

Life Skills Acquisition Of The 21st Century: A View On Their Expertise

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Abstract. The study aimed to explore the perceptions of TLE teachers in teaching in the 21st century with the use of phenomenological research design to investigate and observe the experiences and perceptions of the seven (7) participants. On the perceptions of elementary teachers in Technology and Livelihood Education in acquiring 21st-century skills for the learners, the emerging themes were the technology access for teaching TLE and the pedagogical perceptions of the participants in TLE instruction. Regarding the challenges encountered by the teachers, the emerging themes were teaching responsibility and environment, access to TLE resources, and teacher qualification. On the insights gained by the teachers, the emerging themes were enhancing teacher expertise and making digital technology a practice in the TLE classrooms. Additionally, integrating digital technology into TLE instruction was another essential insight. Digital technology can address resource limitations and enhance student engagement, making learning activities more dynamic and interactive for 21st-century learners. With these insights, the participants hope to improve learners' learning outcomes in TLE and develop teachers' competencies in teaching technology and livelihood education in the 21st century. The results provided comprehensive data for future research with a similar or relevant scope. Therefore, this study may be published in a reputable research journal.

KEY WORDS

1. Technology and Livelihood Education 2. perceptions 3. 21st century skills

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1. Introduction

Keeping all aspects of a child's personality in mind can make their development possible. This is why Life Skill Education plays an important part in everyone's life. In life skill education, the overall personality of a child is taken into consideration. It gives strength to handle any situation and courage to face the struggle to achieve any target. By adding life skill education to the school curriculum, better results can be achieved. Emerging as early as the

1880s, home economics aimed not only to teach women how to cook and sew but also to provide an avenue for young women to attend college. Home economics was not until the early 1900s that it became an organized area of study, developed by Catherine Beecher and Ellen Swallow Richards, who founded the American Association of Family and Consumer Sciences. These pioneering women first set out the seven areas of home economics to teach girls how to prop-

erly care for a home and family and to open new career avenues. Now known as family and consumer science, according to the Los Angeles Times, modern home economics courses now offer a more inclusive education to all students, including those in high school (Hammond, 2021). TLE is geared toward developing technological proficiency and anchored on knowledge and information, entrepreneurial concepts, process and delivery, work values, and life skills. Livelihood education that works is built on adequate mastery of knowledge and information, skills and processes, and the acquisition of correct work values and life skills. The functional TLE equips students with skills for lifelong learning. TLE is concerned only with the mere definition of terms, which is meaningless and shallow. Therefore, teaching TLE means teaching facts, concepts, skills, and values (Hammond, 2021). The students should be fully aware that in all occupational endeavors, they should know about marketing and selling their goods or services, and consequently, bookkeeping and accounting. Moreover, entrepreneurship or self-employment students need this knowledge when running their businesses. The schools should take measures to provide adequate and needed essential facilities, tools, equipment, supplies, and materials to fully implement their program of practical arts in order to attract more students in the 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 argue insufficient funding for the purchase of materials to enrich curricular offerings. Teachers must 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, so that the students can derive the instruction. (Tan, 2021). Bagood (2020) also added that identified teaching personnel and the Education Program Supervisors prepared modules starting in May 2020 in all subjects for all grade/year levels across four quarters by the "Most Essential Learning Competencies." These self-learning modules are already considered learning packages containing pre-tests, discussions, and a series of evaluations/assessments. They are distributed to all learners using the modular learning class schedule. Indeed, this kind of instructional modality has been followed by public school teachers all over the Philippines. Teachers play a vital role in continuously delivering quality education amid the pandemic. Despite the threats of the COVID-19 pandemic, teachers continue to serve by formulating modules as the learning guide for students. The teacher thus becomes a facilitator in the development of the student, both as a member of their community and a member of their society. However, Malipot (2020) stressed that teachers also air their problems with modular distance learning. Bagood (2020) highlighted that as front liners in the educational system, they had undergone various training and seminars to be more equipped to deliver better education amid the COVID-19 pandemic, as it is a norm of the department to train teachers not just for professional growth but to become ready for unexpected circumstances, especially in the teaching of Technology and Livelihood Education. With all of these changes, teachers are forced to adapt and upskill to monitor the status of the learners continually. Information technology skills become a significant part of learning during the new normal to facilitate instruction better, give feedback, and reach struggling learners remotely. This has also changed the dynamics of skill acquisition for life skills being cascaded to elementary learners. To ease the skepticism of some teachers, learners, and parents, this study is pursued to find solutions to the critical issues and concerns regarding the Utilization of Self Learning Module in Teaching Technology and Livelihood Education Specializations through highlighting actions for Learner Sup-

port. The researcher is optimistic that this intervention could back TLE students and teachers in the teaching-learning process, encourage open communications and inspire students in their self-learning journey. Likewise, it may be a great help in raising awareness among all subject teachers, learners, school head and the general populace in reaching more action to Modular Teaching- Learning, especially in the field of TLE and its Specialization courses. To ease the skepticism of some teachers, learners, and parents, this study was pursued to find solutions to the critical issues and concerns regarding uti-

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1.1. Purpose of the Study—The study aimed to explore the realities of the pedagogical experiences of elementary teachers in teaching Technology and Livelihood Education beyond the global pandemic. This study may be beneficial for administrators, as the data gathered served as research-based information that will be useful in motivating and giving technical assistance to teachers in innovating the methodologies applied in the context of the school in teaching TLE, including its challenges and opportunities. This study may also be beneficial for teachers in improving the teaching-learning process in the distance learning setup, thereby improving academic proficiency. Further, the results of this research provided comprehensive data for conducting future research with similar or relevant scope.

1.2. Research Questions—The primary research questions of this study were the following:

- (1) What are Elementary teachers' perceptions of teaching technology and Livelihood Education in acquiring 21st-century skills?
- (2) What challenges do the teachers encounter in teaching TLE?
- (3) What educational management insights are gained by the teachers in teaching TLE in blended learning?

1.3. Definition of Terms—21st-Century Skills: A set of competencies that students need to succeed in the modern workforce and society. These skills typically include critical thinking, creativity, collaboration, communication, digital literacy, and problem-solving.

Technology and Livelihood Education (TLE): An educational program aimed at equipping students with practical skills and knowledge in various technologies and livelihood activities. TLE encompasses various subjects, including agriculture, home economics, entrepreneurship, and industrial arts, designed to prepare students for both employment and per-

sonal development.

Elementary Teachers: Educators who teach children in the primary grades, typically from kindergarten through grade six. These teachers are responsible for delivering the core curriculum, fostering a positive learning environment, and supporting students' social, emotional, and academic development.

Blended Learning: An educational approach that combines traditional face-to-face classroom methods with online and digital resources. This model allows for a more flexible learning experience, integrating both in-person and virtual instructional strategies.

Perception: The way in which teachers interpret and understand their experiences and beliefs regarding teaching TLE. This includes their attitudes, feelings, and insights related to the curriculum, teaching methods, and the relevance of TLE in preparing students for the future.

Challenges in Teaching TLE: The difficulties and obstacles that elementary teachers face while delivering TLE, which may include resource limitations, lack of training, curriculum

demands, student engagement issues, and the integration of technology in the classroom.

Educational Management Insights: Valuable knowledge and understanding gained by teachers related to the organization, administration, and leadership of educational programs, particularly in the context of teaching TLE in a blended learning environment. This may involve strategies for improving instructional effectiveness, enhancing student engagement, and addressing the diverse needs of learners.

