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COMPETENCIES OF TECHNOLOGY AND LIVELIHOOD EDUCATION TEACHERS

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Abstract

This research article on the Competencies of Technology and Livelihood Education Teachers determined the profile of the participants in terms of school, highest educational attainment and length of service as a TLE teacher, and investigated the level of competencies of the Technology and Livelihood Education teachers in two TLE Components, which are the Home Economics and Information and Communication Technology. The descriptive research design was utilized to describe the profile of the participants, the level of competencies of the TLE teachers, and the teachers' teaching performance. There were 22 Junior high school TLE teachers from the six public schools of Cagayan. The teacher-participants were chosen through total enumeration. The researcher utilized a survey questionnaire validated by experts. Documentary analysis was done for the teachers' teaching performance. Results show that the competencies of the TLE teachers are high, with outstanding teaching performance based on IPCRF.

Introduction

One of the current education landscapes is the 21st century competencies reflected upon in the Philippine Professional Standards for Teachers (PPST). The Philippine Professional Standards for Teachers formerly the National Competency-Based Teacher Standards (NCBTS) (D. O. No. 32, 2009) was established as a framework of teacher quality (D. O. No. 42, 2017). The PPST is a public statement of what teachers need to know, value, and be able to do in their practice. Along with the 21st century competencies are education 4.0, education 5.0, and education 6.0. These landscapes of education challenge teachers to embrace the world of quality teaching and technology by adding humane perspective of learning and artificial intelligence that can support educators in tailoring instruction to individual students' needs, promoting engagement, and optimizing learning outcomes. So, quality teaching helps in the acquisition of abilities and knowledge for students to overcome the 21st-century and other educational reforms' learning obstacles (Anong, A. et al., 2024).

In the Philippines, the Department of Education adopted the global K-12 curriculum known as Enhanced Basic Education Act of 2013 (R.A. 10533), which includes Technology and Livelihood Education. This K-12 Curriculum has actually changed the outlook of teacher quality requirements and competencies. The Department of Education (DepED) Order No. 36, s. 2013 stressed that teachers need to accept the challenge of the K-12 curriculum to play a crucial role in nation building through quality instruction and in developing holistic learners who are steeped in values, equipped with 21st century competencies, and able to propel the country to development and progress. The K-12 curriculum likewise stressed that there is a need to enable teachers to be properly equipped

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with the needed competencies and be prepared to assume their roles and functions as K-12 teachers (RA 10533).

Since the competencies are embedded in this globally renowned K to 12 Curriculum, the TLE teachers need to embrace the challenge of developing these TLE competencies specifically identified in Home Economics (HE), Agriculture and Fishery Arts (AFA), Industrial Arts (IA) and Information and Communication Technology (ICT). These competencies are evidenced-based, and the TLE teachers are the powerful motivators for the learners to develop the needed competencies that will prepare them either in their pursuit of professional life or in the world of work.

While the direction for quality teaching encompasses competency-based teaching and learning experiences, and the TLE teachers are all the more challenged when it comes to theory and practice, the dilemma in teaching TLE subjects occur.

According to the study by Torres (2014), there was an essential gap between the competency level and the anticipated competency standard of TLE mentors as TLE teachers are only assigned to teach TLE subjects due to lack of teachers majoring in TLE (Anong, A. et al., 2024).

Montoya et al. (2021) state that there is a need to enhance the competencies of teachers; including teachers' digital competencies and design, and a more practical and personalized training programs that respond to the digital era (World Economic Forum, 2023).

In addition, SYDLE Innovation and Technology (2023) points out that there is a need for teachers to have mastery on technology which promotes speed, accuracy, and knowledge in instruction.

