MOTIVATIONS AND CHALLENGES IN SPECIALIZING TECHNOLOGY AND LIVELIHOOD EDUCATION: A PHENOMENOLOGICAL INQUIRY

Mary Jane B. Mamayabay[1i],
Maria Rina T. Quilestino[2]
[1]Teacher 3,
UM Ilang High School,
University of Mindanao,
Davao City, Philippines
[2]Assistant Dean,
College of Hospitality Education,
University of Mindanao,
Davao City, Philippines

Abstract:

This paper aimed to analyze and interpret the students' motivations and challenges in specializing in Technology and Livelihood Education during the hit of a pandemic. The study interpreted the shared experiences of the 12 BTLEd students using the phenomenological approach and a six-phase approach to thematic analysis (TA), popularized by (Clarke & Braun, 2006). The findings showed four (4) common themes: continuity of previous academic journey, financial problems, access to supplementary learning materials, and TLE as a complex field of study. These recurring themes indicate that the absence of face-to-face interaction resulted in the students' difficulties acquiring the required skill set for the subject. Moreover, future research on this particular topic may be carried out to investigate the particular areas or dimensions of the TLE program more in-depth.

Keywords: education, BTLEd students experiences, COVID-19 pandemic, Philippines

1. Introduction

The perception of oneself as successful or not on a course influences students' decision-making and motivation (Palos *et al.*, 2019). The decision of which course or degree to pursue in college is a crucial factor that must be considered significantly since it may impact the students' lifelong learning and the course their college lives will take. As such, when high school students finally reach college, they rarely aspire to major in TLE

---

[i] Correspondence: email m.mamayabay.452879@umindanao.edu.ph

(Aguilana, 2019). Barcelona *et al.* (2023) also highlighted that declining student interest was also identified in addition to a need for more equipment and resources for teaching TLE. Additionally, the learners' financial circumstances were identified as a challenge in the teaching and learning of TLE, as this conclusion is supported by Tan's (2021) study, which emphasizes the lack of funding available for acquiring materials to improve the course offerings. As such, in light of the existing identified problems towards teaching and learning TLE and of recent occurrences that have affected society at large and the educational system in particular, it is critical to understand the motivations of students to specialize in TLE and how they managed to cope with the challenges posed especially during the COVID-19 pandemic.

Moreover, it is necessary to learn more about and look into the various factors that led college students to specialize in Technology and Livelihood Education (TLE), particularly during the peak of the COVID-19 pandemic. Identifying these motivations can further strengthen their way to finishing their degree and pursuing their chosen field of specialization and enable them to overcome the challenges they currently face or may face as TLE teachers in the Philippine educational system.

Determining and further investigating the different factors and components that influence how college students tend to take into consideration in choosing and pursuing their respective college course or major or field of specialization is necessary to be studied as this can play a significant role in their decision-making and how the students are being able to pursue their respective dreams and aspirations. Thus, many students tend to choose their major based on their academic standing and ability and, most of the time, are also highly influenced by other external factors that tend to prohibit them from putting forth what they desire for a career or profession in the future (Akosah-Twumasi *et al.*, 2018). Moreover, it was also added by Stock and Stock (2019) that picking or choosing a particular major or field of specialization in college is considered essential to be taken into consideration and further investigated as this often charts the course for a person's future career path or direction and thus, considering this as a significant decision for college students to consider.

2. Literature Review

Education is vital in personal growth and development, particularly for the younger generation. Due to the emergence of modern technological advances brought about by the rapid spread of globalization, the education system, too, has been trying its best to keep up with such gradual changes to encourage more young individuals to learn and be of use, not just to their respective families but as well as to the society in the future. It is found that individual students and their societies share the benefits of investment in higher education. Individuals with high educational attainment earn more than others and have better working conditions. They contribute more to society, both through higher tax payments and through their civic involvement. Well-educated adults also give

their children benefits that increase the prospects that the next generation will prosper and be able to contribute to society in various ways (Heckler, 2019; Bok, 2017).

Motivation is a highly complex concept influenced by many factors but can generally be summarized as extrinsic or intrinsic. Extrinsic refers to external factors, and intrinsic refers to internal factors relating to an individual. Internal motivators are intrinsic needs that satisfy a person, whereas external motivators are considered environmental factors that motivate an individual. The decision to pursue a high school degree is one of the most significant decisions an individual will make and is predicated on the cultivation of high academic aspirations, a process of influence that begins well before high school graduation (Hess, 2019).

In addition, it is found that some benefits to individuals pursuing higher education include a correlation between higher levels of education and higher earnings for all racial/ethnic groups and both men and women (Palafox *et al.*, 2018). Another is that the income gap between high school graduates and college graduates has increased significantly over time. The earnings benefit to the average college graduate is high enough for graduates to recoup both the cost of full tuition and fees and earnings during the college years in a relatively short period. Even though many high school experiences produce a measurable benefit compared to no postsecondary education, completing a bachelor's degree or higher is significantly greater (Hernando-Malipot, 2019).

Career selection is considered to be one of the many stages in students' lives in which they are required to make decisions about which particular path they want to pursue in the future, and there are identified to be several factors that are considered to affect the course and career choices, especially among senior high school students and noted how important it is for students to place their trust on specific individuals such as their parents, counselors, and teachers in guiding them for better academic track selection (Alphonse, 2016). Among the many factors are the family factors, which include mainly the parent's socioeconomic status, occupation, and educational level, and such factors can positively or negatively affect choosing a career or academic track, which is also regarded as a 'major turning point' in a student's life and such decision could provide that student various opportunities that can enhance their skills, knowledge, and abilities. It was also noted that parents play a significant role and influence over a child's decision on which academic track or career they choose. It is also noted how parental career advice is considered very influential and can serve as guiding principles for their children to become better people and workers. Although young adults seem to display independence from their parents already, there will still come to a point in which they will be dependent on their parents and their advice that they can use as a guide for their personality and career growth, and this can be accounted because parents are perceived by their children to leave them the strongest and influential impression that they tend to carry on in their adolescent life, especially in choosing an academic track or career path (Chan, 2016).

Technology and Livelihood Education (TLE), regarded as one of the learning areas included in the secondary education curriculum used in secondary schools in the

Philippines, is one of the common forms or types of primary or specialization offered to college students, especially those taking up education. Home economics, agriculture-fishery arts, industrial arts, and information and communication technologies are the majority of the subjects that make up TLE, which is regarded as a common topic in high school. Additionally, the TLE curriculum places a strong emphasis on the development of technical abilities in specialized fields. As such, there are also the five common competencies, which are based on the training guidelines of the Technical Education and Skills Development Authority (TESDA), which are typically covered in the exploratory phases, such as Grades 7 and 8, and which include the five competencies of measuring and calculations, technical drafting, the use of tools and equipment, maintaining tools and equipment, as well as occupational health and safety. The entrepreneurship education-based TLE also focuses on teaching students' valuable life skills each quarter or grading period to prepare them to launch a modest household business with their own families. In addition, it is also known to cover three domains: personal entrepreneurial competencies, market and environment, and process and delivery. The guidelines in the implementation of the Technology and Livelihood Education (TLE) in the public and private schools of the K to 12 Basic Education Program were reflected in the enclosure of DepEd order 67, series 2012, which provides two types of curriculum for regular high schools, which are described as follows: The Tech-Voc-based TLE is designed based on the training regulation (TR) of the Technical Education and Skills Development Authority (TESDA). As a result, emphasis was placed on developing technical abilities in any area of specialization that the students wished to follow. As a result, facilities, tools, and instructors that hold NCs and are trainer-certified are necessary for the DepEd Order 67, series 2012's execution to deliver real-world learning experiences that will unquestionably sharpen students' skills (DepEd Order, 2012).

Further, the development and offering of Technology and Livelihood Education (TLE) at the secondary level is considered the response to the continuous need of the industry, particularly in answering the call of job mismatch in the Philippines (Gregorio, 2016). The nature of the TLE subject is mainly based on the need to provide vocational expertise and knowledge. It also focuses on developing critical thinking, especially among the younger generation. However, in connection to the teaching of the TLE subject in the high school or secondary level, there are still some problems that emerges in its conduct and such problems and challenges includes the following – lack of adequate and effective trainings that are provided and which are related to the area of specialization; the lack of enough capital investment; the planning of TLE subjects does not usually include allowances for contingencies especially for the development and establishment of various needed instructional facilities and teaching strategies and that there is also the unrepaired equipment and tools which is due to the absence or lack of adequate allocated budget and allowance and thus providing further challenges in the teaching of the TLE subject in secondary school levels and also posing a more significant challenge for teachers in making adjustments on how they can better deal with such challenges that are becoming a hinder in the way they are teaching the specific subject to the students

who are expected to learn a lot from the particular subject that can make them well-equipped and business-ready (Palafox *et al.*, 2018).

The impact of the COVID-19 pandemic has significantly altered how global education has transitioned from in-person instruction to online or digital learning. As a result, over 1.5 billion students and youth worldwide have been impacted by the closure of schools and institutions due to the threat of the spread and transmission of COVID-19 in communities (Onyema *et al.*, 2020). The pandemic created several disruptions, including the closing of schools, changes in teaching methods, and increased concern for the welfare of both kids and teachers (Duraku & Hoxha, 2020).

Additionally, during the initial months of adopting the community quarantine measures, schools' operations and classes were suspended due to restrictions to stop or impede the spread of the COVID-19 virus nationwide. Further, in the following months, the Department of Education (DepEd) and all other pertinent educational institutions and organizations agreed on the choice to continue the student's education, but only through online class learning (Arcilla, 2020). Thus, students can still participate in their assigned classes and extracurricular activities via online and video conferencing with their instructors and peers. Only online class learning was considered to be the finest option available when it comes to supporting and ensuring the learning of the students despite the threat and risks caused by the pandemic because face-to-face learning was never seen as an option in delivering learning instruction in the Philippine government during the peak of the emergence of COVID-19.

It was noted by Harina (2019) that teachers must validate the learning process by allowing students to experience the learning concept since Technology and Livelihood Education (TLE) is a subject that is meant for the students to interact with practical activities that will then enhance their abilities in a new component. Tools and materials must be accessible and sufficient while being palpable for the students to use to put the skill notion into practice. Gregorio (2016) noted in his research that there needs to be more tools, materials, equipment, or facilities to accommodate all of the students enrolled in the subject to give learning and skill practice to TLE students. As such, Tan (2021) stressed that the distribution of the tools, resources, and equipment by the institutions teaching practical topics must be observed. For students to be motivated to practice and efficiently carry the abilities essential for the specific component, there must be access to such learning materials for a skill subject.

On the emergence of the COVID-19 pandemic, it was decided to observe and adopt the Basic Education Continuity Plan (DepEd, 2020), which acts as the critical policy directive for primary education in the country during the pandemic. This involved moving from face-to-face learning practice of skills to virtual learning. The online modality is one approach for delivering education that has been considered and used. As a result, it was determined that environmental distractions, technological problems, and a sluggish internet connection are the main obstacles facing TLE students receiving and applying the subject's learning ideas in a virtual environment (Cabual & Cabual, 2022).

Students have tried adapting to the new regular learning method since the pandemic's inception. As such, understanding students' motivation to specialize in Technology and Livelihood education in the context of the COVID-19 pandemic is the primary need identified by the researcher from the gathered and observed previous studies. No study elaborates on and highlights why students chose to specialize in TLE in the face of the pandemic. In light of this, the current study focuses on identifying and further exploring the factors or influences that led the participants to choose TLE as their major in their field of study and their strategies for pursuing the course during the pandemic.

2. Objectives of the Study

The following are the specific research questions of the present qualitative study:

2.1 General Objectives
1) To explore the motivations, challenges, and coping mechanisms of students studying TLE in the emergence of the pandemic.

