young people to maintain core values that define our identity as a nation, while at the same time preparing them for a more globally competitive future. The trend towards globalization requires a more thorough preparation for the future workers. Not only do we consider current standards, but also the higher orders of skill and knowledge that are demanded in global workplace. This implies preparing the workers to operate in technologically enriched environment, in a multi-cultural setting. Pefiano (2022)

Teaching is the occupation that is the most reflected upon, cherished, praised, rejoiced, and canonized, and at our deathbeds, possibly the most the most remembered aside from our dear ones, yet the least rewarded, in terms of earthly goods, of all the worthwhile and necessary pursuits. Ben Franklin (2007) went on to say, "A gifted teacher is as rare as a gifted doctor, and makes far less money."

The more we try to improve our schools, the heavier the teachers task becomes; and the better our teaching methods, the more difficult they are to apply." –Jean Piaget

Sison (2022) recognized the need to provide our country with highly skilled and competent professionals. This can only be accomplished if we ensure our citizenry to receive quality education and training from our academic pursuits. Central to this is our move to prepare the ground for faster and more sustained economic growth and development. To attain global competitiveness, we must emphasize and encourage innovation by promoting culture of creativity, productivity and excellence.

Clemente (2020) was right when he said that we have already entered into the 21st century of Industrial Darwinism where only the fittest survives. He added that we must produce students who can dish out with the best and the brightest in the world that they can find a niche in a global market. The world is technology driven and that science and technology proceed in exponential rate that products, manufacturing processes, organizations, jobs and the way we live are changing very rapidly. In fact, many products and jobs for the 21st century are not yet even defined.

Balderas (2020) mentioned that DepEd stands on the conviction that functional literacy in its comprehensive meaning is the ability that is most essential for lifelong learning in our risky new world. Filipino teachers who attain functional literacy will have developed sufficient self-discipline which can lead to sustainable accomplishments when combined with our people's innate adoptability to change. With functional literacy, Filipino learners can do self-regulated learning and with enough motivation, they on their own can seek sources of knowledge, read instructional materials and conduct explorations on other subject matters on topics that interest them.

The curriculum was defined to have fewer learning areas with better integration of competencies and topics within and across these and with more time not for additional subject matter that will overload our learners but the mastery of essential competencies and personal analysis and reflection on the major concepts.

The curriculum aims at empowering the Filipino learner to be capable of self-development throughout one's life and to be patriotic benevolent, ecologically aware and godly. The overall aim entails the acquisition of life skills, a reflective understanding and internalization of principles and values and the development of the person's multiple intelligences. Thus, in the restructured curriculum, training in life skills, the

identification and analysis of values and the recognition of multiple intelligence permeate all the learning areas like the Technology and Livelihood Education.

Considering the need for effective teachers of Technology and Livelihood Education, the researcher was motivated to undertake this study.

1.2 Theoretical Framework

This study is anchored on the theories of Dr. W Edwards Deming, an internationally known authority in the field of statistical quality control. It has 14 principles but this study was very much concerned on the 1st, 2nd, 5th, 6th, and 13th as follows:

First create constancy of purpose for improvement of product and services. Deming says that the school must focus in helping students to maximize their own potentials through continuous improvement of teachers' and students' working together.

Maximization of test scores and assessment symbols is less important than the progress inherent in the continuous learning process of each student.

Second, adopt the new philosophy, where school leaders must adopt and fully support the new philosophy of continuous improvement through the greater empowerment of teacher-student teams. Cynical Application of the new philosophy, with the sole intent improving district-wide test scores, destroys interpersonal trust which is essential to success.

Fifth, improve constantly and forever the system of production hence, school administrators must create and maintain the context in which teachers are empowered to make continuous progress in the quality of their learning and other aspects of personal development, while they learn valuable lessons from (temporary) failures.

Sixth, institute programs of training school leaders and for new employees unfamiliar with the specific culture and expectations of the school. Effective training programs show new teachers how to set goals, how to teach effectively and to assess the quality of their work with students. Teachers must also institute programs in which students learn how to set learning goals, how to be more effective in their school work and how to assess quality of their own work. Teachers should show students by attitude and actions what a good learner is all about. Educators learn how to be educators from the modeling they receive as students.

Thirteenth, institute a vigorous program of education and retaining. All of the school's people benefit from encouragement to enrich their education by exploring ideas and interest beyond the boundaries of their professional and personal worlds. School personnel at all levels and students must put this new philosophy into action so it becomes imbedded into the deep structure and culture of the school. Teachers and students alone cannot put the plan into effect. Constant top-level dedication to full implementation must be supported by a critical mass of school and community people to implement the plan and make it stick.

The way in which teachers choose and construct behaviors is influenced by the extent to which they believe they will be successful with a course of action in a particular context. This self-regulatory process within SLT is referred to as self-efficacy.

It is the belief an individual has in the level of success they will experience when they act in certain ways in specific context. Self-efficacy reflects cognitive capacities and underlying skills, it also incorporates affective components such as confidence, motivation and willingness to innovate. Previous research has found teachers' self-efficacy to be related to positive teaching behaviors and students achievement. Teachers with lower levels of efficacy are more pessimistic about students motivation and believe in strict classroom regulation and rely on extrinsic inducements and negative sanctions to get students to study (Woolfolk, Rosoff, & Hoy, 2000). Self-efficacy is an important dimension but it is the broader theoretical framework that is being considered in this study.