1.4. Significant of the Study—This study may be significant to the following: DepEd Officials. This study’s findings served as an empirical basis for education officials to develop new programs related to ICT integration in the classroom. Allocating more funds for technological innovation is also a good outcome of the study. School Administrators. The data gathered served as research-based information useful in motivating and providing technical assistance to teachers in innovating the methodologies applied in the school context in information communication technology, including its challenges and opportunities. Teachers. The study’s findings served as the basis for improving the teaching-learning process in

distance learning settings, thereby improving academic proficiency using technological innovations. This research heard the voices of the teachers in the field with whatever concerns they have about integrating ICT in the classroom. Stakeholders. The community was the best recipient of integrating ICT in the classroom. The data gathered from this research provided a reasonable basis for stakeholders to help improve the school’s technological resources. Future Researchers. The results generated from this research provided comprehensive data for future research with a similar or relevant scope. This is additional empirical data and an update on the status of ICT integration in schools, significantly beyond the era of the global health crisis.

1.5. Theoretical Lens—The knowledge acquisition of TLE teachers in 21st-century education can be anchored in the Constructivist Learning Theory. Constructivism is based on the work of Jean Piaget, Jerome Bruner, Ernst von Glaserfeld, and Lev Vygotsky. It was a learner-centered approach that suggests that students actively “construct” their knowledge. Their prior knowledge, beliefs, and experiences determined each individual’s reality. Because learning is based on personal experiences, each student’s learning is unique. In other words, “Construc-

tivist approaches emphasize learners actively constructing their knowledge rather than passively receiving information transmitted to them from teachers and textbooks. From a constructivist perspective, knowledge cannot simply be given to students: Students must construct their meanings” (Stage, Muller, Kinzie and Simmons, 1998, p. 35). Constructivist learning theory is based upon numerous principles, such as students learn by doing. When students have agency in their learning, they build their capacity as learners and improve their abilities,

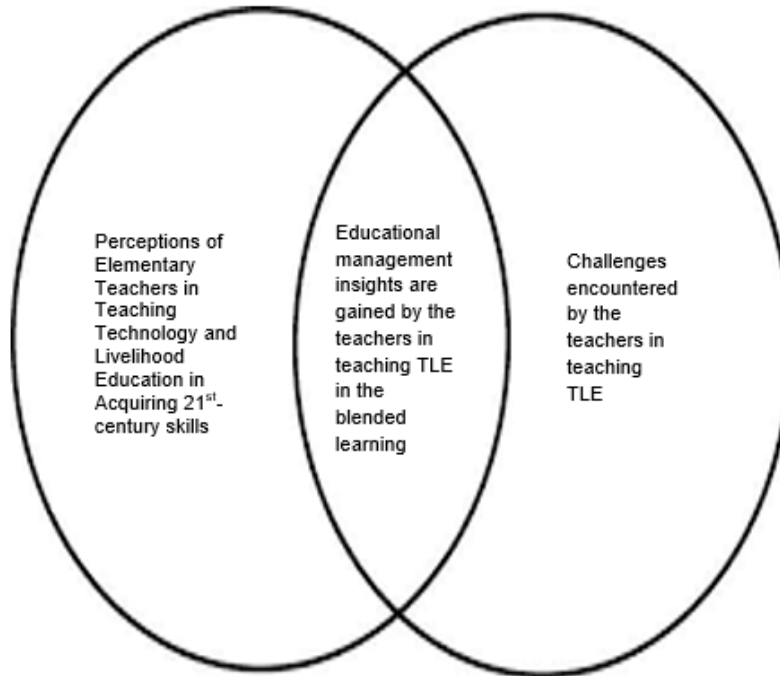


Fig. 1. The Conceptual Framework of the Study

skills, and expertise. Additionally, constructivists believe that learning is a social activity and is best accomplished when students are engaged in activities involving their peers, families, and communities to solve problems and accomplish learning tasks. Learning is contextual, and teachers must design learning activities considering students' prior knowledge, beliefs, and experiences. Finally, constructivists believe that students' intrinsic motivation is the key to effective learning and student engagement. Students will not learn appropriately if they are

not motivated to do so (Hinton, 2021). Figure 1 presents the conceptual framework of the study. Based on the figure, there were two interconnected variables. These variables were the perceptions of Elementary teachers in teaching Technology and Livelihood Education in acquiring 21st-century skills, Challenges encountered by the teachers in teaching TLE, and educational management insights gained by the teachers teaching TLE in the blended learning modality.

2. Methodology

This chapter presents the method, research participants, data collection, role of the researcher, data analysis, trustworthiness of the study, and ethical considerations. As elaborated in this chapter, exploring facts and knowledge in this study necessitates the consequent design and implementation.

2.1. Philosophical Assumptions—The philosophical assumption was a framework used to collect, analyze, and interpret data in a specific field. It established the background for

the following conclusions and decisions. Typical philosophical assumptions have different types and are elaborated below. Ontology is part of the research about how the issue relates to the

nature of reality. According to Creswell (2012), reality is subjective and multiple, as seen by participants in the study. The ontological issue addresses the nature of reality for the qualitative researcher. The reality was constructed by individuals involved in the research situation. Thus, multiple realities exist, such as the realities of the researcher, those of individuals being investigated, and those of the reader or audiences interpreting the study. This study investigated the experiences of TLE teachers in teaching the TLE subject. In this study, the researcher relied on the voices and interpretations of the participants through extensive quotes and themes that reflected their words and provided evidence of different perspectives. The participants' answers in the study were coded and analyzed to build and construct the commonality and discreteness of responses. The participants' responses were carefully coded to ensure the reliability of the result. The researcher upheld the authenticity of the responses and precluded from making personal bias as the study progressed. Epistemology refers to the awareness of how knowledge claims were justified by staying as close to the participants as possible during the study to obtain firsthand information. Guba and Lincoln, as cited by Creswell (2012), stated that the researcher attempted to lessen the distance between himself or herself and the par-

2.2. *Qualitative Assumptions*—The methodology was different from the method. The methodology is a creative and responsive approach to understanding questions and subject matter, while the method refers to the exact knowledge and procedure (Gerodias, 2013). In this study, the lived experiences of TLE teachers in teaching the subject were explored, particularly those teachers from Malita South District, Division of Davao Occidental. The researcher was driven to know the deeper meaning of their experiences, which became the basis for qualita-

ticipants on the epistemological assumption. He suggested that, as a researcher, he or she collaborates, spends time in the field with participants, and becomes an 'insider'. This study intended to gather information from the experiences of TLE teachers in teaching the TLE subject. It was assured that close interaction with the participants was established to gain direct information that would shed light on the knowledge behind the inquiry. Axiology was the role of values in research. Creswell (2012) stated that the role of values in a study was significant. Axiology suggests that the researcher openly discusses values that shape the narrative and includes his or her interpretation in conjunction with participants' interpretation. The researcher ensured the dignity and value of every detail of information obtained from the participants. The researcher understood the personal and value-laden nature of the information gathered from the study. Therefore, the researcher preserved the merit of the participants' answers and carefully interpreted the answers in light of the participants' interpretation. Rhetoric was the philosophical assumption that the researcher wrote in a literary, informal style using personal voice, qualitative terms, and limited definitions. In the study context, the researcher used the first person to understand the challenges of TLE teachers in teaching the TLE subject.