2.2 Specific Questions
1) What are the motivations of students for specializing in TLE during the pandemic?
2) What are the challenges for students specializing in TLE during the pandemic?
3) How do students cope with the challenges of specializing in TLE during the pandemic?
4) What insights can participants share with fellow TLE students and the academic community in relation to their experiences?

3. Material and Methods

This section presents the research methodology utilized in obtaining, analyzing, and interpreting the study's data. It includes the research design, research respondents, data gathering instruments, and the data analysis tools employed in the interpretation of data.

3.1 Research Participants
The study's research participants include 12 Bachelor in Technology and Livelihood Education (BTLE) students in the 2022-2023 academic year. The study utilized the purposive sampling technique, which is also widely used in quantitative and qualitative research to identify and select information-rich cases related to the phenomenon of interest (Palinkas *et al.*, 2013). This sampling method was conducted where each respondent was selected based on a particular characteristic.

The inclusion criteria in choosing the participants include:
1) academically performer TLE major students;

2) had experience in the distance learning modality, which was widely used during the pandemic;
3) interest in answering the research questions and openness in sharing personal experiences as a TLE major during the peak of a pandemic;
4) voluntarily signed the informed consent of participation.

3.2 Instruments

Individual interviews and focus group discussions were held to unveil the reasons motivating participants to pursue TLE as their course or field of specialization in finishing their baccalaureate degree. Each participant was interviewed with the aid of the online conferencing tool Zoom. Through this, the interview process was done safely for the welfare of both the researcher and the interviewee, as the COVID-19 safety guidelines were observed correctly. The participants were asked open-ended questions about their motivations and strategies for pursuing TLE as a major.

The researcher used the interview method as a major tool in the collection of data needed in this study, particularly in collecting data regarding the different factors that motivate college education students to choose and pursue Technology and Livelihood Education (TLE) as their major or field of specialization, particularly in the field of education. The interview method can be essential in acquiring first-hand information from the intended respondents of the study (Adhabi & Anozie, 2017). Using this particular research instrument can assist the proponent of the study in explaining, understanding, and exploring better the research subjects' or participants' opinions, behaviors, events, phenomena, and experiences regarding a particular situation. The questions in the interview instrument are open-ended to allow the researcher to ask and collect more in-depth information about the participants.

3.3 Design and Procedure

The present study utilized the phenomenological research design. This research methodology aims to capture the essence of a phenomenon by examining it from the viewpoint of individuals who have experienced it (Teherani *et al*., 2015). Furthermore, it explains the significance of this experience in terms of what was encountered and how it was encountered. For instance, what motivated the students to specialize in TLE, and how did the students cope with the challenges in specializing in TLE, particularly when the pandemic struck?

After acquiring and transcribing the conducted interview, the thematic analysis was applied as the data analysis tool for the interview of the study's selected participants. Thematic analysis is often used in a qualitative approach to research. The qualitative approach is an inquiry in which the researchers explore a central phenomenon and collect detailed views of participants in the form of words or images. This form of research design also analyzes and codes the data for description and themes; interprets the meaning of the information drawing on personal reflection and past research; and lastly,

writes the final report that includes personal biases and a flexible structure (Clarke & Braun, 2014).

The steps involved in the conduct of thematic analysis include familiarizing oneself with the data, assigning preliminary codes to the data to describe the content quickly, searching for patterns or themes in these codes across the different interviews conducted, and from there, the researcher can be able to define themes and produce the final analysis report. The thematic analysis is the process of identifying patterns or themes within qualitative data. A thematic analysis aims to identify themes, like patterns in the data that are important or interesting, and use these themes to address the research or say something about an issue. This is much more than simply summarizing the data; an excellent thematic analysis interprets and makes sense of it.

3.4 Trustworthiness of the Study

To ensure the study's trustworthiness, the researcher requested a panel of professionals who evaluated the topic involved and suggested further improvements to the study.

3.5 Ethical Consideration

Some guidelines were needed to be taken into consideration and to be observed by the researcher in the conduct of the said interview process. These included the need to express respect for the confidentiality and privacy of the interviewee and maintain and assure the participant that confidentiality of the interview would be maintained, as well as with all of the information collected during the data collection method. Moreover, the researcher was also expected to respect the participants' time and be polite and prepared at all times, particularly during the interview. Tactfulness was essential and should be expressed if the interviewee needed more time to be ready to explain or elaborate. They should not be forced to open up but should be offered the opportunity to try and explain their thoughts later in the interview.

4. Results and Discussion

Table 1 presents the themes that emerged for the first research question on students' motivations to specialize in TLE during the pandemic.

Table 1: Motivations of Students in Specializing TLE

Essential Themes	Continuity of Previous Academic Journey
	Achievement of Skills and Knowledge
	Practicality, High Demand, and Business Opportunities
	Love for Teaching as a Profession and Vocation

4.1 Continuity of Previous Academic Journey

Based on the responses that the participants provided regarding their reasons and motivations for choosing TLE as their major or area of specialization, most of them shared that this was mainly because they would like to continue and nurture their skills taken

from the senior high school Technical-Vocational-Livelihood (TVL) specializations. Some responded that they wanted to pursue a college degree related to their TVL course. The participants also indicated that upon choosing a college course the senior high school TVL strand has always been put into consideration as they stated that,

IDIP 1:
"One of my motivation ma'am is ang akong TVL course atong pagka senior high nako which is Home Economics - Dressmaking so akoang paraan para maconnect or magamit nko to sya na experience nko atong senior high school ug sa junior high school mao ng pursue ko ug TLE pagka college nko ma'am."
"One of the things that drives me is the TVL track I took in senior high school which I specialized Home Economics - Dressmaking. To continue on that track in college, I chose TLE as my major".

IDIP 6:
"I choose TLE in the face of the pandemic because I graduated from senior high school as a TVL student so I have numerous NCII already that are in lined with TLE specifically cookery, FBS, and Housekeeping so that drives me to choose TLE sa college po."
"Given the pandemic, I decided to major in TLE because I finished from senior high school as a TVL student, and I already have a number of NCII that are closely related to TLE, specifically Cookery, FBS, and Housekeeping. This is what motivated me to pursue TLE in college".

One of the participants also emphasized that the invested learning during the senior high school TVL strand should be well-spent. Choosing TLE as a college major could nurture the skills and knowledge gained from the respondents' earlier education.

IDIP 3:
"Well, first jud nga naa sa akoang huna-huna maam is gusto ko nga ang kuhaon nko pgcollege is related sa akong TVL course tong senior high school ko ma'am kay dili ko husto na masayang akoang mga learning ato ma'am. Unya TLE jud ang pinaka appropriate po."
"Well, I naturally thought about how my major would relate to my TVL track in senior high school when choosing it. I don't want my previous TVL class learnings to get wasted. The most appropriate major for that was TLE".

The participants' responses clarified that your desire to improve and nurture your prior knowledge will significantly impact how and where you see yourself toward your educational advancement. Some participants emphasized that their aspirations to continue developing their skills and knowledge from senior high school specializations gave them the trajectory of what to take as they move forward in their higher educational pursuits. However, students' may see how crucial the alignment of their track is at the collegiate level. It should be highlighted that the better K–12 track alignment at the

tertiary level resulted in numerous positive effects, including improvements in students' academic progress, financial gain, and institutional accountability (De Maria, 2015). As such, an alignment of the strand with the program may be advised to ensure that the strand will benefit students once they approach the college level. As students move on to higher levels of learning, balancing various factors can be achieved through a more intense collaboration between the two sectors concerned, DepEd and CHED. This would allow students to experience the continuity of the two unique levels (Magtibay & Los Baños, 2019). Moreover, to succeed academically, students must select a specialization that suits their needs and their capacity for continuity in their learning. Additionally, a thorough understanding of the content covered during instruction is essential to completing the program (Daughi et. al, 2023; Rubin & Wright, 2017).

4.2 Achievement of Skills and Knowledge

The primary consideration by the participants in choosing TLE as their major or field of specialization was also mainly related to how they see such a subject as something that can allow them to learn and apply life skills. For most participants, learning life skills is the main focus of the TLE subject, and they considered this to be beneficial not only for the students for their development but also for themselves. Some even indicated that they perceive taking up or pursuing a TLE major as a lifelong advantage and benefit. The skills they will learn and eventually pass down to their future students can teach them how to face life better and make a living for themselves and their families.

> FGD 4:
> *"Ang TLE po dili lang nagafocus sa isa field ma'am so mgexplore jud mi from field to another, advantage jud siya maam kai daghan mi ug matun.an sa different fields and maequip not just sa knowledge ma'am but also sa skills na relevant sa ato. …."*
> *"TLE allows us to truly explore from one field to another because it doesn't only concentrate on one. It is really advantageous since we can learn about many topics and acquire skills that are essential to us in addition to knowledge. …"*

> IDIP 4:
> *"Akoang simple nga reason ra ma'am is that I want to improve myself, ma'am, my knowledge, and especially my skills, and also to develop my personality and behavior.*
> *"My main motivation is to enhance my personality and behavior as well as my knowledge, skills, and especially my abilities."*

The WHO (2022) defines life skills as the "*abilities for adaptive and supportive behaviors that enable individuals to deal effectively with the demands and challenges of daily life.*" this is what TLE subject poses to the learners. The study and assessment of the motivations of Technology and Livelihood Education (TLE) instructors performed by Aguilana (2019) found that the TLE topic is regarded as a 'decision-making' subject since it is more focused on strengthening and teaching students about family living. It is

centered on giving students' academic and vocational training required to thrive in their chosen future vocations. In terms of life skills development and application, respondents in the study stated that their TLE specialization enabled them to better deal with daily problems and challenges, as well as recognize the importance of TLE as applied in daily life decision-making and teaching them with various means that can also be used as a future source of income. Nevertheless, the graduates will be given the knowledge and skills necessary to become more productive members of society (Patrinos & Samer, 2016).

4.3 Practicality, High Demand, and Business Opportunities

Another critical consideration by the participants in choosing TLE as their major or specific area of specialization was how they see the subject as something that majoring in TLE could give them an advantage when getting into the field. Some participants viewed that there is practicality in majoring in TLE as it could give them a variety of venues where they could fit themselves in terms of job and life opportunities. Also, some participants responded that the TLE major is quite in demand in the educational field among all other majors, given that the TLE has a variety of fields and our current curriculum is making its way in delivering all possible fields of specializations available for the learners to gain a variety of skill sets. Further, some participants also see the subject as something that not only teaches and provides them with various essential life skills but also includes how these skills can be applied to further harness their business and livelihood capabilities. One way of genuinely integrating the learned life skills in the TLE subject, according to some of the participants, can be seen in the way that it can be used for building a business – something they see as helpful for the students and their families especially in the difficulties of life nowadays.

> FGD 3:
> *"For me if you finish TLE daghan kaayo ang magopen na doors sa ako kay dili man nga isa lang ka field ang TLE but multiple field nga usually mga practical field nga need jud sa usa ka tao. In terms of work daghan ka ug pewede sudlan or econsider maam like electrical, automotive ug daghan pa na stuffs ma'am.."*
> *"As a TLE major, I will have a variety of opportunities open to me upon graduation because TLE doesn't just concentrate on one field but many. I have a variety of career alternatives to choose from, including those in the automotive or electrical fields, among many others".*

> IDIP 7:
> *"When I was in the process of choosing and enrolling in TLE, the advantage that was in my mind…compared to other majors. …When we think logically as we consider the curriculum most of the schools offer TVL track…there will be some rooms for us in the field as we graduate though I also have in my mind na dili jud guarantee kai daghan kau ug graduate."*
> *"The benefit that I was thinking about when I was picking and enrolling in TLE was that TLE, in comparison to other majors, somehow had an advantage when it comes to being in*

demand in the sector. …When we analyze the curriculum and the fact that the majority of schools provide a TVL track with three to four specializations, we can rationally conclude that after we graduate, there will be positions available in the field".