The core component of SLT, as referred to above, is observational learning and the mental modeling of observed behaviors. Teachers (re) construct behavior to implement in classroom.

Teachers at the beginning of their careers observe and model the practice of other teachers, adapt them and (re)produce them in the classroom (Lortie, 2002), this is consistent with SLT. Feedback and response as well as self-assessment by the individual teacher influence the formation of their teaching behaviors. In time, practices become largely routine (Cuban, 2009; Wake, 2011).

Functional Theory, The functionalist perspective, also called functionalism, is one of the major theoretical perspectives. It has its origins in the works of Emile Durkheim, who was especially interest in how social order is possible or how society remains relatively stable.

Functionalism interprets each part of society in terms of how it contributes to the stability of the whole society. Society is more than the sum of its parts; rather, each part of society is functional for the stability of the whole society. The different parts are primarily the institutions of society, each of which is organized to fill different needs and each of which has particular consequences for the form and shape of society. The parts all depend on each other.

For example, the government, or state, provides education for the children of the family, which in turn pays taxes on which the state depends to keep itself running. The family is dependent upon the school to help children grow up to have good jobs so that they can raise and support their own families. In the process, the children become law—abiding, taxpaying citizens, who in turn support the state. If all goes well, the parts of society produce order, stability, and productivity. If all does not go well, the parts of society then must adapt to recapture a new order, stability, and productivity.

Piaget's Theory of Cognitive Development is a comprehensive theory about the nature and development of human intelligence. It was first developed by a Swiss development psychologist, Jean Piaget (1896-1980).

Piaget believed that one's childhood plays a vital and active role to the growth of intelligence, and that the child learns through doing and actively exploring. The theory of intellectual development focuses on perception, adaption and manipulation of the environment around them. It is primarily known as a developmental stage theory, but, in facts, it deals with nature of knowledge itself and how humans come gradually to acquire, construct, and use it. To Piaget, cognitive development was a progressive reorganization of mental processes resulting from biological maturation and environmental experience.

Accordingly, he believed that children construct an understanding of the world around them, then experience discrepancies between what they already know and what they discover in their environment. Moreover, Piaget claimed that cognitive development is at the center of the human organism, and language is contingent on knowledge and understanding acquired through cognitive development. Piaget's earlier work received the greatest attention. Many parents have been encouraged to provide a rich, supportive environment for their child's natural propensity to grow and learn. Child-centered classroom and "open education" are direct applications of Piaget's views. Despite of its huge success, Piaget's theory has some limitations like any others, for example, a Decal age that Piaget's recognized himself.

Instructional Theory is a discipline that focuses on how to structure material for promoting the education of human beings, particularly youth. Originating in the United States in the late 1970s, instructional theory is typically divided into two categories: the cognitive and behaviorist school of thought. Instructional theory was spawned off the work of Benjamin Objectives – one of the first modern codifications of the learning process. One of the first instructional theorists was Robert M. Gagne, who published Conditions of Learning for the Florida State University Department of Educational Research. Renowned psychologist B. F. Skinner's theories of behavior were highly influential on instructional theorists because their hypotheses can be tested fairly easily with the scientific process. It is more difficult to demonstrate cognitive learning results. Paulo Freire's Pedagogy of the Oppressed had a broad influence over a generation of American educators with his critique of various "banking" models of education and analysis of the teacher-students relationship.

Instructional-design Theory is a theory that offers explicit guidance on how to better help people learn and develop. The kinds of learning and development may include cognitive, emotional, social, physical, and spiritual. For example, in Smart Schools, Perkins describes an instructional-design theory, called "Theory One", which offers the following guidance for what the instruction should include to foster cognitive learning (Reigeluth, 2000). This theory was considered by the researcher and intended to incorporate to the study because this established theory support some of the proposition of the use of effective materials in teaching will deliver the topic to the learners constructively through the employment of proper guidance and instruction in the course of discussion in the classroom.

1.3 Conceptual Framework

The right top education is a universal entitlement to education. This is recognized in the International Covenant on Economic, Social and Cultural Rights as a human right to develop secondary education accessible to all, in particular by the progressive introduction of free secondary education, as well as an obligation to develop equitable access to higher education, ideally by the progressive introduction of free higher education.

The right to education also includes a responsibility to provide basic education for individuals who have not completed primary education. In addition to these access to education provisions, the right to education encompasses the obligation to rule out discrimination at all levels of the educational system, to set minimum standards and to improve the quality of education.

The legal basis of this study is the Basic Education Act or Republic Act 9155 which provides the overall framework for (a) school head empowerment by strengthening their leadership roles and (b) the school-based management in the context transparency and local accountability. The goal of basic education is to provide the school age population and young adults with skills, knowledge and value to become caring. Self-reliant, productive and patriotic citizens as integrated in the subject Technology and Livelihood Education.

Technology and Livelihood Education to develop a highly competent, civic-spirited, life-skilled and God-loving Filipino youth who actively participate in and contribute to building humane, healthy and productive society.

The implementation of the basic education curriculum stressed an integrative and interactive approach to teaching and learning through teacher development and training, strengthening testing and assessment, implementing a textbook program and improvement in educational facilities.