tive research. It is considered helpful in looking for meanings and motivations that underline cultural symbols, personal experiences, and phenomena. By using phenomenology, this need was hoped to be addressed by bringing the stories of the floating teachers so that, as David (2005) wrote, the themes, symbols, and meaning of the experiences were presented. Phenomenological research was based on two premises. The first was that experience is a valid, rich, and rewarding source of knowledge; this experience is a source of knowledge and

shapes one's behavior. From the definition, human experience was viewed as a cornerstone of knowledge about human phenomena and not an unreliable source. The second premise of phenomenological research is that the everyday world is a valuable and productive source of knowledge, that we can learn much about ourselves and reap key insights into the nature of an event by analyzing how it occurs in our daily

2.3. Design and Procedure—This study employed a qualitative approach to research, specifically a phenomenological research design since it focused on the realities of TLE teachers in teaching the subject. According to Creswell (2012), phenomenology is an approach to qualitative research that focuses on the commonality of lived experiences within a particular group. The fundamental goal of the approach is to describe the nature of the particular phenomenon. Typically, interviews were conducted with individuals with first-hand knowledge of an event, situation, or experience. Other forms of data, such as documents, observations, and art, were also used. The data were read and reread and were culled for phrases and themes grouped into clusters of meanings. Through this process, the researcher could construct the universal meaning of the event, situation, or experience and arrive at a more profound understanding of the phenomenon. Moreover, Maxwell (2013) also added that phenomenology, with roots in philosophy, psychology, and education, attempted to extract the purest, untainted data. In some interpretations of the approach, the researcher used bracketing to document personal experiences with the subject to help remove him or her from the process. One method of bracketing is taking notes. According to Corbetta (2003), the phenomenological research design is a qualitative type of research for which interviews provide an in-depth method that can grant access to deep knowledge and explanations and

lives (Morrissey Higgs, 2006). By using phenomenology, which concerns the "what" and the "how" (Moustakas, 1995), the researcher projected that the subjective experiences, challenges, and coping mechanisms of the physical education teachers were explored, and insights were drawn as the basis for possible future research and policy analysis about this research.

help grasp the subjects' perspective. Creswell (2012) also claimed that qualitative research primarily used interviews. They occurred when researchers asked one or more participants general, open-ended questions and recorded their answers. Often, audio tapes were utilized to allow more consistent transcription. Interviews were useful for following up with individual respondents after questionnaires, such as further investigating their responses. In this qualitative research, interviews were used to explore the meanings of central themes in the world of their subjects. The main task in conducting interviews was to understand the meaning of what the interviewees would say (McNamara, 1999). Withal, based on Quad's (2016) statements, the researcher transcribed and typed the data into a computer file to analyze it after the interview. Interviews were particularly useful for uncovering the story behind a participant's experiences and pursuing in-depth information about a topic. The researcher collected data from individuals who have experienced the phenomenon under investigation, typically via long interviews. Next, the data analysis involved triangulation, extracting significant statements from the transcribed interviews. The significant statements were transformed into clusters of meanings according to how each statement fell under specific psychological and phenomenological concepts. Moreover, these transformations were tied up together to make a general description of the experience, both the textural description

of what was experienced and the structural description of how it was experienced. The researcher incorporated his or her meaning of the experiences here. Finally, the report was written so that readers could better understand the essential, invariant structure of the essence of the experience. Conversely, several challenges have been pointed out. The researcher required a solid grounding in the philosophical guidelines of phenomenology. The subjects selected for the study were individuals who had actually experienced the phenomenon. The researcher needed to bracket his or her own experiences and observations, which was difficult to do. The researcher needed to decide how and when his

or her personal observations were to be incorporated into the study. Epistemologically, phenomenological approaches were based on the paradigm of personal knowledge and subjectivity and emphasized the importance of personal perspective and interpretation. As such, they were a powerful tool for understanding subjective experience, gaining insights into people's motivations and actions, and cutting through the cluster of taken-for-granted assumptions and conventional wisdom. Since this study focused on exploring and assessing the TLE teachers' experiences and feelings toward teaching the subject, the researcher intended to employ phenomenological qualitative research methods.

2.4. Research Participants—The participants of this study were the seven elementary TLE teachers of Malita South District, Division of Davao Occidental. The participants were chosen based on the following criteria: (1) must be in the service for at least 5 years; (2) must employ blended modality in teaching TLE during the pandemic; (3) must be elementary teachers

handling TLE. The researcher utilized the purposive sampling design since the participants were chosen based on the criteria or purpose of the study (Creswell, 2014). It was also known as judgmental, selective, or subjective sampling. The selection of the participants was purposefully done to ensure that the findings would be authentic (Marshall, 1996).

2.5. Ethical Considerations—The ethical considerations were significant in the design of this research study. The researcher needed to consider several ethical issues regarding the research participants in this field. Ethical considerations can be specified as one of the most important parts of the research. The researcher needed to promote the research aims by imparting authentic knowledge and truth and preventing errors. Social value is essential in research into society. In this study, social value was focused on the experience of teachers. This study was specifically conducted among the TLE teachers. This study also served as a basis for the higher authorities to create more programs and resolutions from which classroom teachers could benefit. Thus, the social problem that interests the

researcher is the challenges the TLE teachers face in teaching the subject. Informed consent was adhered to when the researcher conducted and practiced this study. The Treaty Principle of Participation, as cited by McLeod (2009), was adhered to. The invitation to the participants ensured that their participation in the research was completely voluntary and based on understanding adequate information. The recruitment and selection of participants are lodged in the appendices of this study. Gaining the trust and support of research participants is critical to informed and ethical academic inquiry and phenomenological research (Walker, 2007, as cited by Pillerin, 2012). All participants were given an informed consent form before scheduling the interviews and participating in the phenomeno-

logical research process. Each participant was required to provide a signed personal acknowledgment, consent, and an indication of a willingness to participate in the study release. The purpose of the informed consent letter was to introduce the research effort, provide contact information, articulate the study's intent, request voluntary participation by the recipients, and anticipate the information the informants were expected to provide. All participants were required to sign and return the consent letter to the researcher before participating. Vulnerability of Research Participants of this study were capable of answering the research instrument, for they are all professional teachers in public elementary schools. Thus, the researcher assured them that as a researcher, he or she can easily be reached through the contact number and address in case there are some clarifications or questions concerning the study. Risks, Benefits, and Safety: The recruitment of the respondents was free of coercion, undue influence, or inducement. Moreover, respondents were provided with the contact numbers of the panel chair or panel members in case they had queries related to the study. Furthermore, if respondents experienced potential discomfort and inconvenience while answering the questions, they were not compelled to participate in any manner. Further, the researcher ensured the respondents were safe during the survey and interview. Thus, the questionnaire was distributed in a safe venue and administered at their convenience. The dominant concern of this study is the Treaty Principle of Protection, as reflected in the respect for the rights of privacy and confidentiality and the minimization of risk. This was done by assigning pseudonyms for each informant so as not to disclose their identity. The possibility of a degree of risk inherent to this was minimized by taking all reasonable steps to guarantee participant confidentiality. Privacy and Confidentiality of Information were studied by the Data Privacy Act of 2002 to ensure