The majority of the participants believed that there is an advantage of majoring in TLE, for it could lead you to land a job right after college. As such, the study conducted by Cacho *et al*. (2022) found that most BTLE major 2019 graduates had jobs, with the majority having them within a year of graduation. However, some graduates had made professional decisions unrelated to their pre-service education. This study could support the participants' view of majoring in TLE, as so many opportunities await them.

4.4 Love for Teaching as a Profession and Vocation

For the majority of the participants in the study, one reason that greatly motivated them to obtain TLE as their major or field of specialization in college is their passion for becoming a teacher. One of the participants even noted that being part of the young students' lives by giving them learning not on the academic aspects but, most importantly, on how they could apply practical skills in their living gave them so much self-worth. Further, it was also noted by some of them that their "passion for teaching" allows them to continue despite various challenges and difficulties that they might face in getting a degree. This motivates them to overcome the challenges of becoming a successful future teacher.

IDIP 7:

"Technically, the reason behind it is I want to be part of the young students, helping them through education. Teach them not only academically but also how they could apply practical ways in their daily living. Kasi I feel worth as a person pag mahimo nako sya nga responsibilidad. …"

"I wish to support the young students and aid them through their education, which is the real motivation behind it. Show them how to apply practical skills in their daily lives as well as academic concepts. Taking on that obligation makes me feel valuable as a person. …"

IDIP 6:

"…my heart belongs to the children gyud, I love kids, and I love teaching them... …From my education student journey, it seems that it suited me well, and education na course is really my passion the subjects are related to me. I am somehow familiar with my major subject because I have taken them before. …I think my calling to become as future educator."

"…I love kids and enjoy teaching them. …My experience as a student of education has led me to believe that it was a good fit for me, and I truly enjoy the subjects because they are relevant to my field of study and because I have already taken them. …I truly believe that becoming a future educator is my calling."

It was stated by Hoyle (2015) that the teaching profession is regarded as the most 'honorable' in the world because it necessitates a certain level of knowledge, skills, dedication, and passion to stay committed to a job that requires handling young people and teaching them basic skills and knowledge that they will require once they have grown up and are ready to enter the real world. Above all, teachers must remain motivated, committed, enthusiastic, and devoted to meeting the requirements of each learner they are responsible for, as well as find the time and patience to keep track of their pupils' development and watch them grow and develop.

Finally, their continuous passion for teaching is also what the participants employ to cope with the challenges associated with pursuing their degree. Some of the participants hope that the skills and knowledge they will be able to impart to their future students can positively impact their lives and their families. According to some participants, having this in their minds gave them enough strength and motivation to continue with their degree and choose specific areas of specialization. Hence, along with their academic preparation, persons who choose to become teachers must also possess the necessary skills to deal with the challenges that come with the job (Genovesi, 2018).

Further, Table 2 presents the essential themes for the 2nd research question, connected to the challenges students usually encounter in specializing in TLE during the pandemic.

Table 2: Challenges of Students in Specializing TLE

Essential Themes	Limitations in Execution and Application of Skills
	Financial Problems
	Lack of Tools and School Resources
	Technological Challenges
	Lack of Teacher-Student Interaction

4.5 Limitations in Execution and Application of Skills

The execution and application of skills by students, particularly in programs with a practical focus like TLE, was a crucial area that had been significantly impacted. The pandemic's restrictions hampered students' capacity to properly execute and apply their skills, which had produced a complex set of difficulties. As such, one of the participants responded that,

FGD 2:
"For me po ang pinaka disadvantage of choosing TLE as your major during the pandemic was of course the learning modality of that time. Given po na TLE is more on practical skills that can be effectively learned in the face to face interaction with your teacher. …."
"The learning methods used at the time were undoubtedly the biggest drawback to choosing TLE as your major during the pandemic. Given that TLE focuses more on practical abilities that may be successfully learned through face-to-face interaction with your teacher…"

One participant also emphasized that for TLE specialization reading books can never be enough and hands-on practice of skills with the guidance of the instructor is really significant in the field of TLE, as the participant noted that,

IDIP 7:

"…the common disadvantages kay lack of execution, mga performance based na ma skip kay dili mahimo sa balay lang. Mga experiment sa field, using machines and tools na e apply sana to do the task is the common disadvantages.

"…the prevalent drawback is the absence of execution; some performance-based activities were omitted because they couldn't be completed at home because special tools and equipment were required."

Further, most participants responded that being at home because of the pandemic was difficult as they engaged in the practical activities for the subject. The absence of appropriate tools and equipment made it difficult to complete their tasks. As such, one respondent noted that,

IDIP 1:

"...challenges nako ato maam kay katong mga practical skills nila ma'am syempre sa TLE ma'am dapat kay eperform jud nmo ma'am e demonstrate kana kung sa balay lng mi ma'am dli namo mahimo ma'am kay wala man mi gamit wla man equipment na kinahanglan namo ma'am aron maperform to na mo na skills ma'am".

"…biggest challenge during the pandemic was really the practical skills needed for a course. The necessary skill must be demonstrated in TLE, but because of the pandemic and the lack of the necessary tools, we were unable to do so because we were at home."

Additionally, one of the participants chose to major in TLE because she wanted to explore and be skillful in different fields in TLE, but that was never met during her two years in college. She said that,

IDIP 3:

"…katong akong purpose nga gusto ko maghands-on ug gusto ko makatry ug new things wala jud kayo nako sya nakabaot since most sa mga activities ato kay mgcreate lang mi ug video ug ipapost sa youtube ana ug epost sa google drive."

"…as much as I wanted to engage in more explorative work to advance my skills, however, this didn't turn out as I had hoped. At that time, making videos to post online constituted most of our activities."

The limitations in the execution and application of the skills theme accentuated the emphasis of the student's views on the drawbacks of choosing TLE as their major during the hit of the pandemic. TLE, as a hands-on specialization, was indeed one of the practical courses that had been much impacted by the sudden change of the learning instructions,

as for the TLE major students being unable to experience authentic learning and exploration of skills because of the presence of the pandemic made them realized that the time had somehow become a waste as they adapt on the new system of transmitting learning instructions. Choosing a particular major that the students will continuously pursue throughout their college years is critical, especially as difficulties and challenges arise. As such, the emergence of the pandemic put a great roadblock to the students' desires to hone and develop their skills as they chose to major in TLE in their college degree. As Darsih (2018) emphasized, critical thinking, independence, self-sufficiency, diversity, and entrepreneurship are all things that TLE aims to foster in its pupils. Each life skill covered under the subject's framework is strongly emphasized, and students are encouraged to use what they have learned in a practical setting. However, during the pandemic, in-person instruction was forbidden and temporarily discontinued (Villar *et al.*, 2022). As a result, blended learning has resulted in substantial educational changes (Bahinting *et al.*, 2022).

4.6 Financial Problems

This may be challenging for students from lower socioeconomic situations and limit their capacity to complete their assignments. Most respondents shared that the financial requirement of TLE projects is the drawback of choosing TLE as a degree major. As such, one of the respondents noted that due to the face-to-face class restrictions made because of the pandemic, the students were all working on their tasks at home with no access to the appropriate tools and equipment. Due to that, the students had to buy a tool and materials to suffice the need for the project's conduct, which was indeed a call for an ultimate cost for the students.

> IDIP 5:
> *"Well, right now in the lenses of studying TLE the disadvantages really is it is costly you know maraming projects eh like cooking meron pa kaming research meron din kaming projects in which we will perform like baking and cooking and meron pa kaming clothing construction in which kakatapos ko lang gumawa ng pajama next slacks na naman daw at polo so ang dami talagang bibilhin… Marami talagang bibilhin na mga materials to be able to have this so called authentic learning."*
> *"Well, right now in the lenses of studying TLE the disadvantage really is it is costly. There will be numerous projects in which we have to perform like baking, cooking, clothing and more… You really have to prepare the needed materials to be able to have this authentic learning."*

Additionally, one of the respondents shared that because of the pandemic, his family's source of income had been closed, resulting in him needing more time to catch up with deadlines in submitting the projects since a single project is a call for a financial budget.

FGD 1:

"Ang challenge jud atong pandemic maam noh kay ang financial jud kay gasto jud kau ang TLE. …ug nisamot nga nagkuha ko ug TLE kai dghan kau ang field unya pandemic pajud maam ang amoang shop kay ngclose pud so amg financial jud ang pinka challenge ato maam."

"Due to TLE's high cost, I faced significant financial difficulties during the pandemic. ...The costs increased when I enrolled in TLE since there are so many different subjects to learn, and because it was the pandemic year when our shop closed, my biggest financial hardship came from that."

Also, some respondents noted that even before the emergence of the pandemic, TLE, in its nature as a practical subject, made it clear to the students that it would be costly to major in it. As responded by:

IDIP 7:

"The challenges may occur finacial problem, kasi gasto masyado si TLE. Kadalihok og buhat og performance nay amotan and bayran, kada laboratory and mag luto nay bayran."

"The financial difficulties during the pandemic were caused by TLE's high cost; every performance-based activity will cost you money."

One of the respondents even shared that the financial hardships brought by the pandemic had forced him to look for a job to satisfy his needs as a student.

IDIP 6:

"…tungod sa kalisod atong pandemic nagging need jud nko na mangita ug work po para masuportahan akong studies labi na sa mga financial needs sa akong course. As a TLE major during the pandemic, challenge jud kayo nko ang kwarta kai someheow gasto jud akoang major po."

"…the circumstance prompted me to hunt for work so I could continue to support my needs, particularly the financial element of pursuing my degree. Being a TLE major presented me with a number of challenges during or after the pandemic because it is more costly than the other majors."

Further, one respondent emphasized that it should be anticipated that majoring in TLE will be costly since the program encompasses different fields.

IDIP 4:

"You'll have to expect nga TLE is very gasto jud sya…. TLE man gud is more on performance so maexpect jud ka ug magtigom jud ka ug daghan kwarta para mkaplait ka ug mga ingredients, materials or equipment specially noh if magtahi-tahi jud ka."

"You should anticipate that studying TLE will be costly….Because, TLE as a major focuses more on performance, you should prepare your finances so that you can buy the tools and materials required to complete a work, particularly in dressmaking."

Developing students' practical skills, critical thinking, and problem-solving abilities is greatly aided by project-based disciplines or specializations like TLE. However, specializing in TLE frequently comes with financial difficulties that limit students' capacity to engage fully and profit from such learning experiences. The cost of the supplies and resources needed for their projects is one of the main financial difficulties TLE major students face in their specialization (Tan, 2021). TLE students may require specialized tools, materials, or equipment depending on their field of study, which may need to be more readily available and economical, particularly during the pandemic.

4.7 Lack of Tools and School Resources

It was a nightmare for the students studying a practical course like TLE that authentic and guided learning experiences and gaining and developing their skills for a specific field will be compromised because of the pandemic. One of the respondents shared that since the learning instruction was set at home, it was given that the students could not access the necessary resources that were readily available at school. Also, working alone to create a task without the instructors' guidance was the hardest aspect of the pandemic instructional setting. As the respondent shared that,

IDIP 8:
"…I have no one on my side as I asked for immediate help on doing the project since wala si teacher. Given that we were working at home so we didn't have the right space, tools, and equipment upon working for a task and that was really a big challenge...."
"…I have no one on my side as I asked for quick assistance with completing the project online. Because we were working from home, it was difficult because we lacked the proper workspace, tools, and equipment for the task at hand…"

Further, one of the participants shared that since it was a pandemic, they could never use the laboratory and experience the skills thoroughly and authentically. As the respondent noted,

IDIP 3:
"…disadvantage ato dili jud ka makalaboratory, wla jud kay chance na makexplore wala kay handson activities so dli pjud nimo ma dig deeper ang imohang knowledge since wla jud ka nkakat-on na ikaw jud gani nag create ana."
"The main drawback of taking TLE during the pandemic was not having laboratory experience with hands-on demonstration. You will never be able to study and advance your skills in a deeper sense if you can't perform the task yourself."