The Basic education program aims at raising the quality of the Filipino learners and graduates empowering them for lifelong learning which requires the attainment of functional literacy. The emphases are the following:
Providing more focus on the tool learning areas for an adequate development of the competencies for learning how to learn; (2) providing an experiential learning areas where the learner can apply practical knowledge and life skills and demonstrate deeper appreciation of Filipino culture and heritage being taught in Technology and Livelihood Education; and (3) Making values development integral to all the learning areas.

This study was conceived and anchored on Republic Act 9155, using the Input-Process-output Model. The input in this study was 1. The professional profile of the Technology and Livelihood Education teachers in the public high schools in the Anda District, Schools Division of Pangasinan I in terms of the following: a. Highest educational attainment; b. Relevant in-service trainings in TLE attended; c. Number of years of teaching TLE; d. Awards/Recognition received as a TLE teacher 2. Instructional delivery needs of TLE teachers in terms of the following: a. Content knowledge in TLE; b. Strategies in the teaching of TLE; and c. Assessment of learning in TLE

The process analyzed the inputs and the findings as basis in developing for training needs of Technology and Livelihood Education teachers to improve their teaching.

The output was a proposed training design to enhance the skills of Technology and Livelihood Education teachers in the public high schools.

1.4 Statement of the Problem

This study sought to develop a training design for Technology and Livelihood Education teachers in the public high schools.
Specifically it sought to answers the following sub-problems:
1. What is the professional profile of the TLE teachers in the public high schools in the Anda District, Schools Division of Pangasinan I in terms of the following:
   a. Highest Educational Attainment;
   b. Relevant in-service trainings in TLE attended
   c. Number of years of teaching TLE
   d. Awards/Recognition received as a TLE teacher
2. How do the TLE teachers perceive the following instructional delivery needs:
   a. Content knowledge in TLE
   b. Strategies in the teaching of TLE
   c. Assessment of learning in TLE
3. Is there a significant relationship between the professional profile of the TLE teachers and the aforecited instructional delivery needs in TLE?
4. Based on the findings, what training design for the TLE teachers can be developed and proposed for implementation to address their training needs.

1.5 Basic Assumptions

This study was premised on the following assumptions:
1. The professional characteristics of the TLE teachers contribute a lot in their preparedness in teaching Technology and Livelihood Education.
2. Findings in this study can be a basis for the development of a training design for TLE teachers in the public high schools to enhance their capabilities in teaching Technology and Livelihood Education.

1.6 Scope and Delimitation

This study focused on the training needs of Technology and Livelihood Education teachers in the public high school, basis for a training design. It was concern on the professional profile of the TLE teachers, their perceptions on the instructional delivery needs in terms of content knowledge; strategies in the teaching of TLE; and assessment of learning in Technology and Livelihood Education.

Base on the analysis of the findings, this study came up with a proposed training design to enhance the capabilities of the TLE teachers in the public high school.

The sources of data were the eighty-four (84) TLE teachers in the public high schools. It was delimited to the preparation of the proposed training design.

1.7 Importance of the Study

The implementation of the K-12 Program demands DepEd to be proactive. It on helping its people grow to make them effective instructional leaders of the schools.

Specifically, the findings of this study was a great helps to the following:

Public High School Administration The school administrators could also gain insight on the instructional competencies of TLE teachers and be guided on their supervisory activities so that they assist these teachers enhance TLE instruction and therefore produce pupils who are scientifically competent.

Public High School Competency in TLE is important to every student's in solving problems of everyday life. The findings of this study will help public high school administrators and curriculum planners to work hard towards producing individuals with better developed knowledge, values and skills thereby offering adequate, meaningful and relevant education.

TLE Teachers this study also enables TLE teachers to gain information on the achievement of the students and with these results; they can improve their competencies teaching the subject area. It is also directed to TLE teachers for having the greatest influence over the learning performance of their students. This provides the springboard for teachers to reflect on their classroom practices thereby enriching themselves with workable and appropriate instructional approaches since the success and failure of the teaching learning process depends mostly on them being the key implementers of educational goals.

Researcher that the result of this study will lead to professional development of the researcher in teaching TLE and encourage every member of the academy to conduct research that will enhance the skills of the students. In addition, it will also serve as future references for students and other scholars to improve the education in the country.

Results of this study could provide other researchers benchmark data which could be valuable to their studies.

1.8 Definition of Terms

In order to facilitate better understanding of the different terms that were used in this study, operational definitions of the terms are given:

Professional Development. These include the self-initiated or group activities, such as continuing education, seminar, workshop, training and webinars, aimed to improve the teachers commitment, competence and knowledge of the latest development in the teaching Mathematics VI.

Training Design. This refers to a technical paper for teacher's professional development it is consist of the following reports: needs analysis, objectives, target audience, rationale and training matrix. It is also the output of this study which will be proposed for implementation.

Technology and Livelihood Education or (TLE) is one of the learning areas of the Secondary Education Curriculum used in Philippine secondary schools. As a subject in high school, its component areas are: Home Economics, Agri-Fishery Arts, Industrial Arts, and Information and Communication Technology. TLE is also referred to as CP-TLE for Career Pathways in Technology and Livelihood Education. The 2010 Secondary Education Curriculum allocates 240 minutes per week for CP-TLE is required to include practical work experience in the community, which may extend beyond its specified school hours.

Extent of Preparedness. This refers to the degree of teachers preparedness in teaching their lesson with the use of different teaching methodologies, instructional materials and reliable assessment instruments.