In like manner, there are studies conducted on Technical-Vocational teachers in the secondary and tertiary levels in Malaysia, India, and Ukraine along teaching competencies, and the findings reveal that there is a need for these teachers to enhance their capabilities in relation to training and level of education (Arifin et al., 2018; Sudana et al, 2016; Susatya, 2022); another study was conducted by Villanueva (2018) on the competencies of the Technical-Vocational teachers using the TESDA competencies, and it was found out that these teachers lack the needed TESDA competencies; and the level of competency of the teachers is lower than the desired competencies set by TESDA (Torres, 2018).

In view of this, the Technology and Livelihood Education K-12 teachers are among those who need to be equipped with the necessary competencies to teach the learners well in the development of their desired learning competencies, as well as in carrying out their functions as professional teachers since they are tasked to advance themselves with reference to their competencies and teaching performance as prescribed for by the Department of Education (DepEd) and Technical Skills Development Authority (TESDA).

To be equipped with the needed competencies is necessary to deliver quality teaching. Quality teaching is required to have quality learning. Hence, not only are the competencies developed among the learners that are monitored and evaluated but also that of teachers' performance.

In this context, the competence in the teaching-learning process which refers to the educator's ability to effectively facilitate and manage the learning experience for students encompasses knowledge and expertise of a teacher as this would mean that competent teachers possess deep knowledge of the subject matter they are teaching. This includes not only factual knowledge but also understanding the underlying concepts and principles. It also involves staying updated with current research and developments in their field. In like

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manner, their pedagogical skills which would mean knowing how to effectively convey information and facilitate learning through various teaching methods and strategies for the needs of the students in line with their learning styles would be an avenue for an interactive and engaging learning environment.

Thus, the teachers' sense of competence is said to be very important in the success of learning and teaching activities and in the motivation of students to learn (Sünbül and Arslan, 2009). A teacher who is deemed as professionally competent must demonstrate that they can teach successfully; can do effective planning, monitoring and evaluation for learning and manage the teaching curriculum according to the needs of individuals and groups within the classroom (TED, 2009, p.26).

There are teachers who teach Technology and Livelihood Education subjects which are not in line with their field of specialization. There are trainings they attended but not in line with Technology and Livelihood Education, yet they are teaching these practical skills competencies for lifelong learning. The researcher shares their fate.

Hence, the researcher's experience in teaching TLE though not his major field of specialization made him got interested in this research to determine the teaching performance of the teacher-participants as per RPMS result.

Objectives

Generally, this study determined the profile of the participants in terms of school, highest educational attainment and length of service as a TLE teacher, and investigated the level of competencies of the Technology and Livelihood Education teachers in two TLE Components, which are the Home Economics and Information and Communication Technology.

Methodology

This study utilized a descriptive research design to describe the profile of the participants in terms of school, highest educational attainment, and length of service, along with their teaching performance and the level of competencies of the TLE teachers of the junior high school of the six public schools in Cagayan. The participants are plantilla position teachers who had been teaching in the school for at least one year. The teacher-participants were chosen through total enumeration. The researcher utilized a survey questionnaire validated by experts. The items of the questionnaire were taken from the competencies of the curriculum guide of the Department of Education. These competencies were identified in the K-12 TVL-Track, as stipulated in RA 10533, specifically Home Economics and Information and Communications Technology as fields of specialization . Documentary analysis was done in getting the teachers' performance through RPMS/IPCRF with the approval of their school principal. The data were tallied and treated using Frequency and Percentage Distribution to describe the profile variables of the participants, Mean was used to determine the level of competencies of the TLE teachers, while grade average for the teaching performance with corresponding descriptive interpretation as per IPCRF.

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RESULTS AND DISCUSSION

1. Profile of the Participants

Table 1. Frequency and Percentage Distribution of the Teacher-Participants when Grouped According to School

School	Frequency	Percentage(%)
Agaman National High School	3	13.64
Baggao National High School	7	31.82
Hacienda Intal National High School	6	27.27
Imurung National High School	2	9.09
Sta. Margarita National High School	4	18.18
Total	22	100.00

Table 1 presents the frequency and percentage distribution of the teacher-participants when grouped according to school. As indicated in the table, most of the teacher-participants or 31.82% came from Baggao National High School.