Additionally, it was noted by one of the participants that even in the absence of a pandemic, the schools lacked essential tools, equipment, and facilities to cater to the needs and requirements in developing students' skills in various fields, and that made a disadvantage of majoring in TLE.

FGD 3:

"…it is also a disadvantage to say na a well-equipped and state-of-the-art facility would not guarantee na ma-enjoy or maexperience namo siya. It is very sad to say that our TLE laboratory, ma'am, does not have enough tools and equipment that are necessary for us to get familiar with, especially sa pagbuhat ug task po."

"…it is also a drawback to note that our utilization of well-maintained facilities is not guaranteed. It is quite disappointing to report that our TLE laboratory lacks the instruments and machinery that are essential for us to become familiar with, particularly while producing a task."

TLE is an essential curriculum component that strives to give students practical knowledge and skills relevant to various vocational and technical sectors. Students may find it easier to learn the material in depth and obtain practical experience with the right tools and equipment. As Ghavifekr (2019) states, increasing the students' exposure to the many tools and equipment used in TLE courses is a tremendous help in contributing skills and knowledge in which the relationship between students and their learning is made evident. Due to the pandemic, there was a major transition in our educational system where an online modality was the best channel to continue the student's learning journey even with a pandemic. As such, students' interests and ideas about how technological tools are used to advance knowledge, skills, perceptions, appreciation, and attitudes that shape them as effective learners will be integrated through the use of various learning environments, media, and laboratory tools in TLE courses (Rivera, 2019). TLE program places a high priority on experiential learning and skill development. Therefore, due to the abrupt change in how instruction was delivered during the pandemic, students could not gain real-world experience.

Additionally, the lack of access to the laboratory space, tools, and equipment made it harder for the students to develop the desired abilities necessary for them as TLE major students. The most crucial elements to take into account when working to ensure that students excel in Technology and Livelihood Education (TLE) or at a Technical Vocational Institution are instructional materials, tools, and equipment. To become familiar with them, pupils should receive special consideration and top priority (Harina, 2019).

4.8 Technological Challenges

As a result of the COVID-19 pandemic, remote and online learning has become more prevalent, which has resulted in considerable changes to education. As a result, students face various technological obstacles, as not all have access to dependable internet

connections and devices appropriate for online learning. Students from low-income households or those who live in rural areas have been disproportionately impacted by this digital divide, which has restricted their access to online courses and other learning tools. As such, some of the participants shared that during the pandemic, the situation got so difficult for them, given that most of their professors required them to create videos for most of their projects. Having a non-functioning gadget with insufficient storage made the situation even more difficult for them. The participant also added that due to the sudden transition of the learning modality due to the pandemic, different online platforms were introduced to them respectively, Google Classroom, Google Meet, Google Sheets, and other collaborative apps in which they were all unfamiliar with how to utilize those platforms efficiently at that time. As the participant stated,

> IDIP 7:
> *"…ang pag use ug technology and site like google classroom, google meet, google sheet, and other collaborative apps. Medyo libog sya at first and naka impact sa quality of education. Another is instead na mag baklas mis keyboard and or pc when I was 1st year wala nahitabo ky need sya sa school para guided by prof. So that time it limits our knowledge po."*
> *"…the utilization of technology and websites like Google Classroom, Google Meet, Google Sheets, and other collaborative tools is another. I initially found these difficult to use and they have a significant impact on the caliber of learning. The primary problem is also the lack of hand tools at home, which prevented us from completing the task in an appropriate and standard manner because we had just watched the instructions on the YouTube app."*

So, their unfamiliarity with online tools added to their difficulties in making up for their classes. Also, one participant shared that the country's unstable internet connection seemed to be the biggest problem during the pandemic.

> IDIP 7:
> *"During sa pandemic pud ang internet connection is dako jud sya nga problem kay it is given naman jud noh ang dili jud stable ang internet sa Pilipinas."*
> *"Given how unstable the internet in the Philippines is, my internet connection was what caused me the greatest trouble throughout the outbreak."*

Additionally, one of the participants emphasized the struggle during ICT class as the participant only got a cellphone to attend classes and comply with the tasks, and having a laptop was a necessity for the ICT task during that pandemic. In line with this, the participant narrated that,

IDIP 3:

"Parehas atong ICT namo maam unya during online class jud problema jud sa mga studyante kay kana jung mga gadget ug akoa pud na gina use ato na gadget maam kay cellphone rajud sya then wala siyay data so struggle jud kau to sakoa...."

"Another instance was in our ICT class, and the fact that some were using cellphones and occasionally ran out of data to access our online classes was a significant concern for us students...."

Students' motivation diminishes, and temperaments deteriorate during online classes due to distortions brought on by poor internet connections (Mumtaz *et al.*, 2021). While the pandemic has been complex for many students, their desire to learn has been seriously hampered by their lack of access to technology and devices which are needed since the most effective strategy to enable instruction and learning was for schools and universities to implement online learning delivery systems. In light of this, smartphones, tablets, and laptops were the most useful tools for adjusting to virtual classrooms, actively participating in lessons, and accessing resources for assignments. Unfortunately, Lancker and Parolin (2020) noted that only some children can access such resources. This can cause the less fortunate students to feel deprived and develop an inferiority complex, reducing performance (Zhai & Du, 2020). Moreover, some students still have a positive attitude toward participation in the activities, especially those needing technology, despite the challenges encountered during the pandemic (Estribor & Pagaran, 2022).

4.9 Lack of Teacher-Student Interaction

The conventional face-to-face teacher-student interaction has been drastically diminished due to the move to remote and online learning during the COVID-19 pandemic. This lack of interaction has had several adverse impacts on the participants, as they took up TLE as their college degree major, where hands-on participation is essential for facilitation and skill displays. As such, some participants responded that having no in-person interaction with the teacher made it so hard for them at that time of the pandemic, for it was so hard for them to ask and receive an immediate answer whenever they had questions to their instructors. As the participant stated,

IDIP 1:

"...then usahay pud ma'am is pa ug mutan-aw gud mi ug mga youtube maam lahi rud ng kanang teacher jug ang magdiscuss sa imo ma'am kay kung naa kay question kay makapangutana ka ug matubag nila maam."

"We also seek to watch YouTube videos to better understand the procedure, but it is much more beneficial and effective for us to have our teacher physically explain and demonstrate the procedure so that we can quickly get the answers to any concerns we may have."

Also, one of the respondents noted that some of the teachers tend to motivate them by emphasizing that a 21st-century learner will always have a way of winning over

difficulties. However, the participant watched the video demonstration on YouTube as the best way to learn the skill at that time of the pandemic was never enough since the video tutorials on YouTube could never provide a thorough explanation of the technicalities of the process as compared to having a direct involvement of the instructor. As stated by the participant that,

IDIP 1:

"…then usahay pud ma'am is pa ug mutan-aw gud mi ug mga youtube maam lahi rud ng kanang teacher jug ang magdiscuss sa imo ma'am kay kung naa kay question kay makapangutana ka ug matubag nila maam."

"We also seek to watch YouTube videos to better understand the procedure, but it is much more beneficial and effective for us to have our teacher physically explain and demonstrate the procedure so that we can quickly get the answers to any concerns we may have."

Further, it was also shared by one of the participants that the process of acquiring learning experience during the pandemic was somehow into the cliff of finding it boring, especially on how a performance had to be presented. As the participant stated,

IDIP 4:

"Like, if the teacher will give us as performance task then we cannot perform it face to face but we will just take a video ug e upload na mo sya and that's it. Mao to siya ma'am nga the kind of learning nga I felt like somehow boring po ma'am."

"When our teacher assigned a performance activity, we never had a chance to really execute it; instead, we were just required to record a video and post it online. That was the kind of educational experience that I thought was a little boring."

One of the participants also emphasized that TLE as a skill-based subject must be taught in the actual setting for the effective delivery of authentic learning and acquisition of skills of a specific TLE component. As shared by participants,

IDIP 8:

"Other than that, the instructions sabi ko nga limited lang jud kaau ang interaction namo sa mga teachers naay panahon nga purely instructions lang sila about sa amoang task na buhaton walay practical demonstration sa ilang end so amoang way is to watch videos online nga usahay dili enough kai purely visual viewing lang jud sya walai vivid discussion sa process."

"As I've already mentioned, we interacted with the teachers very little. Sometimes, instead of providing a practical demonstration on their end, instructors would simply offer us instructions for a task we are supposed to complete. Due to the lack of vivid conversation about the procedure and the fact that everything is totally visual, our method is to watch videos online, but this is occasionally insufficient."

Additionally, one of the participants shared that not all teachers made its finest way in giving efforts to deliver a clear and detailed instructions to the students whenever task is given as stated in the participants response that,

IDIP 6:

"Dili nimo masabtan ang instructions kay dili dili tanan teachers nimo naga scaffolding or giving or directions or instructions dili sya complete and sympre wla pamn gud mi nkatry ug face to face sa college murag na culture shock mi nga ing. Ani diay sa college..."
"The second challenge is that some instructors don't employ scaffolding in their explanations, and as we have no prior college experience, we were actually caught by surprise by the manner in which college instructions are presented…"

Practical, hands-on experience is a major component of TLE instruction. Godber (2021), emphasized that since the subject itself needs to be more focused on hands-on activities to be better taught and for the learners to understand better, all teachers, particularly the TLE teachers, felt the immeasurable difficulties during the COVID-19 pandemic. The circumstance seriously tested the ability of the teachers, particularly the TLE teachers, to think creatively for the students (Mangubat *et al.*, 2022). Despite virtual instruction's drawbacks, TLE teachers must discover ways to make their classes engaging and interactive. Hence, the motivation of students to learn TLE competencies is increased by competent teachers' creation of motivating learning environments (Yunos, 2020). Teachers had to develop innovative solutions to close this gap as possibilities for students to acquire practical skills were constrained by the transition to remote learning.

Next, as presented in Table 3, it can be seen that this shows research question no. 3 and its essential themes concerning the different coping mechanisms that the students usually employ in facing the challenges of specializing in TLE during the pandemic.

Table 3: Coping Mechanisms of Students on Facing Challenges in Specializing TLE

Essential Themes	Seeking Help from Others
	Accessing Supplementary Learning Materials
	Managing Time and Tasks Well

4.10 Seeking Help from Others
One of the most important coping mechanisms some participants used during the pandemic was asking for assistance from others. They used this strategy to overcome obstacles and produce excellent projects during a pandemic by interviewing experts or skilled people in the relevant sector. One of the participants shared that asking for tips from the elders in the neighborhood about a certain task was also the participant's coping mechanism. The participant believed that the elder's experience and skill in the field could greatly help the project. As the participant stated that,

IDIP 1:

"Para pud sa mga knowledge about sa mga techniques sa mga kaila nako sa mga katinuwangan kung naa silay knowledge about ani na skills then didto ko magpatudlo maam kung kinsa tong kaila nako. For example, ma'am sa welding naa kay kaila nga lalaki nga kabalo mag welding so mapatudlo lang ko maam kung usaon siya pagtaod, kung unsay tawag ani nga mga technique nga iyahang gibuhat ma'am."

"I would also inquire with some of the community's elders about the project that I was working. Let's take the example of welding. I frequently inquire about the various welding procedures from my neighbor, who is a welder."

Also, some participants shared that being open and communicative to the teachers, especially through chat whenever a task is given, was a coping mechanism to stay on track. A participant stated that,

IDIP 3:

"…kung naa kay queries dili dayun ka ka open up sa imong professor so ang akoa nalang pong way sa pag cope ana nga challenges ma'am since dili man pud ko introvert nga…akoa jung way of coping ma'am kay mangutana jud ko sa akoang mga classmates…mangutana kung dili ko kabalo…"

"Asking queries of your lecturers during the pandemic and not getting a timely response was the first challenge. Being an extrovert made it simple for me to speak with my classmates and seek assistance with a work that I was finding particularly challenging. This was my way of coping with the situation."