Profile. It refers to the professional characteristics of the TLE teachers of public high schools.

R.A.9155. This refers to the Governance of Basic Education Act.

1.9 Literature

The environmental context comprise the national development goals as articulated in the Medium Terms Philippines Development Plan and to which the basic education sectors is expected to contribute, the demands of globalization and the digital age and the trends and developments in educations such as the pillars of the learning and the enhancement of the multiple intelligence.

Learning needs are defined in terms of functional literacy, life skills, self-development and the knowledge, skill, attitude and values that will prepare the learner for higher level of the world of work.

Hendrich (2020) underscored the guidelines for teaching-learning basic skills. The teachers' role is essentially five-fold: 1.) Teachers do not merely mention a particular learning skill; they direct and explain what a particular skill is and how to use it; 2.) Teachers provide progressively more difficult items for pupils' practice on until they can complete the task on their own; 3.) Teachers determine whether the pupils can perform the task and use related skills to new and different learning situations; 4.) Teachers identify the process or thinking operations pupils use to perform tasks or solve problems by asking appropriate questions and listening to pupils' response; and 5.) Teacher learn to use diagnostic and assessment tools to make appropriate connections between learning skills and concepts or problem being taught in the particular subject.

Emphasizing learning by doing, provide pupils opportunities to become closely acquainted with their physical environment and to become familiar with some of the laws, theories and concepts, tools and applications of basic skills. For some pupils the active outdoor setting and the opportunity to learn applied laboratory experience makes learning about physical science more stimulating and interesting. Thus, teachers should focus more on creating and developing activities with great emphasis on experience discovery and understanding. In this case, the pupils are provided with the necessary atmosphere conducive in the cultivation of the needed skills among the pupils for them to be affective citizens of the country.

As they grow older, they are given more experiences learned in the earlier years. These are measurement, inferring, predicting, a more organized way of classifying. Lee (2021) recognized the use of an effective approach that could be used by teachers in teaching science, pupils become interested with the different subject matters in science and that learning becomes more permanent. And he further stated that if pupils are to learn with understanding and especially if they are to engage in the kind of self-regulated construction of meaning that is implied in the notion of conceptual change the pupils must engage in learning activities with certain motivational orientations and respond to them using certain learning strategies.

Furthermore, Aquino (2020) cited that the teachers play a vital role on the learners' educational environment. Their presence and influence makes other elements of the educational activities become effective. The teachers guides, directs and stimulates the young minds in their goal seeking.

Salandanan (2021) pointed out that science teaching emphasizes the development of cognitive and psychomotor aspect of learning. The knowledge and skills that the learners gain and acquire are indispensable to their everyday living especially in decision-making and in solving crucial problems. Thus, science teaching calls for skillful teaching.

The teacher should create possibilities on how he could motivate and inspire the pupils so that retention of lesson would be lasting. Meaningful learning facilities faster acquisition and longer retention that could only be achieved through helping the pupils realize how real science is through experiencing science at work within their environment. For that matter the environment assumes an important role in the learning process.

She further pointed out that the teaching of science should enable the children to acquire knowledge and understanding which they can use to predict, explain, and interpret their environment. Classroom instruction planned for the young should insure a functional understanding of facts and scientific information which can be applied in expanding their daily experiences.

Professional Development opportunities can range from single workshop to a semester-long academic course, to services offered by a medley of different Professional Development providers and varying widely with respect to the philosophy, content, and formal of the learning experiences. Some example of approaches to Professional Development includes:

Case Study Method – the case method is teaching approach that consist in presenting the students with a case, putting them in the role of a decision maker facing a problem.

Consultation – to assist an individual or group of individual to clarify and address immediate concerns by following a systematic problem-solving process;

Coaching – to enhance a person's competencies in a specific skill area by providing a process of observation, reflection, and action;

Communities of Practice – to improve professional practice by engaging in shared inquiry and learning with people who have a common goal;

Lesson Study – to solve practical dilemmas related to intervention or instruction trough participation with other professionals in systematically examining practices;

Mentoring – to promote an individual's awareness and refinement of his or her own Professional Development by providing and recommending structured opportunities for reflection and observation;

Reflective Supervision – to support, develop, and ultimately evaluate the performance of employees through a process of inquiry that encourages their understanding and articulation of the rationale for their own practices; and

Technical Assistance – to assist individuals and their organization to improve by offering resources and information, supporting networking and change efforts.

Professional Development is broad term, encompassing a range of people interest and approaches. Those who engage in Professional Development share a common purpose of enhancing their ability to do their work. At the heart of Professional Development is the individual's interest in lifelong learning and increasing their own skills and knowledge.

The 21st century has seen a significant growth in online Professional Development. Content providers incorporate collaborative platforms such as discussion boards and wikis, thereby encouraging and facilitating interaction, and optimizing training effectiveness.

In the education industry, the use of online sources Professional Development represents a significant shift. Whereas many other industries have used online sources of continuing education and professional practices for many years, traditionally educators have turned solely to internal Professional Development departments, local education agencies, and local colleges and universities to acquire the necessary education to meet the required hours/units for renewal of their teaching-licenses.

However, the economic pressures facing school districts combined with a greater conviction that online Professional Development can be effective has led to increased interest in this option. Rather than replacing traditional sources of Professional Development, online sources and providers have served to augment existing options and can bring a widening access to topics and a broader scope to "learning communities". As teacher performance comes under increased scrutiny, a study conducted by Boston College found that English and math teachers who took Professional Development courses online improved their instructional practices and their subject knowledge scores, producing modest performance gains for their students.