that the data cannot be traced back to their real sources to protect participants' identities. Thus, utmost care was taken to ensure the anonymity of the data sources. Hence, any printed output that was carried out from this study was kept in anonymity. Furthermore, all the issues were given consideration so that there were no conflicts of interest between the researcher and the respondents. Any type of misleading information and representation of primary data findings in a biased way was avoided. Justice was that the respondents were informed of the researcher's role and their corresponding role during data gathering. They were briefed that they had to give their full honesty in answering the survey questions. Additionally, any type of communication about the research should be done with honesty. Similarly, they were informed that they were the ones to benefit first from the study results. Transparency in the study was that the results were accessed by the participants and heads of the participating schools because the information was available and was placed on CD or other storage devices, which can be requested from the researcher. In addition, by learning from the study's results, TLE teachers were aware of the significance of the study and its contribution to their well-being. Further, each participant was advised that they have the right to withdraw their information at any time up to the completion of the data collection process. They can be requested and allowed to verify their transcript after the interview. This allowed the participants to amend or remove any information they felt might identify them. The researcher reserved the right to employ the use of pseudonyms and changing names and or non-significant dates in the interest of the protection of the identity of the participant in all subsequent data analysis and reporting. Qualification of the researcher's qualification was ensured, as he or she possessed the needed qualifications to conduct the study. The researcher completed the academic require-

ments and passed the comprehensive examination before thesis writing, the last requirement to obtain the master's degree. The researcher was qualified to conduct the study physically, mentally, emotionally, and financially. In addition, the advisee-adviser tandem ensured that the study reached its completion. Adequacy of Facilities was that the researcher strived to complete the study successfully in the specified time and was equipped with the necessary resources. Likewise, the technical committee helped enhance the paper by giving suggestions and recommendations. Also, the researcher ensured that he or she had enough funds to continue and finish the research. Thus, this study was hoped to be completed within the target time. Community Involvement occurs when the researcher respects the local traditions, culture, and views

2.6. Role of the Researcher—The researcher was responsible for uncovering, transferring, and exploiting knowledge to benefit educational institutions. To do so, the researcher took up the following roles in the course of the study: The Facilitator and Promoter of Unbiased Research conducted interviews with the participants and guided them. To avoid the intrusion of bias, the researcher interpreted ideas and responded based on existing literature and related studies rather than on the researcher's knowledge, thoughts, and feelings. Expert in qualitative methods, the researcher implemented the qualitative method correctly. To do so, the researcher assessed himself and sought help from the research adviser and other professionals. These helped him demonstrate competence in explaining the study without biasing the participants, conducting interviews according to the design, making appropriate field observations, selecting appropriate artifacts, images, and journal portions, and employing Environmental Triangulation and Thematic Content Analysis precisely. The collector and keeper

of the respondents in this study. Moreover, this study did not use deceit in any stage of its implementation, specifically in recruiting the participants or data collection methods. Furthermore, the researcher expressed great pleasure in the wholehearted participation of the interviewees in the study. Plagiarism and Fabrication is when the researcher respects other works by properly citing the author and rewriting what someone else has said in his or her way. The researcher also used quotes to indicate that the text had been taken from another paper. Similarly, the researcher assured that honesty was present when working on the manuscript and that no intentional misrepresentation and making up of data or results was included or that conclusions were purposefully put forward that were not accurate.

of data was the researcher, ensuring different ways of making a record of what was said and done during the interview and Focus Group Discussion, such as taking handwritten notes or audio or video recording. The recordings were transcribed verbatim before data analysis can begin. Records done by the researcher were secured adequately as they contained sensitive information and were relevant to the research. However, the data were being collected, and the researcher's primary responsibility was safeguarding participants and their data. Mechanisms for such safeguarding were clearly articulated to participants and were approved by a relevant research ethics review board before the research began. Data Analysts see the phenomenon or problem from the participants' perspective by interpreting data, transcribing and checking, reading between the lines, coding, and theming. The researcher ensures that the findings are true to the participants and that their voices are heard. The researcher organized and presented the data, presenting the problem and the related literature and studies that support it.

The study's findings were presented by the researcher, stating the results for each one by using themes to show how the research questions were answered in the study. Moreover,

2.7. Data Collection—To ensure safe educational continuity amidst the challenge of COVID-19, this study adhered to the Department of Health (DOH) Administrative Order No. 2020-0015, or the Guidelines on the Risk-Based Public Health Standards for COVID-19 Mitigation, cited by the IATF to aid all sectors in all settings in implementing non-pharmaceutical interventions. The following was the step-by-step process of gathering the data needed. The researcher asked permission from the Schools Division Superintendent to conduct the study in the identified school. The researcher sent a letter to the Schools Division Superintendent with Chapters 1 and 2 attached and the research instrument, which explains the study's objectives and the participants' identification. The researcher waited for the SDS's response before conducting the study. After securing the approval of the SDS, the researcher asked permission from the school heads and sent letters to the principals explaining the study to be conducted in their schools. The researcher obtained consent from the participants and their parents/guardians. They were formally oriented about

2.8. Data Analysis—In this study, thematic analysis was utilized to analyze the gathered data. The researcher analyzed the participants' answers from the interviews using Creswell's Model, specifically the identifying of themes approach. According to Creswell (2012), themes in qualitative research are similar codes aggregated together to form a significant idea in the database. Familiarization with the data was common to all qualitative analysis forms; the researcher immersed herself in

the researcher gave future directions and implications of the study for improving educational policy and practices.

the study and the process they would undergo as participants. The researcher conducted the in-depth interview using the interview questionnaire. The profile of the participants was taken, notes were jotted down, and conversations were recorded using a sound recorder for ease of transcription. The researcher carefully listened and responded actively during the interviews. The researcher precisely transcribed the interviewees' responses by recalling their answers from the sound recorder. Since the participants used their vernacular language, the researcher translated it into English. *Data Coding and Thematizing*: The data were then categorized and coded. Then, themes were extracted, and individual participant data were compared and contrasted. The researcher then conducted a second round of interviews (FGD) to corroborate any data that needed further explanation and input from the participants; additional information gathered was examined thoroughly and integrated into the existing body of data. After this, data were compared and contrasted between the participants to develop patterns and trends.

and became intimately familiar with the data, reading and re-reading it and noting any initial analytic observations. Coding is also a common element of many approaches to qualitative analysis. It involves generating pithy labels for essential features of the data relevant to the (broad) research question guiding the analysis. Coding is not simply a data reduction method; it is also an analytic process, so codes capture both a semantic and conceptual reading of the data. The researcher coded every data item and

ended this phase by collating all their codes and relevant data extracts. Searching for themes was a coherent and meaningful pattern in the data relevant to the research question. The researcher ended this phase by collating all the coded data relevant to each theme. After reviewing the themes, the researcher reflected on whether they tell a convincing and compelling story about the data and began defining each theme's nature and the relationship between the themes. Defining and naming themes: The researcher prepared

a detailed analysis of each theme, identifying the 'essence' of each theme and constructing a concise, punchy, and informative name for each theme. Writing up involved weaving together the analytic narrative and data extracts to tell the reader a coherent and persuasive story about the data and contextualizing it within the existing literature. The researcher made sure to consider the experiences of TLE teachers in teaching the subject.