Further, some participants thought it was a terrific idea to collaborate with their classmates while working on a project as the participant stated that,

IDIP 6:

"One of my coping mechanisms gyud is ang akoang mga peers ug classmates ang akoa man gud mga classmates kay naa pud experience sa mga skills na kelangan sa among specialization like sa akoa kung kabalo ko sa cookery ug FBS naa pud koy mga classmates mga hawod sa dressmaking so makalean on rjud ko sa ilaha ug makapangutana."

"One of my coping mechanisms is having my peers and classmates. My classmates have experience in terms of the skills required for our specializations, such as in my case, I have skills in cooking and FBS, and I also have classmates who are talented in dressmaking so we could learn and ask each other for help."

Although the COVID-19 pandemic forced students to rethink how they collaborate, it has also opened doors for creative thinking and new talents. Moreover, collaboration on projects enabling Technology and Livelihood Education Students to save money during the pandemic can be rewarding and useful. Also, working together on projects with students studying Technology and Livelihood Education specialization

may be vital for the students to help each other finish their project with less cost in their ends as Sangster *et al*. (2020) also suggest that the modern educational process should emphasize encouraging students to collaborate on specific activities so they can build a variety of soft skills necessary in a variety of workplaces. By combining their specialized skills and knowledge to overcome challenges and seize opportunities, students majoring in Technology and Livelihood Education can support one another during the pandemic.

4.11 Accessing Supplementary Learning Materials

For TLE students, especially those who struggle with taking classes online, having access to supplemental materials lets them learn at their speed. This is especially beneficial for those who process ideas differently or require more time to review complex subjects. As such, some of the participants shared that accessing some online sites like Google and YouTube gave a lot of help during the pandemic. Watching video tutorials online helped them be guided on how to complete their project. As stated by a participant that,

IDIP 1:

"Ang akoang mga ways ma'am para ma cope nko ang akoang mga challenges during the pandemic is first gatanaw ko ug mga tutorials nga naa sa youtube para sa mga procesess sa mga procedures para mabuo to siya nga mga project namo sa TLE."
"My initial strategy for overcoming the difficulties caused by the pandemic was to watch several YouTube video tutorials to properly review the steps and instructions of a task."

FGD 2:

"Then do not just rely on the modules or the resources na ginahatag sa imohang mga teachers also look for something na makatabang sa imoha you could browse sa internet or if there is a teacher po na naa sa imohang tapad which is also a TLE pwede pud ka makapangyo ug tabang sa iyaha."
"I also use other materials in addition to the ones the teachers offered, such as the modules. I also searched online and asked a TLE teacher for assistance in order to find something that would be of help to me. If things like laptops aren't available, you actually just need to be incredibly resourceful by utilizing everything that could help."

FGD 4:

"One thing is Google and Youtube is your friend sa panahon sa pandemic, so if you know nothing about the task, search it on Google and watch it on Youtube, and that is the best way, gyud."
"Google and YouTube were also my means of coping during the pandemic since, even if you had no prior knowledge of the subject, you could eventually search everything and read or watch it online."

Student learning has altered dramatically due to the quick interchange of knowledge and information through social networks (Chugh & Ruhi, 2018).

Supplemental learning materials are crucial for enhancing the educational process, particularly during emergencies like the pandemic. They give students access to additional information, viewpoints, and opportunities for inquiry and exploration that go beyond what traditional classroom instruction might be able to offer, particularly during the pandemic's development when the traditional learning experience was actually impossible and even in institutions where online learning was not widely employed, the delivery of all academic activities has been switched to distance learning (Sangster *et al.*, 2020). Also, the urgent shift involves a number of remote learning challenges, including, among others, a lack of internet connectivity or suitable equipment, a lack of a quiet location to use computers, and problems accessing learning resources (Crawford *et al.*, 2020).

Learning resources and teaching approaches are constantly evolving, much to how contemporary technological advancements, particularly mobile phones, have developed into a multifunctional medium in modern human living (Matthew *et al.*, 2021). The very effective use of technology-based media in learning is therefore promoted by education organizations, students, and every aspect of the educational system (Marini *et al.*, 2019). In addition to being able to continue their studies in a convenient and adaptable manner despite the disruptions caused by COVID-19, students profited from having access to extra materials online throughout the pandemic in many other ways as well.

The capacity of students to access internet resources is vital for their lifetime learning since it could motivate them to explore independent learning habits. Even when regular in-person classes are canceled, students may still complete their coursework with the help of online supplements. Technology and Livelihood Education (TLE) is a curriculum designed to give students practical information and abilities connected to various vocational and technical sectors so that YouTube videos can be a valuable resource for TLE students. YouTube is a platform that provides a range of essential details (Samosir, 2019). The audio-visual learning environment on YouTube may be beneficial for TLE students who are learning practical skills. TLE covers many skills so that videos can effectively illustrate techniques, processes, and procedures.

4.12 Managing Time and Tasks Well

Studying and being at home throughout the pandemic put them in control of their time, and that made some of the tasks. As such, one of the participants noted that procrastination was one of the challenges she coped with during the pandemic by making so; the participant emphasized that setting a schedule and a list of work to be done was a lot of help to overcome such a challenge, as the participant responded that,

> FGD 2:
> *"…I did cope those challenges ma'am from procrastinating maam you really have to set your schedule and list everything that will really help you and set time to study. Then do not just rely on the modules or the resources na ginahatag sa imohang mga teachers also look for something na makatabang sa imoha you could browse sa internet or if there is a*

teacher po na naa sa imohang tapad which is also a TLE pwede pud ka makapangyo ug tabang sa iyaha..."

"Since procrastination was my primary challenge during the pandemic, making a schedule and making a list of everything greatly helped me to allocate time for studying and finishing my tasks. I also use other materials in addition to the ones the teachers offered, such as the modules. I also searched online and asked a TLE teacher for assistance in order to find something that would be of help to me..."

Also, one of the participants shared that lessening the engagement on social media like Facebook and prioritizing the set schedule to get things done for school on the correct period assigned for the tasks. As the participant stated that,

IDIP 7:
"Well for me, I tend to finish my school works with the right period of time, kasi 9 subject kami noon then ang module kaliwat kanan, so what I did, nag answer og naghimo sa buntag og project then lessen og paggamit og facebook, then 3 or 4pm tas nasad ko balik og answer."

"Well, I usually finish my schoolwork within that correct period assigned for a specific set of tasks. Our module activities were here and there when we had nine subjects. In order to accomplish my goals, I worked on some of them in the morning and then had more tasks to work on in the afternoon. Also, I lessened my engagement with social media account while working."

Further, one participant shared that as a working student at that time, time management should always be done. It was also emphasized that there were times that the respondent missed submitting the task on time, and that was corrected in the respondent's second year in college, where time management was taken with high regard. As the participant shared that,

IDIP 6:
"Isa pud sa akong coping mechanism is akong time management since I am a working student before atong first year ko na culture shock ko akoang mga project jud ato mga late jud sya ma'am, ug pagka second year nko narealise nako na I need to double my effort so ginabuhat nako akong project nga dili na ginapaabot ang deadline kay sa college man gud dili na ka hungitan sa mga maestra..."

"One of my coping mechanisms is managing my time well because I am a working student. When I was a first-year student, I struggled with college culture, which caused me to submit my projects late. After realizing that I needed to put in twice as much effort by working on my projects ahead of schedule. In college, your professors won't be spoon-feeding you.."

As it enables them to keep organization, efficiency, and order in their lives despite various difficulties and disruptions, time management is an essential coping strategy for the participants during the pandemic. In the study conducted by Sayari *et al*. (2017), students' opinions of the necessity of setting priorities were average and showed their incapacity to organize or categorize commitments and obligations. Procrastination during a pandemic, particularly among students engaged in online learning, was emphasized (Hong *et al*., 2021). The study also highlighted the requirement for a higher degree of self-control because of the increased autonomy granted at this time.

Students need to be able to manage their time well to balance their personal and academic obligations. According to recent research, students' lives are affected negatively by being away from their regular study schedules in terms of economic, social, and psychological factors (Pokhrel & Chhetri, 2021). One of the main problems facing college students is time management; it affects how they view and use time, which makes it difficult for them to balance their academic obligations (Macan *et al*., 1990). Also, stressful situations might come from increased academic responsibilities, mainly when there is disorganization (Khanam *et al.,* 2017). A high task can cause stress and overwhelm, which can be lessened by effective time management. It enables students to organize their assignments into manageable steps and complete them successfully.

Lastly, as presented in Table 4, it can be seen that this showed research question number 4 and its essential themes concerning the insights that the students want to share with their fellow TLE students, teachers, and the community about their view of TLE as a specialization.

Table 4: Insights of the Students in Specializing TLE during the pandemic

Essential Themes	TLE as a Complex Field of Study
	Diligence, Creativity, and Hard Work as a Must
	Positive Mindset as a Help
	Compassion, Patience, and Understanding from Teachers
	More Support from the Community

4.13 TLE as a Complex Field of Study

Technical, vocational, and practical fields are all covered by the broad range of topics and abilities that make up TLE. Home economics, industrial arts, agri-business, information technology, and entrepreneurship are just a few topics it covers. It is a unique field that combines theory and practical application, and its complexity results from the variety of disciplines it incorporates. As such, one of the participants advised future TLE major students that TLE should not be taken for granted, as the program has a broad scope and a variety of field masters as well as skills to acquire. The participant stated that,

> IDIP 7:
> *"During pandemic, well dili sya dapat e-take for granted nga case…dapat maminaw, e-comprehehend og try nga mag analysed, used vacant time to do a drllings na mag answer and review kay daghan og sanga si TLE nga need studihan."*

"That circumstance shouldn't be taken for granted throughout the pandemic…You need to pay attention and understand the directions. Utilize the free time to go over your references for the various TLE fields."

Also, one of the participants responded that in taking TLE as your major, one must be good at comprehending instructions, for most of the tasks involve so many technicalities that might be crucial to perform. As the participant stated that,

IDIP 5:
"I think one of the things that e-anticipate in taking TLE is that you need to be efficient or good in taking up instructions kana gani you need to be good in taking instructions well because most of the time since TLE is technical siya madami talagang instructions that you need to follow to be able to perform and not all are gifted of that kind of skills…"
"I believe one of the things that will be expected in taking TLE is that you need to be effective or competent at following instructions. Since TLE is technical, there will frequently be many important instructions that you must follow in order to perform, and not everyone is gifted with those kinds of skills…."

Additionally, one of the participants realized that majoring in TLE is not easy, given the demands of tasks that must be fulfilled, which necessitate financial readiness to provide the materials for your skill development.

IDIP 1:
"My realization ma'am, I can tell na ang TLE jud diay kay dili siya basta-basta na course kay beside sa need jud nimo ang financial para sa iyahang mga ginademand para madevelop ang imohang mga skills, kinahanglan pud nimo ang lawas nimo ma'am."
"I came to the realization that TLE is not an easy major since, in addition to the demand that you must be financially prepared for the costs of the projects, it also pushes you to hone your talents in situations when you must give your best."

Further, one of the participants also noted that TLE is a demanding major, and the future TLE major student must expect that there will be times when you need to extend your labor as a competency of being a TLE major student, as the participant stated that,

IDIP 2:
"…I would say na ang TLE kay kapoy jud siya it is because daghan ka ug tasks nga buhaton…kaylangan nimo eready ang imohang self and also sa process pud e enjoy ang process dili lang kay kahago ang imohang tan-awon dapat e enjoy pud nimo ang process because sa process pa lang diraa na magsugod ang learning."
"I could honestly state that TLE is a work-demanding major, one thing that one should expect. Because this degree will provide you so many chores or tasks to complete…although

working through your tasks will be demanding, you should also take pleasure in the process because that is where you can grow the most."