"A series of online Professional Development courses that focus on specific content and target student learning needs can have positive effects on teacher knowledge and instructional practices," said Boston College Associate Professor of Education Laura O'Dwyer. "The studies also show that teacher participation in online Professional Development can translate into improvements in targeted students' outcomes".

Opportunities for active learning, content knowledge, and the overall coherence of staff development are the top three characteristics of Professional Development. Opportunities for active learning and content specific strategies for staff development refer to focus on teacher application of learned material. Overall coherence refers to the staff development program perceived as an integrated whole and development activities building upon each other in a consecutive fashion. Marzano (2003) warned, however, that standardized staff development activities which do not allow for effective application would be ineffective in changing teacher behavior.

II. METHODOLOGY

This chapter presents the methods and procedures employed in dealing with the research problems. This includes the population of the study, the instrument used in gathering the needed data and information and the statistical treatment of data.

2.1 Research Design

This study employed the descriptive method of research as it sought to develop a training design for TLE teachers of the public high school after the description of their professional profile. The personal characteristics were the highest educational attainment, relevant in service training in TLE attended, number of years teaching of the said subject, and the awards/recognition received as a TLE teacher, the perceptions of the TLE teachers on the following instructional delivery needs: content knowledge in TLE; strategies in the teaching of TLE; assessment of learning in TLE. It also employed the developmental method of research in developing a training design to address the needs of the TLE teachers.

Sources of the Data

The data gathered in this study were sourced out from the TLE teachers in the public high schools, basis for a training design. Total enumeration was employed for the respondents with the distribution presented in Table 1.

Instrumentation and Data Collection

Sets of questionnaire were administered to the eighty four (84) respondents teaching Technology and Livelihood Education in the Anda District, Schools Division of Pangasinan I. Total enumeration was used.

The questionnaires were prepared by the researcher with the assistance of her adviser. Suggestions of the panel were integrated to improve this.

Table 1
Distribution of Respondents

N=84

Schools	Frequency of Respondents/Sample
Anda National High School	10
Cabungan National High School	10
Carot National High School	10
Macaleeng High School-Main	10
San Jose National High School	8
Tondol National High School	10

Awag Integrated School	10
Siapar Integrated School	8
Anda Integrated School	8
	10
Total	84

For sub-problem number one, a checklist on the professional profile was prepared to be answered by the respondents. Blanks were provided for them to fill up for easier consolidation.

For sub-problem no.2 the questionnaires were in a matrix form where the respondents can just write answers. The researcher administered the questionnaire personally to the fellow Technology and Livelihood Education teachers to ensure 100% retrieval.

2.2 Tools for Data Analysis

This study made used of simple statistical analysis like frequency, percentage and average weighted mean.

For sub-problem no. 1 on the profile of the respondents frequency and percentage were used. For sub-problem no. 2 the average weighted mean was used.

Total enumeration was used in sampling.

The average weighted mean was computed based on the following formula:

$$AWM = \frac{\sum fx}{N}$$

Where:

fx	=	number of responses per column multiplied by the assigned point values
$\sum fx$	=	the summation of products per column
N	=	total number of respondents

The interpretation of the data for the sub-problem was presented in the following chart.

Scale Value	average weighted mean of Value limits	Descriptive Equivalent/ Sub-problem no. 2
5	4.21-5.00	Very Much prepared
4	3.41-4.20	Much prepared
3	2.61-3.40	Moderately prepared
2	1.81-2.60	Slight prepared
1	0-1.80	Not prepared

III. PRESENTATION, ANALYSIS AND INTERPRETATION OF THE DATA

This chapter present the data gathered and gives an in depth analysis coupled with its interpretation. The results are laid down and presented in accordance to the problem enumerated in Chapter I.

3.1 Profile of TLE teachers in the Public High Schools in the Anda District, Schools Division of Pangasinan I

This section described the profile of the TLE teachers in the public high schools in the Anda District, Schools Division of Pangasinan I.

Table 2 presented the highest educational attainment, relevant in-service trainings, and number of years teaching Technology and Livelihood Education subject, awards/recognition received as a TLE teacher.

The Technology and Livelihood Education teachers in the public high school were found to be advocates of a continuing career development. Even as a classroom teacher only, they keep on pursuing post graduates studies.

The data presented herein implies that members of the academe are geared toward achieving into higher educational attainment in order to obtain enough degree of competence and also to gain the required skills in the teaching profession. Scholars have proven that the higher the educational attainment of the teachers will give personal benefit and advantage to the students because the latter may acquire advance knowledge due to the possessed skills of the teachers. Furthermore, teachers will have enough expertise and techniques how to freely transfer the seed of wisdom to the students which may give positive result to the performance of the learners.

Table II-A
Profile of Respondents according to Highest Educational Attainment

N=84

Respondents	F	0%
Highest Educational Attainment		
Doctorate	0	0%
With units in Doctorate	4	4.76%
Masteral Degree	18	21.43%
With units in Masteral	52	61.91%
Bachelors' Degree major in TLE	10	11.91%
	84	100.00%

This respondents in this study clearly show that majority have MA units with 26 or 61.91 percent; 9 or 21.43 percent have master degree; 5 or 11.91 percent were bachelor's degree major in TLE; 2 or 4.76 have units in Doctorate; and none of the respondents had doctorate degree. The information above must encourage the other members of the academe to enroll to higher education and finish the said degree in order to obtain enough knowledge, theories, information, and skills in their profession to achieve quality education in the country. The government must design

laws and guidelines to encourage the teachers to pursue higher education for the reason that the teachers to be abreast on the current theories and facts on their field of specialization. it is highly recommended that continuing education must be given importance by the members of the academe.