Table 2. Frequency and Percentage Distribution of the Teacher-Participants When Grouped According to Highest Educational Attainment

Highest Educational Attainment	Frequency	Percentage(%)
Baccalaureate Degree	7	31.82
Master's Degree	15	68.20
Total	22	100.00

Table 2 presents the frequency and percentage distribution of the teacher-participants when grouped according to highest educational attainment. As shown in the table, majority of the teacher-participants or 68.20% finished their master's degree.

Table 3. Frequency and Percentage Distribution of the Teacher-Participants when Grouped According to Length of Service as TLE Teacher

Length of Service	Frequency	Percentage(%)
Less than 1 year	2	9.09

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1-3 years	2	9.10
4-6 years	4	18.20
7-9 years	2	9.10
10 years and above	9	40.90
20 years and above	3	13.60
Total	22	100.00

Table 3 presents the frequency and percentage distribution of the teacher-participants when grouped according to length of service as TLE teacher.

The data show that most of the teacher-participants or 40.90% rendered their services in the school as a TLE teacher for a period of ten years and above.

3. Assessment on the Level of Technology and Livelihood Education Competencies of Teacher-Participants

Table 4. Assessment on the Level of Technology and Livelihood Education Competencies of Participants in Home Economics

Home Economics *As a teacher, I am competent in:*	*Mean*	*Descriptive Interpretation*
1. identifying family resources and needs and sources of family income.	2.75	High
2. preparing feasible and practical budget for basic and social need.	2.50	High
3. classifying tools and materials according to their use (example: measuring, cutting, sewing)	2.43	*High*
4. preparing project plan, identifying the materials and tools and draft pattern for household linens.	2.42	High
5. creatively teaching how to sew creative and marketable household linens as means to augment family income.	2.73	High
6. motivating students to market finished household linens in varied/ creative ways.	2.75	High
7. explaining different ways of food preservations.	2.55	High

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8. applying the principles and skills with the use of appropriate tools and equipment in food preservation processing.	2.35	High
9. conducting simple research to determine market trends and demands of preserved/ processed foods.	2.37	High
10. assessing preserved /processed foods as to the quality using the rubrics.	2.48	High
Category Mean	2.56	High

Table 4 reflects the assessment on the level of Technology and Livelihood Education competencies of teacher-participants in Home Economics.

The data reveal that the category mean on the level of Technology and Livelihood education competencies of teacher-participants in Home Economics is 2.56, with a descriptive interpretation of high.

The indicators, *The teacher is competent in motivating students to market finished household linens in varied/ creative ways*" and "*The teacher is competent in identifying family resources and needs, and sources of family income*" got the highest mean of 2.75, while the lowest mean of 2.35 is on "*The teacher is competent in applying the principles and skills with the use of appropriate tools and equipment in food preservation processing*." This implies that the TLE teachers have high competence in Home Economics.

This finding is supported by Villacorta & Arnado (2023) who state that teachers demonstrated high levels of competence in home economics in terms of household services, cooking, dressmaking or tailoring, beauty care (nail care), bread and pastry production, and food and beverage services. These results showed how the senior high school Home Economics teachers tried their best to obtain higher education.

Table 5. Level of TLE Competencies of Teacher-Participants in Information and Communications Technology

Information and Communications Technology As a teacher, I am competent in:	Mean	Descriptive Interpretation
1. creating animations with powerpoint presentations.	2.83	High
2. using spreadsheet and excel to facilitate teaching-learning process.	2.83	High