2.9. *Framework of Analysis*—The framework analysis of this research was flexible to allow the researcher to either collect all the data and then analyze it or do data analysis during the collection process. The gathered data was sifted, charted, and sorted under critical issues and themes in the analysis stage. This involves a five-step process: (1) familiarization, (2) identifying a thematic framework, (3) indexing, (4) charting, and (5) mapping and interpretation (Ritchie Spencer, 1994). Familiarization refers to the process during which the researcher became familiarized with the transcripts of the data collected (i.e., interview or focus group transcripts, observation or field notes) and gained an overview of the collected data (Ritchie Spencer, 1994). In other words, the researcher became immersed in the data by listening to audiotapes, studying the field, or reading the transcripts. Throughout this process, the researcher became aware of critical ideas and recurrent themes and noted them. Due to the sheer volume of data that can be collected in qualitative research, the researcher may be unable to review all the material. Thus, a selection of the data set was utilized. The selection depends on several aspects of the data collection process—for example, the mix of methods used (e.g., interviews, documents, observations). The second stage, identifying a thematic framework, occurs after familiarization, when the re-

searcher recognizes emerging themes or issues in the data set. These emerging themes or issues may have arisen from a priori themes; however, the researcher allowed the data to dictate the themes and issues at this stage. The researcher used the notes taken during the familiarization stage to achieve this end. The key issues, concepts, and themes expressed by the participants now form the basis of a thematic framework that can filter and classify the data (Ritchie Spencer, 1994). Indexing means identifying data portions or sections corresponding to a particular theme. This process is applied to all the textual data that has been gathered (e.g., transcripts of interviews). For convenience, Ritchie and Spencer recommend that a numerical system be used to index references and annotate them in the margin beside the text (1994). Qualitative data analysis tools are ideal for such a task. The final stage, mapping and interpretation, involved the analysis of the key characteristics as laid out in the charts. This analysis provided a schematic diagram of the event/phenomenon, thus guiding the researcher in interpreting the data set. At this point, the researcher was cognizant of the objectives of qualitative analysis: "defining concepts, mapping range and nature of phenomena, creating typologies, finding associations, providing explanations, and developing strategies" (Ritchie Spencer, 1994, p. 186). Once again, these concepts, technologies, and

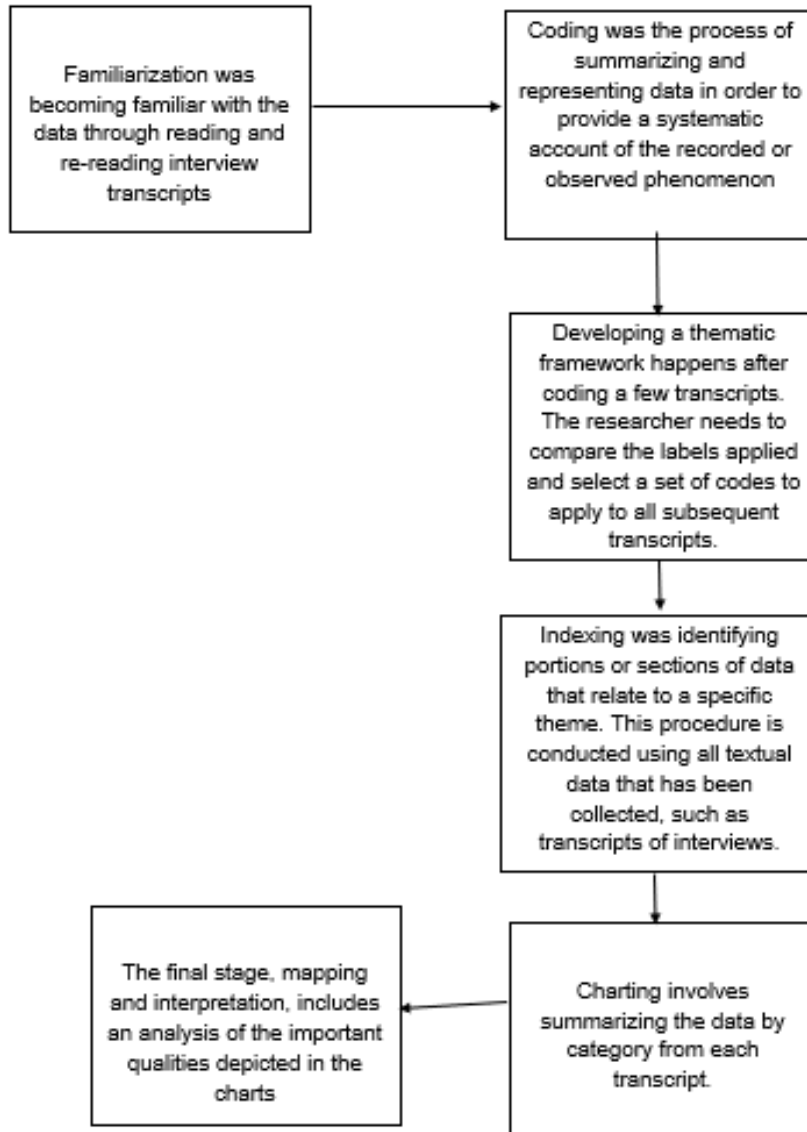


Fig. 2. Analytical Framework of the Study

associations reflected the participant. Therefore, the researcher’s strategy or recommendations echoed the participants’ attitudes, beliefs, and values.

2.10. *Trustworthiness of the Study*—The concepts of validity and reliability were relatively foreign to qualitative research. Instead of focusing on reliability and validity, qualitative researchers substituted data trustworthiness, which consists of credibility, transferability, dependability, and conformability (Harts, 2016). Credibility involved establishing that the research findings were credible or believable from the participant’s perspective. Observing

the attributes of prolonged engagement is where credibility contributes to a belief in the trustworthiness of data. To address the credibility issue, the researcher interviewed as many research participants as possible or up to the point of saturation. Meanwhile, transferability was the degree to which the findings were generalized or transferred to other contexts. In this, the researcher did a thorough job of describing the research context and relevant assumptions. On the other

hand, dependability was the consistency and repeatability of the research. The researcher ensured that the study's findings were evaluated by the participants and scrutinized by an external reviewer. Lastly, conformability is the degree to

which other researchers could confirm or corroborate findings. The researcher documented the procedures and rechecked the data during the research process. The researcher also ensured that the findings were free from bias.

3. Results and Discussion

This chapter presents the results generated from analyzing the interview data. It presents themes that emerge from the analysis, along with comprehensive discussions that answer the study's objectives. This chapter discussed the themes that emerged from the data gathered. The result primarily presents the description and background of the participants assigned pseudonyms to conceal their identities.

3.1. Perceptions of Elementary Teachers in Teaching Technology and Livelihood Education in Acquiring 21st Century Skills—Teachers' perceptions regarding teaching technology and livelihood education and acquiring 21st-

century skills were considered. Most of the responses discussed the importance of technological access in teaching TLE in the 21st century and teachers' pedagogical perceptions regarding technology and livelihood instruction.

*3.1.1. Technology Access for Teaching TLE—*Many participants' responses relate to the need for ICT resources in teaching TLE. They shared that technology will make the instruction concise, relevant, and straightforward to the learners. Participant 1 shared that they must be well-versed in ICT to meet their learners' needs. The impact of ICT on the learning process, therefore, excites and engages learners' interests. Today, everything that is required for reading, looking up, studying, training, revising, constructing, arranging, informing, saving, reminding, browsing, or navigating is available at the click of a mouse. Hence it is necessary for schools to jump onto the Technology bandwagon to become part of the information superhighway and make it possible for their learners to have access to the world's knowledge. (Salman, 2008). When Educational Technology is integrated into classroom, students can access more information faster and in an efficient manner. In the absence of these fundamental changes to the teaching and learning

process such classrooms may do little but to accelerate the ineffective processes and methods of teaching. This sentiment is aired by participant number 7 when she shared about some co-teachers being stock to the traditional way of teaching. On the other hand, Livingstone (2012) presented research that stated that in both schools and homes, information and communication technologies (ICT) are widely seen as enhancing learning, this hope fueling their rapid diffusion and adoption throughout developed societies. But they are not yet so embedded in the social practices of everyday life as to be taken for granted, with schools proving slower to change their lesson plans than they were to fit computers in the classroom. Educational policy regarding ICT hardware and software in schools has not primarily aimed to teach children how to use technologies, valuable though such skills are. Rather, the ambition is that ICT use will improve educational outcomes across the curriculum, as revealed in exam grades and other standardized measures of assessment.