The numerical value appears in the table must give idea to the members of the academe to continue in achieving higher education for personal advantage and for the benefit of the students

Table II-B
Profile of Respondents according to Relevant in-Service Trainings in TLE Attended

N=84

Respondents	F	0%
Relevant in Service Training		
Local/Division Level	24	28.57%
National Level	0	0%
Specialized Trainings'	30	35.71%
	54	64.28%

Based from the information above, it shows the relevant in service trainings in Technology and Livelihood Education of the respondents. The level of trainings attended is of vital importance in the teaching profession because on this manner the teachers obtain knowledge that will help them in the exercise of their profession.

It is apparent that there are 24 out of 84 respondents equivalent to 28.57 percent who has experienced trainings in local/division level which explains that majority of the respondents have a relevant trainings in the local level that may train the teachers to be competent and to prepare thyself for higher level.

In addition, it is worth to note that there was no respondents who attended national level. On the other hand, there are 54 out of 84 respondents tantamount to 35.71 percent with specialized trainings that must be immolated and become followed by other members of the academe to haul in their expertise to become a better teacher in the institution.

Table II-C
Profile of Respondents according to Number of Years Teaching TLE

N=84

Respondents	F	0%
Number of years teaching TLE	14	16.67%
16-above	20	23.81%
11-15 years	40	47.62%
6-10 years	10	11.91%
1-5 years	84	100.00%

The information furnished by the respondents during the course of the study is presented in the table above. The data implies the profile of the respondents according to number of years teaching Technology and Livelihood Education.

According to Hilgard (2000), learning proceeds most effectively and tends to be most permanent when the learner continuous to develop his skills and potential, that is, why there is a need to train teachers to prod them to undertake whatever activities may be done later on. Furthermore, logic dictates that person who undergoes trainings and experiences acquires enough skills and wisdom which is necessary in the practice of profession.

Based from the information above, there are 10 out of 84 respondents or 11.91 percent who have at least 1-5 years of experience. On the other hand, there are 20 out of 84 respondents or 23.81 percent with an experience of 11-15 years. Moreover, there are 14 out of 84 respondents or 16.67 percent with an experience of 16 years and above. The data mirrors a good number of experienced teachers currently employed in the academe because there are few seasoned teachers that will guide the newly employed teachers in the institution. The majority of the respondents have at least 1-5 years of experience but this is explain by the fact that professional geared in entering in the public sector to be part of the institution.

The above enumeration of information is in accord to the findings of many scholars that having at least five years of good teaching can make a difference and teachers will learn the basics of teaching to in order to impart the lesson freely to the learners.

Table II-D
Profile of Respondents according to Awards/Recognition Received as a TLE teacher

N=84

Respondents	F	0%
Award/Recognition received as a TLE teacher	30	35.71%
Division Level	20	23.81%
Regional Level	0	0%
National Level	50	59.52%

In the table presented herein, it provides the prole of respondents according to awards/recognition received as TLE teachers and the corresponding level therein.

It shows that, it is highly necessary to list the information gathered during the course of the study because awards/recognition are rewards or prize given to a deserving person or entity in any field of specialization. Awards are something to be given importance and discussions to serve as an inspiration and tools as guidelines for the other members of the academe.

In the division and regional level, respondents received awards on both level with an overwhelming 100 percent. This data proves that hard works and dedication can lead into meaningful and fruitful results. The perfect result on the division and regional level must be continued by future generation in order to develop the current status of education in the country.

On the national level, it is also worthy to mention in this discussion because there was no respondents who garnered an awarded but it is not impossible that many members of the academe will also receive the same prize and rewards at the national level. There were 30 respondents or 35.71 percent respondents who received awards from division level; and 20 or 23.81 percent respondents who garnered an award in the regional level.

3.2 Perception of the Technology and Livelihood Education Teachers in terms of the following Instructional delivery needs

This section is focused on the perceptions of the respondents, in terms of the following instructional delivery needs of Technology and Livelihood Education teachers.

Table 3 presents the perceptions of the TLE teachers in the public high schools in the Anda District, Schools Division of Pangasinan I of preparedness of the Technology and Livelihood Education Teachers in the Public high schools.

The perception of the teachers respondents in the public high schools, in teaching Technology and Livelihood Education, covers the content knowledge in TLE, strategies in teaching and assessment of learning in the said subject.

As perceived by the Technology and Livelihood Education teachers, the three instructional delivery needs when summarized, were described as "much prepared".