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3. posting and sharing materials on wikis and on blogs for educational purposes.	3.17	High
4. participating video and audio conferences in a safe and responsible manner.	3.17	High
5. explaining the operation of using ICT for an interactive classroom discussions, and in identifying the advantages and the disadvantages of using online tools to gather data.	3.33	Very High
6. creating, disseminating and processing online survey form and data.	3.33	Very High
7. using the different functions and formulas in an electronic spreadsheets tool to perform advanced calculations on numerical data.	3.50	Very High
8. using video, audio conferencing tools and e-group to share ideas and work online.	3.33	Very High
9. using the advanced features of a slide presentation tool to create a multimedia presentation with text, graphics, and photos.	3.67	Very High
10. using with hyperlinked elements and embedded audio an/or video.	3.50	Very High
Category Mean	3.12	High

Table 5 reflects the level of Technology and Livelihood Education competencies of teacher-participants in Information and Communications Technology.

The data reveal that the category mean on the level of Technology and Livelihood education competencies of teacher-participants in Information and Communications Technology is 3.12, with a descriptive interpretation of high. The highest mean of 3.50 is on "*The teacher is competent in using with hyperlinked elements and embedded audio an/or video* and "*The teacher is competent in using the different functions and formulas in an electronic spreadsheets tool to perform advanced calculations on numerical data*" while the lowest mean of 2.83 is on "*The teacher is competent in creating animations with powerpoint presentations*" and "*The teacher is competent in using spreadsheet and excel to facilitate teaching-learning process*. This implies that the TLE teachers are high;y competent on the use of ICT.

This is in contrast with the findings of Dela Cruz (2024) in the District of Quezon City whose data revealed that teachers have a moderately high level of technical and pedagogical content knowledge when teaching ICT.

3. Teachers' Teaching Performance (IPCRF)

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Table 6. Teachers' Teaching Performance using IPCRF

IPCRF	Frequency	Descriptive Interpretation
4.83	22	OUTSTANDING

Table 6 presents the overall result of the IPCRF of the 22 TLE Teachers in the First District of Cagayan. As shown in the table, all the 22 TLE teachers have a teachingperformance of 4.83, with the descriptive interpretation of outstanding. This implies that the TLE teachers have the passion to teach with excellence and quality.

This is supported by the study on the "Effectiveness of Individual Performance Commitment Review Form as an Evaluation Tool to Improve Teachers' Performance: Basis for Technical Assistance" by Cadag, C. (2024). The findings reveal that the Individual Performance Commitment and Review Form (IPCRF) result from the teachers and school heads of selected schools in Casiguran District 2 is outstanding.

Discussion

The study sheds light on the capabilities of teachers within the Department of Education. The research reveals that a majority of these educators hold a Master's degree as their highest educational attainment, signifying a strong foundation of academic knowledge. Furthermore, their extensive experience, with most having served their schools for 10 years or more, speaks volumes about their accumulated practical skills and pedagogical expertise. The study also highlights the high level of competence these teachers possess in both Home Economics and Information and Communication Technology (ICT). This indicates their readiness to deliver effective instruction in these crucial areas of Technology and Livelihood Education (TLE). Notably, a significant majority of the respondents received an "Outstanding" rating on their Individual Performance Commitment and Review Form (IPCRF), demonstrating their dedication and high performance levels. While the study identifies strengths such as a strong value for learning and a commitment to fostering a healthy learning environment, it also points to areas for improvement. These include limited proficiency in using ICT for teaching and learning, difficulty in communicating clear learning goals, and challenges in developing creative and appropriate instructional plans. The study emphasizes the need for ongoing professional development programs aimed at enhancing ICT integration in education and addressing these identified weaknesses. By investing in targeted training initiatives, the Department of Education can further empower TLE teachers to effectively equip students with the skills necessary for success in the 21st century. The study underscores the importance of continuous professional development in ensuring that TLE teachers are equipped to meet the evolving needs of students and prepare them for the future.

RECOMMENDATION

Based on the findings of the research, the following are recommended.

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1. The school heads may consider giving a training to the TLE faculty to improve their TLE competencies along Home Economics and Information and Communications Technology to outstanding.

2. Similar study may be conducted considering the four fields of specialization of TLE with wider scope.

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