It is challenging since TLE combines classroom learning with practical application (Flores *et al.*, 2023). Critical thinking, independence, self-sufficiency, diversity, and entrepreneurship are all things that TLE aims to foster in its pupils. Putting what is learned into practice in actual settings focuses heavily on improving each life skill covered by the subject's framework (Darsih, 2018). In line with the response given by the participants that work ethics, knowledge, skills, and values are all developed through TLE and are crucial for any endeavor that aims to be economically practical, it increases students' understanding of the importance of participating in projects that will improve their quality of life and diminish their dependence on employment as their sole source of income Cabanig (2013) as cited by (Agluba, 2021). As such, TLE programs are crucial in fulfilling the job market demands, economic growth, and community wellbeing. They must be acknowledged and valued as a crucial component of the educational system.

4.14 Diligence, Creativity, and Hard Work as a Must

Studying Technology and Livelihood Education (TLE) gives students the hands-on training and expertise to succeed in various sectors and professions. The ability to combine diligence, inventiveness, and strenuous effort is a quality the participants have perceived as needed to succeed in this dynamic and varied sector. These qualities are crucial for success in TLE programs and for preparing students for the requirements of the contemporary workforce. When the respondents were asked what advice, they could give future TLE students, some emphasized that being diligent is necessary for a TLE major student at all times. As a TLE major, one must have the initiative to do work and avoid being diva-like in the field. Being diligent should always be a nature of a TLE major student as well as creativity and innovativeness for it could prosper oneself in being in the field in the future as being stated by the participant that,

IDIP 1:
"To my fellow TLE students dapat kay kugihan ta mao jud na sa akoa ma'am mao na ang akoang makita na kinahanglan jud na atittude sa isa ka TLE major maam. Dapat kugihan, dili arte kay siyempre daghan man mga buhatunon nga mahugaw man jud ka. Dapat mugawas pud dapat ang atoang pagka creative ma'am, pagka innovative para mahimong tang productive na teacher puhon ug as a TLE students karon ma'am."
"To my fellow TLE students, I must emphasize how important it is for us to put a lot of effort in all spheres of our lives. Additionally, you need to take initiative, especially for some home tasks, and refrain from becoming diva-like. Additionally, you need to take initiative, especially for some home tasks, and refrain from becoming diva-like. In order for us to become effective teachers in the future, we should in any manner increase our creativity and innovativeness."

Also, one of the participants emphasized that there can always be a way as long as you have the will to push through even during a difficult situation, as the participant stated that,

IDIP 5:

"To my fellow students, despite sa mga challenges I know na makaya ug mapangitaan jud nato ug way, in terms of financial kay mao man jud na sya ang usually na problema jud sa usa ka students maam mapangitaan jud nato na ug way mkahangyo man jud ta sa atong mga teachers kung gusto lang jud nato mao jud nang giingon nila nga pag gusto may paraan."

"Then, aside from having your skills there is no area for you to get lazy so that you could be able to perform your duty. There is no doubt that you will use the learned abilities you have learned in the future."

Further, versatility is a must for every TLE student, as shared by a participant,

IDIP 2:

"Studying TLE requires you to become versatile, naa mi word nga ginapanindigan as TLE student which is Versatle or versatile so once you are a TLE student you are capable of everything bisan pa impossible na siya mapangitaan na siya ug paagi kay para ma-achieve..."

"Being versatile is a requirement of studying TLE, and that is what the students majoring in TLE stand for. When you are a TLE student, you are capable of anything. Even the most challenging problems may be overcome by TLE major students..."

For TLE major students to succeed, especially during tough times like the pandemic, diligence, hard effort, and inventiveness are vital qualities. They help students overcome the difficulties of online learning, maintain practical skills, adjust to shifting conditions, and prepare for lucrative professions in technical and vocational disciplines. These characteristics serve as the cornerstone for both job success and lifelong learning and are pertinent in the contemporary situation. Students' dedication to their studies displays their passion and strive for superior academic success (Liu & Bi, 2023).

4.15 Positive Mindset as a Help

Being on a battle as the pandemic caused of so much change in the educational system that gave so many challenges for students to gain authentic learning some of the participants made emphasized that it was also because having a positive mentality motivated them to pursue and study TLE despite the challenges given by the pandemic as the participants stated that,

IDIP 4:

"I think ma'am ang akoang motivation ma'am in studying TLE during the pandemic is my perseverance, my hard work, and my optimistic mindset because despite man gud sa pandemic ma'am as the learning system naga change I manage to do my task even online though sort of difficult siya kay this course has a lot of face to face activity na need ug skills."

"I believe that my persistence, hard work, and positive outlook are what has kept me motivated to study TLE during the pandemic. Despite the pandemic and the changes in the educational system, I was still able to complete my tasks, even those that required online completion, even though it was challenging given that this course is designed to include numerous practical demonstrations in which your abilities are highly valued."

IDIP 2:

"…as TLE na mga students kaylangan gyud pud ka ug hands on experience so instead nga mag complain ka you should look at the other benefit of the situation so instead na yes wala kayo ko nakalearn ato in terms sa pag grasps sa knowledge but iya kung giahatagan ug isa ka insight which kanang mahimo ka nga stronger sa pagface sa mga challengers and also mkawork ka under pressure po."

"…it occurred on me that the best course of action is to always look for the positive aspects of a situation rather than complaining. As for me, even if the circumstance became really difficult for me, on a positive note, it has made me stronger at overcoming obstacles and improving my ability to function even under pressure."

Additionally, one participant stated that as a TLE student, one must have the vision to continue and always fight for the goal. As the participant shared that,

IDIP 8:

"The only advice that I could share to my fellow TLE students is just continue to fight for your goal and always have that vision in your mind as to what you would like to have yourself to be. Always have a vision on that path ug ayaw jud na wala sa imo in any possible way you could even sa mga challenges will occur."

"The only piece of advice I have for my fellow TLE students is to keep pushing forward toward your goals and to never lose sight of who you want to become. Always keep that goal in mind and never let anything distract you from it, despite the fact that difficulties may arise."

Further, planning is essential in taking your way towards your dreams. Nevertheless, your passion, dedication, creativity, and flexibility are needed in the program; as the participant stated,

FGD 1:

"I know how hard the situation you experience along the way; the thing is, we need to jump higher to fulfill our dreams. The dreams might only be a dream if we don't have any plans on our life. It is normal that we experience downfall moment and mabigat na challenges kasi that is a training ground where you as a student must cope…"

"I understand how difficult your current circumstances are for you, my fellow TLE students, but we must leap higher to achieve our goals. If we don't make any plans for the future, our dreams may remain just those dreams. It is common for students to encounter difficult situations and setbacks since they serve as learning opportunities where we must learn to deal…"

A positive mentality is more than just a state of mind in the context of the pandemic. It's a coping strategy that enables students to adjust, endure, and grow in adversity. Fuller and Huseth-Zosel (2020) noted that a positive mentality is also an adaptive coping strategy emphasizing positive feelings like accepting the present conditions and hope for a better future. Part of the participant's advice towards future TLE major students was that it was really an effective coping strategy throughout the pandemic to maintain a positive mentality. This aided them in navigating the difficulties, ambiguities, and disruptions brought on by the pandemic more firmly and efficiently. A positive outlook can increase motivation and passion for studying. It motivates kids to create objectives, remain active, and strive for academic success. A positive outlook also motivates students to concentrate on their skills and capabilities, boosting confidence and giving them a sense of control. With a positive mindset, people no longer see COVID-19-related pain as a terrible enemy but rather as a sign that their lives are out of balance and a call to action to overcome obstacles and discover a new direction with meaning and purpose (Wong, 2020). In other words, people with positive or growth mindsets use creative solutions and self-control to overcome obstacles when encountering external problems or setbacks (Kench *et al.*, 2016).

4.16 Compassion, Patience, and Understanding from Teachers
Supporting students' emotional and academic growth depends on instructors' compassion, patience, and understanding. As such, it was expressed by some of the participants that teachers should be compassionate at the same time understanding on the student's situation as they shared that,

IDIP 5:

"Para sakin one that should be in the center among all of the factors is the compassion of the heart because I believe that in the academe in the institution of education terror should not exist in the folds of teaching as much as possible let us be more compassionate…"

"I think one that should be in the center among all of the factors is the compassion of the heart because I believe that in the academe in the institution of education terror should not exist in the folds of teaching as much as possible let us be more compassionate…"

IDIP 8:

"To my teachers, I would like to share this thought of mine na always have the compassion sa pagtudlo and also always take charge in molding your students. Always set a space in your heart na musabot ug moconsider sa mga students because we could never know what their situation could be."

"I'd like to express this thought to my teachers: always be compassionate when instructing, and always take responsibility for shaping your students. Due to the fact that we are never sure of the child's circumstances, it is important to always make room in your heart for compassion and understanding."

The teachers' enthusiasm and unwavering commitment to helping students, particularly those having difficulty catching and coping in a specific field, should also be delivered thoroughly, especially during challenging moments like the epidemic. As the participants shared,

FGD 3:

"…ang ako maingon nga unta ang mga teachers maging mas passionate jud ma'am sa pagtudlo kay naa gyud tay mga studyante nga maglisod gyud ug cope up sa mga lesson ma'am kay dili kaayo sila hawod ato nga field so they need your assistance or support aron mas maksabot ug mas makuha nila imohang lesson."

"…I hope they will be more passionate about what they are teaching because there are some students who could not cope with the lessons or who are not good at the specific field so they really need a thorough assistance or support for them to really understand the lesson."

IDIP 4:

"Akoang pa advice lang po sa mga teachers maam is be passionate sa ilahang pagtudlo as TLE teachers like dili lang sila maginstruct put effort sa ilahang pagtudlo na mas matudloan pa nila pag ayo ang mga studyante kay ang teacher man gud ang naga mold sa studyante."

"Be passionate about what you teach, is the advice I have for educators. For you to properly mold your students as a TLE teacher, you must also put effort into your instructions."

Also, one of the participants shared that teachers need to be more approachable and understanding to encourage students to be more open and to be more expressive of their thoughts as the participant stated that,

IDIP 6:

"…I think that is one thing na madavice nko sa akong mga teachers po nga dapat welcoming sila sa mga estudyante nga mag share ug thoughts ug feelings kay you cannot achieve quality education if there is no direct relationship between the teacher and the learners man gud."

"…the best piece of advice I could give to the teachers, to be open and supportive of students as they talk openly about the challenging circumstances they are facing. Without a close working relationship between the teacher and the students, it is impossible to provide the learners with a great education."

Additionally, one of the participants mentioned how much he appreciated how understanding and patient his teachers were throughout the pandemic as the participant revealed that,

IDIP 3:
"As I observed, sa tanan jud nakong teachers ma'am ang akoa jud nakita is ang ilahang jung mga patience since ang TLE kay hands-on activities daghan jud mga queries ang mga students since nga learn paman pud ang mga students so tanan jud nako nga mga teachers maam kay open jud kau cila once naa kay ipangutana sa ilaha…."
"As I observed, with the teachers I really see the extreme patience they have in teaching TLE since TLE is more of hands-on activities the students will have a lot of questions and the teachers are really open in answering the questions."

The knowledge and abilities students require to succeed in the workplace must be imparted by teachers specializing in teaching TLE. It takes patience to successfully teach these skills, handle issues as they arise, and promote students' technical and personal development. As indicated by the participants, TLE teachers must be approachable and empathic to promote a good and fruitful learning environment. These qualities not only enhance the learning environment but also aid in students' personal and professional growth, particularly in times of adversity. Education also fosters human development, resiliency, and emotional wellbeing in addition to the simple transfer of knowledge. A pedagogy of compassion provides the foundation for students' learning and wellbeing throughout this pandemic (Rawle, 2021).