Table 3
Perception of TLE teachers on the Instructional delivery needs

N=84

Respondents	WM	DE
Content Knowledge in TLE		
a. Use and Maintenance of Tools, Equipment, and Paraphernalia.	4.21	VMP
b. Perform Calculations.	2.62	Mood P
c. Practice Occupational Health and Safety Procedures	4.00	MP
d. Maintain Tools, Equipment, and Paraphernalia	3.40	Mood. p
AWM	3.56	MP
Strategies in the Teaching of TLE		
Discovery Approach	2.00	SP
Interview Method	3.00	Mood. P
Demonstration	4.00	VMP
Educational Technology (computers, Software and projectors)	1.81	SP
AWM	2.70	MP
Assessment of Learning in TLE		
Prepare units exams	3.41	MP
Prepare Quarter Exams	4.00	VMP
Prepare rubrics for performance test	4.00	VMP
AWM	3.80	MP
Total AWM	3.53	MP

Legends:

4.21-5.00	Very Much prepared
3.41-4.20	Much prepared
2.61-3.40	Moderately prepared
1.81-2.60	Slight prepared
0-1.80	Not prepared

The information listed in the table presents the perception of TLE teachers on the three instructional delivery need; content knowledge in TLE; strategies in the teaching of the said subject; assessment of learning. The enumerations provided herein are important data gathered from the respondents because it pertains to the actions and practices employed in the four corners of the classroom to develop the youth to become a better person in the future. The success of the practice employed by the respondents has a positive repercussion into life of the learners which must be given importance and value by the members of the academe.

Moreover, the long list instructional delivery needs are enumerated herein and subject to discussion and to synthesize the said practices. On the other hand, the purpose is also to determine those practices that are not properly practiced which may greatly affect the respondent's performances in the institution.

In the first part, the content knowledge in Technology and Livelihood Education item provides that the over-all mean is 3.56 tantamount to much practiced. The mean result has a positive meaning for it is much prepared by the respondents. The Content Knowledge in TLE are the following; use and maintenance of tools, equipment, and paraphernalia rated as 4.21 very much prepared by the respondents; practice occupational health and safety procedures as shown in the table that there are 4.00 much prepared; maintain tools, equipment, and paraphernalia rated as 3.40 moderately prepared and perform calculation rated as 2.62 moderately prepared.

Secondly, Strategies in the Teaching of TLE item has an over-all mean of 2.70 with descriptive equivalent of moderately prepared. The respondents rated the following strategies; demonstration 4.00 or very much prepared; interview method 3.00 moderately prepared; discovery approach 2.00 slightly prepared; and educational technology (computers, software and projectors) 1.81 slightly prepared.

Third, in the assessment of learning in TLE it shows that preparation of quarter exams has a mean rating of 4.00 or very much prepared; the preparation of units exams has a mean rating of 3.41 or moderately prepared and preparation of rubrics for performance test has a mean rating of 3.53 or much practiced which means that evaluation is practiced and observed by the respondents. It is deem that evaluation is very important aspect in the success of an organization because this part is where the members can determine its strength and weakness that needs to be further develop or practices in the institution.

Proposed Training Design for TLE Teachers in the
Public High Schools in the Anda District, Schools Division Office I of Pangasinan

Title: Training Needs of Technology and Livelihood Education Teachers in the Public High Schools in the Anda District, Schools Division of Pangasinan I

Rationale

Technology and Livelihood Education (or TLE) is one of the learning areas of the Secondary Education Curriculum used in Philippines Secondary School. As a subject in high school, its component areas are: Home Economics, Agri-Fishery Arts, Industrial Arts, and Information and Communication Technology.

TLE is also referred to as CP-TLE for Career Pathways in Technology and Livelihood Education. The 2010 Secondary Education Curriculum allocates 240 minutes per week for CP-TLE, which is equivalent to 1.2 units. However, CP-TLE is required to include practical work experience in the community, which may extend beyond its specified school hours.

Two types of curriculum are provided for regular high schools (public and private). These are: Technical-Vocational Education-based TLE and Entrepreneurship Education-based TLE.

Technical-Vocational Education-based TLE is focused on technical skills development in any area. Five common competencies, based on the training regulation of the Technical Education and Skills Development Authority (TESDA), are covered in the exploratory phase (Grade 7 and 8): mensuration and calculation, technical drafting, use of tools and equipment, maintenance of tools and equipment, and occupational health and safety. The specialization phase is from Grades 9 to 12.

The Entrepreneurship Education-based TLE is focused on the learning of some livelihood skills every quarter, so that the students may be equipped to startsa small household enterprise with family members. It covers three domains: Personal Entrepreneurial Competencies, Market and environment, and Process and Delivery. The five common competencies from TESDA are integrated in the process and Delivery domain.

The K to 12 Curriculum has its overarching goal the holistic development of every Filipino learner with 21st century skills who is adequately prepared for work, entrepreneurship, middle level skills development and higher education. The overarching goal of the K to 12 curriculums, tells that the teaching of TLE plays a very important role in the realization of the overall goal of the curriculum. Whether or not the K to 12 graduate is skilled and ready for work, entrepreneurship and middle skills development depend to a great extent on how effectively taught TLE.

IV. SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter of the written works provides the important information and data gathered during the course of the study which the researcher carefully and properly treated in accordance with the standard of research. The statistical data used is widely accepted by many scholars. The data are of vital importance on this study to answer the problems enumerated by the researcher in the preceding chapters.

The summary, conclusion, and recommendations are presented and constructively discuss herein by the researcher.