3.1.2. Pedagogical Perceptions in TLE—Within the past few months, this new world has transformed living rooms, bedrooms, and all available corners of a home into the new classroom. We're seeing the combination of this new format and school closures, which has exposed the fragility of our education system and widened the inequality gap. Students are conscious of their environment; their insecurities have been amplified. As the teachers go back to the face-to-face classes, they now share their pedagogical experiences in teaching technology and livelihood education. Participant number 1 expressed her realization of the importance of life skills acquisition, which is amplified by the pandemic that we all experienced. The physical space of the school created an equal equation. Many students struggle to join virtual classes as they lack access to reliable internet service. (Jaisinghani, 2020). With the in-person classes being in full implementation, the teachers shared that it is more beneficial for learners to have a hands-on experience on life skills competencies in TLE. Before implementing the K-12 curriculum, Technology and Livelihood Teachers (TLE) were not required to have National Certificates (NC) from TESDA. They

taught their lessons based on what they learned from their baccalaureate degree or the experiences they gained over the years. It means that TLE/HE still lingered to the old teachings, and the skills taught to the students were also traditional. It was way before the evolution of technology became more competitive. (Helpline, 2022). Figure 3 shows elementary teachers' perceptions of technology and livelihood education, especially in acquiring 21st-century skills for learners. Two themes emerged from the participants' responses: the technology access for teaching TLE and the pedagogical perceptions of the participants in TLE instruction. These themes implied that the teachers perceived the TLE teaching for the 21st century as needing enough improvement in terms of ICT and the pedagogy involved in all its processes. Digital technology will make TLE instruction more accessible and relevant to 21st-century learners, especially in acquiring life skills. The teachers also perceive TLE as an essential learning area because the life skills they teach can be part of the learners' life-long learning. As early as the elementary years, learners should be trained on the life skills they can use when they become full adults and live independently.

3.2. Challenges Encountered by The Teachers in Teaching TLE—The participants also shared their challenges in teaching TLE to 21st-century learners. These challenges cen-

tered around the teaching environment and responsibility, access to TLE resources, and the teacher's qualification in teaching TLE. These challenges are expounded on as the conversation goes along.

3.2.1. They were teaching Environment and Responsibility—This includes the infrastructure, availability of teaching facilities, and in-service training. The result of the study conducted by Ariaso (2016) presented that most of the teachers handling TLE shared their positive feedback on the environment that they had. On the other hand, a few of them had different

reactions. They noted that some of their classrooms needed minor repairs, repainting, and renovation of the kitchens for their laboratory work. The teachers stressed that absence or lack of instructional materials was the number one problem they encountered regarding teaching facilities. The issues in teaching TLE specialization courses through Modular Distance Learn-

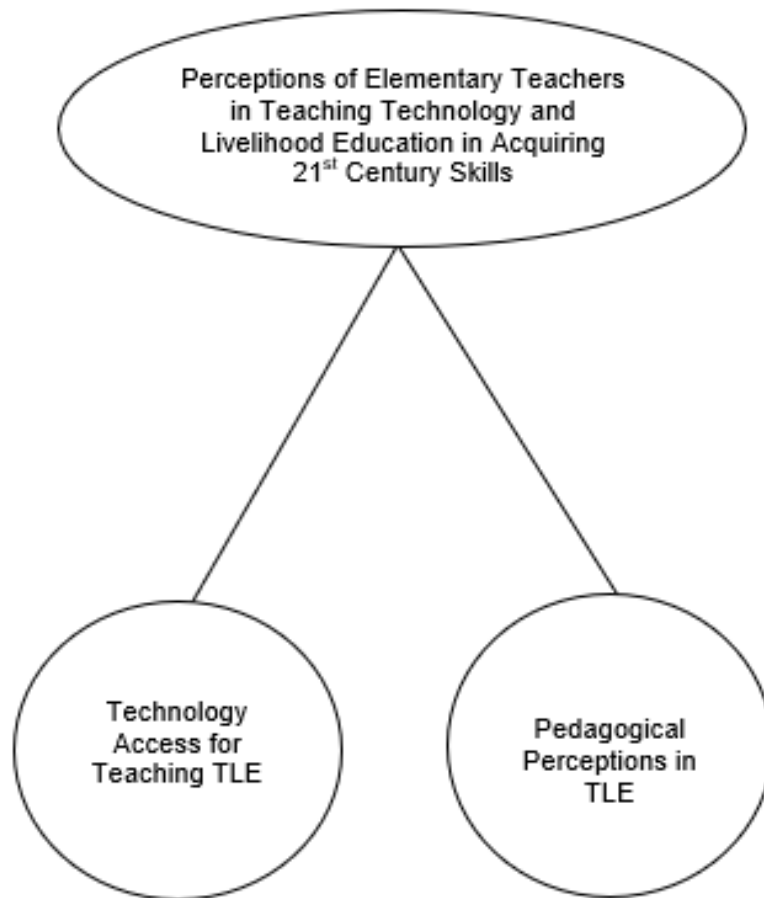


Fig. 3. Emerging Themes on the Perceptions of Elementary Teachers in Teaching Technology and Livelihood Education in Acquiring 21st Century Skills

ing have been vast and debilitating. Distance learning poses a challenge in accessing teaching-learning resources that are usually found in a classroom setting. According to Limon (2016), the lack of educational facilities has been proven to pose severe complications to students' performance and achievement. He further recommended that stakeholders closely examine the

3.2.2. Access to TLE Resources—One of the challenges they experienced was the TLE resources that were not readily available for the learners. Considering that TLE is a “hands-on” subject, learning is best by doing, and student outputs are very significant as proof of learning. As such, TLE teachers should focus on the learners' acquisition of competencies through each learner's actual task performance. Learning task performance is schoolwork where teachers give information like tools, materials, and steps to be followed by the students to become skillful. Performances for students in TLE, whether electrical installation maintenance, cookery, or computer hardware servicing, are essential preparation for the student's life in the future (Aquino, 2019). A curriculum is critical in the teaching-learning process. Students need quality teaching to gain enough knowledge and skills for a higher level of education. Facilities such as buildings, classrooms, water and sanitary facilities, light-

3.2.3. Teachers' Qualification—Teachers are now challenged by reform initiatives to meet new requirements that have not been part of the conventional repertoire of expectations for effective classroom teaching and for which many teachers have not been adequately prepared during their professional training. This challenges TLE teachers because only a few can be considered experts in the field. As a result, teacher qualifications and preparation information do

process that focuses on facility support and management in the field of TLE. This study is supported by Bates (2014), who posited that resources are a critical component of an effective learning environment. He postulated that the availability or non-availability of resources will greatly impact the design of teaching-learning.