4.17 More Support from the Community
Programs for Technical and Livelihood Education (TLE) are essential for giving students the knowledge and skills they need to succeed in various industries. Also, the community's active participation and support are as important to these programs' success as the educational institutions. As such, one of the participants had expressed a thought towards the curriculum makers and agencies as the participant stated that,

FGD 2:
"For the curriculum makers, kanang continue to update things because if there is a thing na dili constant that is of course change kay if there is a need for a change, they should also implement that one so yun lang po. …for the other agencies they should also offer help and promote TLE because gina,easy-easy lang ang TLE and inform the others that TLE is not just about "ra" ug dili sya dapat gina "ra" yun lang po ma'am."

"For the curriculum creators, keep updating the materials because the only thing that is constant is change, therefore if a change is necessary, they should also put it into practice… For the other agencies, they ought to provide assistance and promote TLE as well because, as I've already indicated, many people consider the course to be extremely simple. They should let people know that TLE is more than simply a matter of common knowledge and that they shouldn't undervalue it."

Additionally, one of the participants mentioned a point that organizations like CHED should provide a favorable benefit for TLE students as the participants disclosed that,

FGD 1:
"For agencies like CHED dapat maghatag pa sila ug daghan nga scholarship nga fit jud para sa TLE kay ang scholarships nowadays ang mga focus nila kai ang MATH ug Science related jud na mga kurso ma-behind jud kaau ang TLE basta scholarship njud ang hisgutan.
"Because math and science-related courses are now favored, organizations like CHED could also offer additional grants appropriate for TLE students. When it comes to scholarships, TLE is seriously behind."

Further, some of the participants pointed out that the help from the government is needed for the advancement of the TLE program as they shared that,

IDIP 8:
"To the community, I would like to go straight to our government need kayo sa TLE students ang full blow of support by providing a state of the facilities, laboratories, equipment, and tools for the students to be exposed and para ma-enhance ang skills and be more globally competitive."
"I would like to address our government directly and say that TLE needs complete support by offering advanced laboratories, equipment, and tools so that students can be exposed to them and develop their talents while also becoming more globally competitive."

IDIP 6:
"Isa sa akong madaviuce specially sa mga LGU kay to invest in the resources na magamit sa mga TLE students because well implemented ang curriculum sa TLE tarong siya na pagkatudlo so kelangan nato mg invest sa mga resources na kelangan nila aron maacquire nila ang dapat nila maacquire."
"One thing I could suggest, especially to the LGU, is to make investments on resources that TLE students might use. Given that the TLE curriculum is well-implemented and that learning instruction is effectively delivered, we need to provide students with more and more effective resources in order for them to develop the necessary subject-specific knowledge and abilities."

Moreover, one of the participants emphasized how valuable a TLE program is to the community as well as to the world as the participant stated that,

> IDIP 3:
> *"…dli lang pud sya pang home kay ang TLE students naa jud silay ikabuga ug ikakaya ug maassure jud ang community nga naa jud future ang mga young generation tungod ani nga subject kay makaboast jud sa mga students in terms of skill ug makatabang pud sa community…"*
> *"…the phrase "Home Economics" does not imply that TLE is solely concerned with domestic skills; rather, TLE is more than that. The community can anticipate that the next generation will be globally competent and capable of contributing a significant amount of their skills and talents in the future…"*

Technology and Livelihood Education aims to help students acquire the knowledge, abilities, attitudes, and values necessary to succeed in the workplace. As a result, the students will be able to understand numerous concepts and develop their skills in home economics, agriculture arts, industrial arts, and entrepreneurship (Calmorin, 1994). It was already emphasized by Sizoo (2005) that the study of Technology and Livelihood Education needs to be redirected to meet the requirements of individuals, families, and the community and encourage knowledge progress. As the participants emphasized how valuable TLE is, Gabia (2023) stated that curriculum development is crucial to Technology and Livelihood Education (TLE) since it guarantees that students obtain the skills and information they will need for their future employment. TLE courses give students useful, practical skills that are immediately valuable for the job market. By increasing these initiatives, the government may improve its citizens' employability and help create a workforce with greater skill and competence.

5. Implications and Concluding Remarks

5.1 Implication for Practice
As this study explored the students' experiences in specializing TLE during the pandemic the results identify that the desire of the students to continue what they had begun in their senior high school track led them to choose TLE as their college degree major and that they wanted to advance the knowledge and skills they had acquired in their TVL track in senior high school. In line with this finding, academic institutions may set the Technical-Vocational-Livelihood (TVL) strand graduates as a primary requirement upon accepting enrollees to take the TLE program in college. Mastery of the skills is guaranteed for TLE majors upon graduation if the skill crafts from TVL are carried out at a higher level. As a result, a more proficient TLE teacher will undoubtedly be produced.

Additionally, even in times of crisis like the pandemic, BTLEd students constantly witness how beneficial it is to major in TLE. This may allow them to quickly find employment with the varied abilities and talents required in numerous industries.

Students ' skill sets can be developed through a potential partnership with local agencies as they participate in various training programs. This could help the students graduate prepared for jobs in various industries.

Further, the situation of BTLEd students during the pandemic had never been easy because of the challenges like the inability to use newly acquired skills, lack of money and resources, difficulties with technology, and a lack of student-teacher interaction. Despite these difficulties, they pushed themselves to be more resilient and push forward to complete the course. With this, the curriculum makers may use this result to establish a well-designed curriculum framework that guarantees that BTLEd students will still be able to engage in worthwhile practical learning experiences in the event of unanticipated circumstances such as a pandemic.

Moreover, as the students thrive despite the challenges, their coping strategies help them to stay on track as they solicit assistance from others, access supplementary materials online, and manage their time and tasks efficiently. In line with this, the government may see this result as a window to how they could also help the students and the community at large whenever a pandemic happens. They may implement a program to deliver highly equipped laboratories with modern tools and equipment to the students and the community. This could equip the students to handle the advanced instruments and machinery widely used in the industry today.

5.2 Implication for Future Research

As the study focused and thus limited on the students' experiences during the pandemic, the following is recommended for future research:

First, given that the study's findings with 12 participants do not represent the experiences of all BTLEd students, further research with a larger sample size may be carried out to increase the study's validity.

Second, future studies to follow up on the present-day situations of BTLEd graduates who received online learning during the pandemic may be conducted to assess the impact of the students' pandemic experiences on their post-graduation and career paths.

Lastly, since the study was limited to a single institution, it may be possible for future research to examine how well the BTLEd program is offered and delivered to students at other colleges.

5.3 Concluding Remarks

Reflecting on how this study was envisioned and then pursued as I completed it is overwhelming. As the paper's researcher, it is truly unique that I get to investigate this little, intriguing question that has been lingering at the back of my mind: "What exactly motivated students to take TLE as their specialization?". Thankfully, the concept was approved to serve as the main focus of this investigation, which has now thoroughly examined the motivations and difficulties faced by students pursuing their TLE specializations. Finishing this study has always been challenging, requiring much love,

patience, and dedication. When I began working on this paper, the pandemic tested my commitment to finish it; yes, I slowed down, but I never stopped. This journey has taught me so much, including that if you are determined to succeed, you can eventually achieve your goals. Additionally, while I was finishing the study, I realized that, although our life experiences may seem different when viewed objectively, if we continue to explore and are open with one another, we can channel our thoughts and build understanding, which can undoubtedly foster a sense of belonging and the realization that you are not alone in your situation. Furthermore, I express my gratitude for having carried out and completed this study and for having had the opportunity to hear the students' inspiring tales of overcoming obstacles to pursue their specialization.

Conflict of Interest Statement

The authors declare no conflicts of interest.

About the Authors

Mary Jane B. Mamayabay is a candidate for the degree of Masters of Arts in Education in Technology and Livelihood Education at the University of Mindanao Professional Schools. She is currently a Technology and Livelihood Education teacher and a TLE Laboratory Custodian at UM Ilang High School. Also, she is a licensed Professional Teacher.

Maria Rina T. Quilestino is a Professor and an Assistant Dean of College and Hospitality Education at the University of Mindanao, Philippines.

References

Adhabi, E., & Anozie, C. B. (2017). Literature review for the type of interview in qualitative research. *International Journal of Education*, *9*(3), 86-97.

Agluba, C. A. (2021). Technical skills and the academic performance of grade 9 technology and livelihood education students: a basis for placement plan. *International Journal of Arts, Sciences, and Education*, *1*(3), 56-76.

Aguilana, L. E. (2019). Level of motivations of technology and livelihood education students of state universities in Samar: Implications to curriculum development. *SSRG International Journal of Economics and Management Studies*, *6*(1).

http://www.internationaljournalssrg.org/IJEMS/2019/Volume6-Issue1/IJEMS-V6I1P109.pdf

Akosah-Twuamasi, P., Emeto, T. I., Lindsay, D., Tsey, K., & Malau-Aduli, B. S. (2018). A systematic review of factors that influence youths career choices – the role of culture. *Frontiers in Education.* https://www.frontiersin.org/articles/10.3389/feduc.2018.00058/full

Alphonse, M. M. (2016). Parental factors influencing career choice among high school students in Nairobi County. *University of Nairobi.* http://erepository.uonbi.ac.ke/bitstream/handle/11295/97628/Mwaa%20Alphonse_Parental%20Factors%20Influencing%20Career%20Choice%20Among%20High%20School%20Students%20in%20Nairobi%20County.pdf?sequence=1&isAllowed=y

Arcilla, J. (2020). *Online classes just one option, DepEd says*. The Manila Times. https://www.manilatimes.net/2020/06/20/news/national/online-classes-just-one-option-deped-says/733038/

Bahinting, M. A., Ardiente, M., Endona, J., Herapat, M. A., Lambo, D., Librea, H. J., ... & Minyamin, A. (2022). Stronger than the internet connectivity: A phenomenology. *Psychology and Education: A Multidisciplinary Journal, 2*(6), 465-476.

Barcelona, K. E. P., Daling, B. A. J., Doria, P., Balangiao, S. J., Mailes, M. J., Chiang, P. M., & Ubatay, D. (2023). Challenges and opportunities of TLE teachers in Philippine public schools: An inquiry. *British Journal of Multidisciplinary and Advanced Studies*, *4*(4), 44-60.

Braun, V., & Clarke, V. (2014). What can "thematic analysis" offer health and wellbeing researchers?. *International Journal of Qualitative Studies on Health and Wellbeing*, *9*(1), 26152.

Cabual, R. A., & Cabual, M. M. A. (2022). The extent of the challenges in online learning during the COVID-19 pandemic. *Open Access Library Journal*, *9*(1), 1-13. https://www.scirp.org/journal/paperinformation.aspx?paperid=114733

Cacho, R. M., Abenes, R. D., Dejapa, R. R., & Mapula, H. R. D. (2022). Employability of technology and livelihood education graduates. *Int J Eval & Res Educ, 11*(4), 2165-2173

Calmorin, L. P. (1994). *Educational research, measurement, and evaluation.* Rex Book Store Inc.

Chan, R. (2016). Understanding the purpose of higher education: an analysis of the economic and social benefits of completing a college degree. *Journal of Education Policy, Planning and Administration. 6*,(40). https://www.researchgate.net/publication/305228497_Understanding_the_purpose_of_higher_education_An_analysis_of_the_economic_and_social_benefits_for_completing_a_college_degree

Chugh, R., & Ruhi, U. (2018). Social media in higher education: A literature review of Facebook. *Education and Information Technologies, 23*(2), 605–616.

Crawford, J., Butler-Henderson, K., Rudolph, J., & Glowatz, M. (2020). COVID-19: 20 countries' higher education intra-period digital pedagogy responses. *Journal of Applied Teaching and Learning (JALT)*, [3]([1]), 9–28

Darsih, E. (2018). Learner-centered teaching: What makes it effective. *Indonesian EFL Journal, 4*(1), 33-42.