4.1 SUMMARY

This study assessed the training needs of Technology and Livelihood Education teachers. It also determine the professional profile of the Technology and Livelihood Education teachers in terms of their highest educational attainment, relevant in service training attended, number of years of teaching, awards/recognition received as a TLE teachers, perception of the respondent teachers in terms of the following instructional delivery needs, content knowledge, strategies in teaching and assessment of learning Technology and Livelihood Education. The locale of this study was the Anda District, Schools Division of Pangasinan I. The sources of data were the eighty four (84) Technology and Livelihood Education teachers in the public high schools.

The data gathered were statistically treated with frequency, percentage and average weighted mean.

4.2 FINDINGS

The researcher collected the information and data given by the respondents during the course of the study. The facts furnished by respondents are properly and logically treated using the standard tools on research.

The findings of the study are presented herein by the researcher together with its explanations and the corresponding data.

1. Professional profile of the TLE teachers in the public high schools in the Anda District, Schools Division of Pangasinan I
   a. In terms of highest educational attainment the Technology and Livelihood Education Teachers (88.1%) had units in the graduate school.
   b. In terms of the number of years in teaching greater percentage (47.62%) belong to 6-10 years; 23.81 percent belong to 11-15 years; 16.67 percent belong to 16 years and above (11.91) belonged to 1-5 years.
   c. Majority of the Technology and Livelihood Education teachers attend Specialized Training (35.71%, Local/Division Level Seminars (28.57%).
2. Perception of the Technology and Livelihood Education in terms of the following instructional delivery needs
   a. On the knowledge in Technology and Livelihood Education item provides that the over-all mean is 3.56 tantamount to much practiced. The mean result has a positive meaning for it is much prepared by the respondents
   b. Technology and Livelihood Education were perceived as "Much Prepared" with an average weighted mean of 3.56
   c. On the use of Strategies in the teaching of TLE, respondents perceived the Technology and Livelihood Education teacher as "Moderately Prepared" with an average weighted mean of 2.70
   d. On the use of assessment of learning in TLE respondents perceived the Technology and Livelihood Education teachers to be much prepared.
3. Significant Relationship between the professional profile of the TLE teachers and the aforecited instructional delivery needs in TLE
   a. The professional characteristics of the TLE teachers contribute a lot in their preparedness in teaching Technology and Livelihood Education

4.3 CONCLUSION

Based on the findings of this study, the following conclusions were drawn:
1. The profile of the Technology and Livelihood Education teachers are very important in the assessment of training needs.
2. The preparedness of the respondents can be a basis of the preparation of a proposed training design.
3. The Technology and Livelihood Education teachers could teach the subject for they had been prepared for this.

4.4 RECOMMENDATIONS

Based on the conclusions drawn the following recommendations are offered:
1. The proposed training design is highly recommended to improve the skills of the teachers in teaching Technology and Livelihood Education in the public high schools in the Anda District, Schools Division of Pangasinan I

2. Lesson plan of Technology and Livelihood Education teachers should be checked daily by the Head Teachers and the Principal and the teachers should be evaluated every six months to monitor their improvement.

3. The Technology and Livelihood Education teachers should attend upgrading activities if given the opportunity or as required.

REFERENCES

A. BOOKS

[1] Stoner James A and Edward R., Freeman. 1989. Management 4th Edition, New Jersey. Prentice Hall international Edition.

[2] Speck, M. & Knipe, C. (2005) Why can't we get it right? Designing high-quality professional development for Standards-based schools (2nd ed.). Thousand Oaks:Corwin press

[3] Brookfield, S. (2005). Power of critical theory for adult Learning and teaching. Berkdire Great Britain: McGraw-Hill Education

[4] Champion, R. (2003). Taking measure: The real measure of Professional development program's effectiveness lies in what participants learned. Journal of Staff Development, 24 (1), 1-5.

[5] Marzano, R. J. (2003). What works in school: Translating Research into action. Alexandria,, VA:Association For Supervision and Curriculum Development.

[6] Mezirow, J. (2000). Learning as Transformation: CriticalPerspectives on a Theory in progress. San Francisco:Jossey Bass.

[7] Hill, J. (2014). The Value of Workshops and ContinuingEducation for Teachers. http://www.evollution.com/opinions/the-value-of-workshops-and-continuing-education-for-teachers/

B. PUBLISHED MATERIALS

[8] Department of Education "The 2002 Basic Education Curriculum"

[9] Medium Term Philippine Development Plan 2000.

[10] Pefianco, Erlinda C., "Basic Graduate Education in the Learning Society of the Future" PAGE Journal. Vol.7,No. 1., Feb 2003

[11] Philippine Constitution of 1987. Republic Act 9155, "The Governance of Basic Education Act",August 2011.

C. UNPUBLISHED MATERIALS

[12] Balderas Marietas M. 2003. "School Administrators Supervising Activities and their Effect Relative to the Implementation of the Basic Education Curriculum" Dissertation Lyceum Northwestern University.

[13] De Leon Zenaida. 1994. "Differentiated Supervision in the Public Elementary Schools in Pasay City". Unpublished Doctoral Dissertation, Philippine Normal University Manila.

[14] Pedro, Lilia L. 1999. "Staff Development of Public Elementary School Teachers, Cervantes-Quirino District, Division of Ilocos Sur 1997-1998". Unpublished Master's Thesis Baguio Central University.

[15] San Pedro, Lolita S. 2000. "Community and Human Resources Utilization: Its Implication to Educational Management". Unpublished Master's Thesis. Dr. Gloria D. Lacson Foundation College Inc. Costellano San Leonardo Nueva Ecija.