ing, ventilation, and even classroom furniture are essential aspects of the school. These school facilities could make teaching easier, sustain students' interest in the subjects, and improve their academic performance. Students will learn effectively through the proper use of Instructional tools and materials. The functional use of instructional gadgets will contribute to the students' development. The researcher has devised an action plan to address the problems encountered in teaching Technology and Livelihood Education. (Surquia, 2017). The study of Blackmore et al. (2003) and Abdi et al. (2009) emphasized the utilization of ICT in teaching and its positive effect on the teaching-learning process. Samuel (2009) stated the importance of using suitable instructional materials to engage the students in classroom activities. The studies by Albarico et al. (2017), Ariaso and Tancinco (2016), and Ching (2014) support the need to incorporate technology in teaching, more particularly in Technology and Livelihood Education.

not entirely address whether pre-service and continued learning and work environments adequately prepare teachers to meet the often complex and changing demands they face in their classrooms. Teachers' feelings of preparedness may indicate the extent to which their training prepares them to meet the challenges. Teacher training must be considered essential to introducing K to 12 programs for TLE subjects. One cannot have an effective teaching and learning

program unless the teachers are well-trained and qualified in specific areas of TLE (Espiritu, 2020). The participants expressed their concern about teacher training to ease the concerns of unfit specialization, especially at the elementary level. One participant shared that the challenges brought about by the pandemic intensified the need for more professional development for teachers. Gempes et al. (2018) revealed in the study that DepEd teachers experienced inequity in attending seminars and training. Only the chosen few could avail of it. Although the province's Technical Education Skills Development Authority provides free training, elementary teachers cannot actively participate due to their busy class schedules and other school-related functions. With this challenge being raised, the participants feel the need to hire more teachers who are TLE majors themselves. It is also a great solution to encourage incoming teachers to take on the TLE major in teaching because this course has gathered fewer students in the past years. Teaching TLE may not be effective, as the curriculum requires teachers to develop competencies to deliver quality instruc-

tion. Furthermore, being generalists, teachers may not possess the specific skills and knowledge necessary to facilitate the pupils' learning. Figure 4 presents the challenges teachers encounter in teaching TLE, especially in acquiring 21st-century skills for learners. Three themes emerged from the participants' responses: teaching responsibility and environment, access to TLE resources, and teacher qualification. This theme encompasses some of the possible coping mechanisms that can be done to solve the pressing concerns. These themes implied that the teachers experienced challenges in teaching TLE to 21st-century learners. One of the challenges is taking responsibility for providing the right facility to cater to the hands-on exercises needed in teaching TLE. They also experience a challenge with access to TLE resources, including technology-enabled resources that can aid TLE instruction and meet the needs of the learners in the 21st century. Lastly, there is a need to look into the teachers' qualifications in teaching TLE at the elementary level; as a generalist, only a few teachers are experts in the field, which poses a great challenge.

3.3. Insights Gained by Teachers in Teaching TLE In The 21st Century—As the interview progressed, the participants also shared their insights into teaching TLE in the 21st century, specifically in acquiring life skills for the learners. They shared that TLE teachers should un-

dergo enough training and development to up-skill them in TLE instruction. They also noted that digital technology should be a common practice nowadays because we are gearing towards developing the skills of our learners in the 21st century.

3.3.1. Enhancing Teacher Expertise—Teachers' feelings of preparedness may indicate the extent to which their training prepares them to meet the challenges. Teacher training must be considered an important part of introducing K to 12 programs for TLE subjects. One cannot have an effective teaching and learning program unless the teachers are well-trained and qualified in specific areas of TLE. Teach-

ers are now challenged by reform initiatives to meet new requirements that have not been part of the conventional repertoire of expectations for effective classroom teaching and for which many teachers have not been adequately prepared during their professional training. As a result, information about teacher qualifications and preparation does not completely address whether pre-service and continued learning and

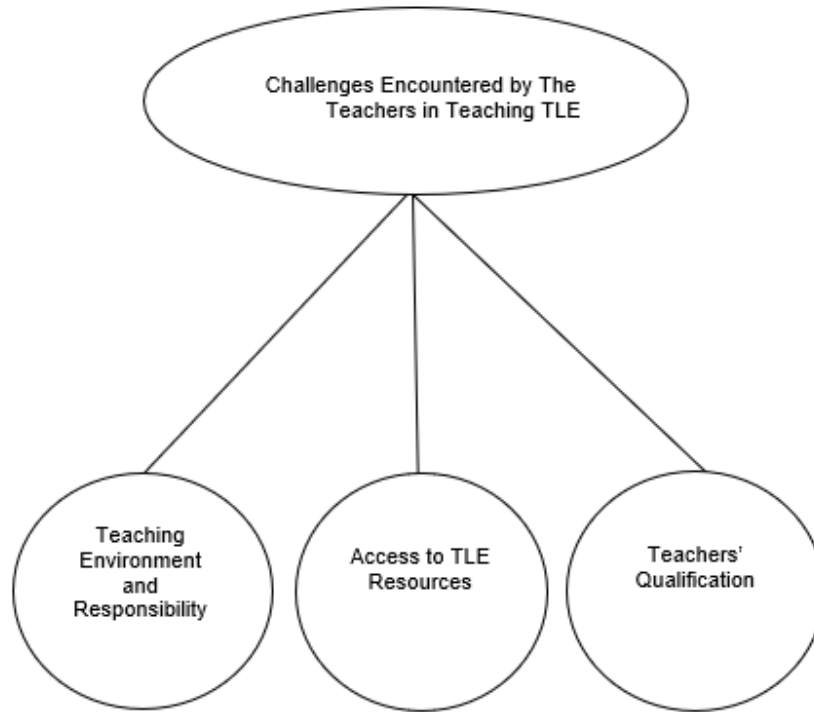


Fig. 4. Emerging Themes on the Challenges Encountered by the Teachers in Teaching TLE

work environments adequately prepare teachers to meet the often complex and changing demands they face in their classrooms. The teachers' readiness in TLE will serve as a basis in the crafting and formulation of training programs to improve such readiness status. Teachers who are weak in their area of specialization can now

be capacitated through proposed advancement training and activities. These training programs are purposely prepared to address the readiness-related concerns of the different schools and are being offered to the school authorities for actual implementation (Espiritu, 2020).

3.3.2. Making Digital Technology a Practice—In this 21st century, the term “technology” is an important issue in many fields including education. This is because technology has become the knowledge transfer highway in most countries. Technology integration nowadays has gone through innovations and transformed our societies that have totally changed the way people think, work, and live (Grabe, 2007). Since students are familiar with technology, and they will learn better within the technology-based environment, the issue of ICT integration in schools, specifically in the classroom, is vital. This is because the use of tech-

nology in education contributes a lot to the pedagogical aspects in which the application of ICT will lead to effective learning with the help and support from ICT elements and components (Jamieson-Procter et al., 2013). It is right to say that almost all subjects, including TLE and other major fields, can be learned more effectively through technology-based tools and equipment. The participants acknowledge this fact and hope to be provided with the required ICT resources to efficiently facilitate technology integration in the classroom. ICT can be used in various ways to help both teachers and students learn about their respective subject ar-

eas. Technology-based teaching and learning offer various interesting ways, which include educational videos, stimulation, storage of data, the usage of databases, mind-mapping, guided discovery, brainstorming, music, and the World Wide Web (www) that will make the learning process more fulfilling and meaningful (Finger Trinidad, 2002). On the other hand, students will benefit from ICT integration, where they are not bound to the limited curriculum and resources; instead, hands-on activities in a technology-based course are designed to help them to stimulate their understanding of the subject. Figure 5 presents the insights gained by the teachers in teaching TLE in the 21st century. Two themes emerged from the participants' responses: enhancing teacher expertise and making digital technology a practice in the TLE classrooms. With these insights, the participants hope to improve learners' learning outcomes in TLE and develop teachers' competencies in teaching. These themes implied that the teachers had developed some insights as they teach TLE in the 21st century. One of the valuable insights is the development of the expertise of teachers in TLE, which includes proper training for the pre-service and in-service teachers. This will give generalist teachers enough skills and competence to handle TLE for the life-skill acquisition of the learners. It is another insight to make digital technology a practice in teaching TLE, especially for 21st-century learners. The advantage of digital technology is significant, and it can help facilitate the lack of resources in the lessons and even make the activities more engaging for the learners.