Dughi, T., Rad, D., Runcan, R., Chis, R., Vancu, G., Maier, R., Costin, A., Rad, G., Chis, S., Uleanya, C., *et al.* (2023). A network analysis-driven sequential mediation analysis of students' perceived classroom comfort and perceived faculty support on the relationship between teachers' cognitive presence and students' grit—A holistic learning approach. *Behav. Sci., 13*, 147.

Department of Education (2020). *Official Statement Department of Education.* https://www.deped.gov.ph/2020/05/06/official-statement-2

DepEd Order (2012). *Guidelines on the assessment and rating of learning outcomes under the K to 12 basic education curriculum.* Retrieved from https://www.officialgazette.gov.ph/2012/09/05/deped-order-no-73-s-2012/

De Maria, P., Vaishnav, A., & Cristol, K. (2015). K-12/ Higher Education Alignment: An action Agenda for increasing student success. *Education First and Sharmila Basu Mann of the State Higher Education Achieving the Benefits of K-12/Higher Education alignment.*

Duraku, H. Z., & Hoxha, L. (2020). *The impact of COVID-19 on education and on the well-being of teachers, parents, and students: Challenges related to remote (online) learning and opportunities for advancing the quality of education.* University of Prishtina. https://www.researchgate.net/publication/341297812_The_impact_of_COVID-19_on_education_and_on_the_well-being_of_teachers_parents_and_students_Challenges_related_to_remote_online_learning_and_opportunities_for_advancing_the_quality_of_education

Eccles, J. S., Wigfield, A., Midgley, C., Reuman, D., Iver, D. M., & Feldlaufer, H. (1993). Negative effects of traditional middle schools on students' motivation. *The Elementary School Journal*, *93*(5), 553-574.

Estribor, J., & Pagaran, C. R. (2022). Learning engagement of food and beverage services (FBS) students' of Matanao National High School during COVID-19 pandemic. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4032996

Flores, A., Mendez, K., Tampus, J., & Cabello, C. (2023). The lived experiences of TLE teachers in the private institutions using blended teaching modality in the new normal. *Psychology and Education: A Multidisciplinary Journal, 12*(3), 285-295.

Fuller, H. R., & Huseth-Zosel, A. (2020). Lessons in resilience: Initial coping among older adults during the COVID-19 pandemic. *The Gerontologist, 61*(1), 114–125. https://doi.org/10. 1093/geront/gnaa170

Gabia, C. C. (2023). Curriculum and instructional assessment of the Bachelor of Technology and Livelihood Education Major in Home Economics Program. *European Journal of Innovation in Nonformal Education, 3*(7), 265-294.

Genovesi, G. (2018, July-December). L'auto-chiamata, ovvero il ruolo della vocazione nella teaching profession. *Ricerche Pedagogiche, Quarterly Magazine (208-209), 12-39.*

Ghavifekr, S., & Rosdy, W. A. W. (2015). Teaching and learning with technology: Effectiveness of ICT integration in schools. *International Journal of Research in Education and Science, 1*(2), 175-191.

Godber, K. A., & Atkins, D. R. (2021, July). COVID-19 impacts on teaching and learning: A collaborative autoethnography by two higher education lecturers. *Frontiers in Education, 6,* 647524.

Gregorio, M. S. R. (2016). Technology and livelihood (TLE) instruction of technical vocational and selected general secondary schools in Catanduanes. *International Journal of Learning, Teaching and Educational Research, 15*(4). https://www.ijlter.org/index.php/ijlter/article/download/671/290

Harina, F. (2019). Instructional performance of technology and livelihood education (TLE) teachers in public secondary schools of Area III, Division of Batangas: Basis for enhancement plan. *Ascendens Asia Journal of Multidisciplinary Research Abstracts, 3*(2E). https://ojs.aaresearchindex.com/index.php/AAJMRA/article/view/6596

Heckler, M. (2019). *Column: The importance of staying in college.* Chicago Tribune. https://www.chicagotribune.com/suburbs/post-tribune/opinion/ct-ptb-heckler-guest-column-st-0212-story.html

Hernando-Malipot, M. (2019). *Has change come to Philippine education?* Manila Bulletin. https://mb.com.ph/2019/05/18/has-change-come-to-philippine-education/

Hess, A. J. (2019). *College grads earn 80% more – but only 51% of Americans see college as very important.* CNBC. https://www.cnbc.com/2019/12/19/only-51percent-of-americans-see-college-as-important-despite-benefits.html

Hong, J. C., Lee, Y. F., & Ye, J. H. (2021). Procrastination predicts online self-regulated learning and online learning ineffectiveness during the coronavirus lockdown. *Personality and Individual Differences, 174, 110673.* https://doi.org/10.1016/j.paid.2021.110673

Hoyle, J. (2015). *What makes for great teaching? Listening to – and learning from – my students.* https://uminntilt.com/2015/04/13/great-teaching-what-might-we-learn-from-our-students/

Kench, D., Hazelhurst, S., & Otulaja, F. (2016). Grit and growth mindset among high school students in a computer programming project: a mixed methods study. Annual Conference of the Southern African Computer Lecturers' Association, ed. S. Gruner (Cham: Springer), *187–194.* doi: 10.1007/978-3-319- 47680-3_18

Khanam, N., Sahu, T., Rao, E.V., *et al*. (2017). A study on university student's time management and academic achievement. *International Journal of Community Medicine and Public Health, 4*(12), 4761.

Liu, W., & Bi, S. (2023). Influence mechanism of students' learning enthusiasm based on educational big data. *International Journal of Emerging Technologies in Learning (Online), 18*(6), 96.

Macan, T. H., Shahani, C., Dipboye, R. L., & Phillips, A. P. (1990). College students' time management: Correlations with academic performance and stress. *Journal of Educational Psychology*, 82(4), 760–768.

Magtibay, R. G., & Los Baños, Z. (2019). The effect of K to 12 strand on first year BIT food technology students in pursuing their higher education. *International Journal of Recent Innovations in Academic Research*, 3(12), 152-158.

Mangubat, N., Bucotot, M. C., Salatan, J., Tolentin, J., Villanueva, M. A. F., Lumangtad, S., ... & Cabello, C. (2022). The technology and livelihood education teachers in modular instruction: A qualitative inquiry. *Psychology and Education: A Multidisciplinary Journal, 4*(2), 121-136.

Marini, D., Cowley, F., Belson, S., & Lee, C. (2019). The importance of an audio cue warning in training sheep to a virtual fence and differences in learning when tested individually or in small groups. *Appl Anim Behav Sci*, 221. doi: 10.1016/j.applanim.2019.104862

Matthew, U. O., Kazaure, J. S., & Okafor, N. U. (2021). Contemporary development in e-learning education, cloud computing technology & internet of things. *EAI Endorsed Transactions on Cloud Systems*, 7(20), e3-e3.

Mumtaz, N., Ghulam, S., & Nadir, M. (202). Online academics in Pakistan: COVID-19 and beyond. *Pakistan Journal of Medical Sciences, 37*(1), 283–287. https://doi.org/10.12669/pjms.37.1.2894.

Onyema, E., Nwafor, C., Obafemi, F., Sen, S., & Atonye, F., Sharma, A., & Alsayed, A. (2020). Impact of coronavirus pandemic on education. *Journal of Education and Practice. 11*, 108-121. 10.7176/JEP/11-13-12. https://www.researchgate.net/publication/341787426_Impact_of_Coronavirus_Pandemic_on_Education

Palafox, Q., Lorenzo, A.J., Teresita, P., & Palafox, L.J. (2018). Perceptions of the senior high school students on their employability skills. *DLSU Research Congress 2018*. https://www.dlsu.edu.ph/wp-content/uploads/pdf/conferences/research-congress-proceedings/2018/lli-19.pdf

Paloş, R., Maricuţoiu, L. P., & Costea, I. (2019). Relations between academic performance, student engagement and student burnout: A cross-lagged analysis of a two-wave study. *Studies in Educational Evaluation, 60*, 199-204.

Patrinos, H. A., & Samer, A. S. (2016). *Weighing the benefits of senior high school in the Philippines.* https://blogs.worldbank.org/education/weighing-benefits-senior-high-school-philippines

Pokhrel, S., & Chhetri, R. (2021). A literature review on impact of COVID-19 pandemic on teaching and learning. *Higher Education Future, 8* (1), 133–141. doi:10.1177/2347631120983481

Rawle, F. (2021). A pedagogy of kindness: The cornerstone for student learning and wellness. *The Campus*. https://www.timeshighereducation.com/campus/pedagogy-kindness-cornerstone-student-learning-and-wellness

Rico-Briones, E., & Bueno, D. C. (2019). Factors affecting the decision of first year students in choosing their degree program and school. *Institutional Multidisciplinary Research and Development Journal*, 2, 130-135.

Rubin, M., & Wright, C. L. (2017). Time and money explain social class differences in students' social integration at university. *Studies in Higher Education*, *42*(2), 315-330.

Samosir. F.T. (2019). The effectiveness of YouTube as a student learning media. *Record and Library Journal, 4(2)*.

Sangster, A., Stoner, G., & Flood, B. (2020). Insights into accounting education in a COVID-19 world. *Accounting Education, 29(5)*, 431–562.

Sayari, K., Jalagat, R., & Dalluay, V. (2017). Assessing the relationship of time management and academic performance of the business students in Al-Zahra College for women. *European Business & Management, 3(1)*, 1–8. https://doi.org/10.11648/j.ebm.20170301.11

Sizoo, S.L., Agrusa, J.F., & Iskat, W. (2005). *Measuring and develop the learning strategies of adult career and vocational education students*. *Education*, v125 n4 p527 Sum 2005 Retrieved from https://eric.ed.gov/?id=EJ698883

Stock, P., & Stock, E. (2019). *Factors that influence a college student's choice of an academic major and minor.* Retrieved from https://www.researchgate.net/publication/330168717_Factors_that_Influence_a_College_Student's_Choice_of_an_Academic_Major_and_Minor

Tan, M. C. (2021). Technology and Livelihood Education (TLE) instruction in the secondary schools in Northern Samar Division, Eastern Philippines. *Asian Journal of Advanced Research and Reports*, 75-84. https://www.journalajarr.com/index.php/AJARR/article/view/30369

Teherani, A., Martimianakis, T., Stenfors-Hayes, T., Wadhwa, A., & Varpio, L. (2015). Choosing a qualitative research approach. *Journal of Graduate Medical Education*, *7*(4), 669-670.

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition*. The University of Chicago Press.

Van Lancker, W., & Parolin, Z. (2020). COVID-19, school closures, and child poverty: A social crisis in the making. *The Lancet Public Health, 5*(5), e243-e244.

Villar, M. C. G., Filipinas, J. P., Villanueva, J. B., & Cabello, C. A. (2022). The transition, transformation, and adaptation from modular-printed instruction to limited face-to-face Classes: A phenomenology.

Walberg, H. J., Fraser, B. J., & Welch, W. W. (1986). A test of a model of educational productivity among senior high school students. *Journal of Educational Research, 79*, 133-139.

Wong, P. T. P. (2020). Existential positive psychology and integrative meaning therapy. *Int. Rev. Psychiatry 8,* 1–36. doi: 10.1080/09540261.2020.1814703

World Health Organization (2022). Coronavirus disease (COVID-19) weekly epidemiological update and weekly operational update.

https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports

Yunos, J. M., Sern, L. C., Hamdam, N. H., & Munastiwi, E. (2020). *TVET teacher educator's criteria and roles for sustainable TVET teacher education program.*

Zhai, Y., & Du, X. (2020). Addressing collegiate mental health amid COVID-19 pandemic. *Psychiatry Research, 288.* https://doi.org/10.1016/j.psychres.2020.113003.