4. Implications and Future Directions

This chapter presents a brief overview of the study, followed by implications based on its findings. Future directions in TLE teachers' experiences were also discussed in this chapter. The study aimed to explore elementary teachers' perceptions of teaching TLE for knowledge acquisition in the 21st century.

4.1. Findings—The findings from this study indicate that elementary teachers hold varied perceptions regarding the effectiveness of Technology and Livelihood Education (TLE) in fostering 21st-century skills among students. Many educators recognize the importance of TLE in enhancing critical thinking and problem-solving abilities but express concerns about the adequacy of their training and resources to effectively implement the curriculum. Teachers reported a need for ongoing professional development to enhance their instructional strategies and boost their confidence in teaching TLE.

The challenges identified by teachers in delivering TLE include inadequate access to technological resources, limited time for hands-on activities, and difficulties in integrating blended learning methodologies. These challenges often hinder their ability to create engaging and relevant learning experiences for students. Additionally, teachers noted that classroom management and varying student engagement levels posed significant obstacles in effectively teaching TLE.

Insights gained regarding educational management emphasize the importance of collaborative planning and resource allocation to support TLE instruction. Teachers highlighted the need for institutional support in providing necessary materials and training. They suggested that educational leaders should foster an environment that encourages innovation in teaching practices and facilitates professional learning communities, enabling teachers to share best practices and strategies for effectively delivering TLE in a blended learning context.

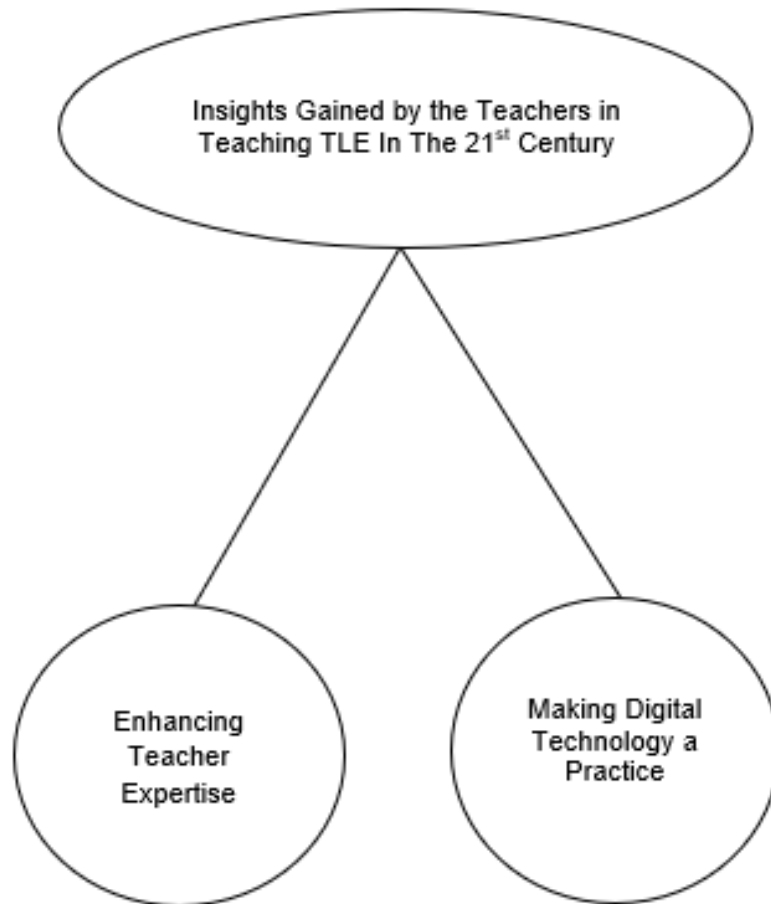


Fig. 5. Generated Themes on the Insights Gained by the Teachers in Teaching TLE in the 21st Century.

4.2. *Implications*—On the perceptions of elementary teachers in technology and livelihood education, especially in acquiring 21st-century skills for learners, two themes emerged from the participant's responses: the technology access for teaching TLE and the pedagogical perceptions of the participants in TLE instruction. The themes suggested that teachers recognize the need to improve ICT and pedagogy in teaching Technology and Livelihood Education (TLE) for the 21st century. They believe digital technology can enhance TLE instruction and make it more relevant to modern learners, helping them acquire essential life skills. TLE was considered crucial as it provides learners with valuable life skills for their lifelong learning and future independence, starting from their elementary years. Regarding the challenges the teachers encounter in teaching TLE, especially in acquiring 21st-century skills for learners, three themes emerged from the participants' responses: teaching responsibility and environment, access to TLE resources, and teacher qualification. This theme encompasses some of the possible coping mechanisms that can be done to solve the pressing concerns. The themes indicated that teachers face challenges in teaching TLE to 21st-century learners.

4.3. *Future Directions*—Data obtained impacted various stakeholders in education, including DepEd Officials, school administrators, teachers, students, other stakeholders, and future researchers. The future directions of this study were as follows: DepEd officials may lead the implementation of educational technology practices for teachers and learners beyond the global pandemic. They shall reach out to those learners without proper access to technology to ensure that learning is delivered even outside the classroom. School administrators may provide technical assistance to teachers when adapting new tasks for asynchronous instruction.

These challenges include providing appropriate facilities for hands-on exercises, accessing TLE resources and technology-enabled materials, and addressing the qualifications of elementary teachers in the TLE field. The limited availability of specialized expertise in TLE teaching poses a significant challenge for generalist teachers. Meanwhile, on the insights gained by the teachers in teaching TLE in the 21st century, two themes emerged from the participants' responses: enhancing teacher expertise and making digital technology a practice in the TLE classrooms. The themes implied that teachers have gained valuable insights as they teach TLE in the 21st century. One key insight was the importance of developing teachers' expertise in TLE through comprehensive training for both pre-service and in-service teachers. This would equip generalist teachers with the necessary skills and competence to effectively teach TLE and facilitate students' acquisition of life skills. Additionally, integrating digital technology into TLE instruction was another essential insight. Digital technology can address resource limitations and enhance student engagement, making learning activities more dynamic and interactive for 21st-century learners.

With enough support from the school administrator, the teachers can rise above their challenges. TLE teachers may continue to attend professional development activities to acquire a new set of skills required in the asynchronous learning approach. With enough skills and motivation, teachers would continue to ensure that learners are learning despite the challenges of a global pandemic. Future researchers may continue researching life skill acquisition in TLE to shed more light on the relevant strategies and resources that can help teachers. The 21st century is an era of technological development, including education. Many advantages have been

noted due to technology-enabled educational search on the use of digital technology in TLE resources. As a result of this study, future re- classrooms was recommended.

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