Journal of Interdisciplinary Perspectives
ISSN Print: 2984-8288, ISSN Online: 2984-8385
Vol. 2, No. 7, pp. 41-58, July 2024

Management of Experiential Learning Loss of Bachelor of Technical-Vocational Teacher Education Students

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Date received: April 24, 2024
Date revised: May 7, 2024
Date accepted: May 11, 2024

Originality: 92%
Grammarly Score: 99%
Similarity: 8%

Recommended citation:
Mendoza, J.M. (2024). Management of experiential learning loss of bachelor of technical-vocational teacher education students. *Journal of Interdisciplinary Perspectives*, 2(7), 41-58. https://doi.org/10.69569/jip.2024.0153

Abstract. The study determined how teacher education institutions in Quezon Province manage the losses in experiential learning of the BTVTEd students during online learning. It also looked into the significant association between the participants' determined difficulties and the way TEIs handled the identified losses. The study employed a descriptive-survey research design with correlation using a checklist questionnaire created from CMO 79 series 2017 and statistical tools including frequency and percentage distribution, weighted arithmetic mean, and Pearson r. The study found that (1) articulating and discussing the latest developments in a specific field of practice; (2) mastery of subject matter or discipline; and (3) higher-level literacy, communication, numeracy, critical thinking, and learning skills needed for higher learning were loss during online learning. Most of the tasks associated with preparing the BTVTEd students were moderately difficult for the participants. The school administrators sometimes manage the determined losses, prioritize the safe return of teachers and students in schools, and only sometimes manage to allocate sufficient financial resources for funding an intervention program. The study also revealed a slight association between the identified difficulties in demonstrating higher level literacy, communication, numeracy, critical thinking, and learning skills required for higher learning and communicating effectively in writing using both English and Filipino and how TEIs manage the losses in experiential learning. The study suggests that school administrators should take corrective actions to compensate for the experiential learning losses of the students still in the BTVTEd program. Ensuring that the school-based intervention programs are effective in helping students grasp what they are missing, accelerate their learning, and achieve the skills outlined in the BTVTEd minimum standards program outcomes. Additionally, they should initiate capacity-building training programs to restore, retrain, and retool BTVTEd teachers on how to effectively and efficiently carry out their duties regardless of the implemented teaching-learning modalities.

Keywords: Experiential learning; Learning loss; Technical-vocational; Teacher education.

1.0 Introduction

The global health crisis transformed the academic landscape. All schools, including Teacher Education Institutions (TEIs) stakeholders, experience the longest school closure, restrictions on in-person classes and experiential learning activities, and an immediate paradigm shift to flexible learning modality, resulting in varying levels of teaching deliverables difficulties and unquantified learning losses among students.

Learning loss; as defined by Newton (2021), is the reduction in the overall academic performance of the students, such as in professional and specialized subjects, due to direct and indirect effects of the global health crisis while using online learning modality. Learning loss is the difference between what people learned after the health crisis and what they could have learned if it had not happened. The student either does not study or studies excessively but learns ineffectively. According to Gratz and Lipps (2021), students reduced their weekly study time from 35

to 23 hours. Consequently, this one-third reduction in study time ends up in a significant learning loss among students.

On the other hand, Diyan, Mukti, and Irawan (2022) described online learning as using the internet, laptops, computers, and smartphones to learn. This learning system can be used during and after the global health crisis to teach students. Stracke (2022) stated that it can be better than the second-best option for teaching and learning in difficult situations.

Olandres as quoted in Akamai (2017), "The Philippines has the slowest internet connectivity in the Asia Pacific Region." Online learning reduces education, creates equity gaps, necessitates student security and safety negotiations, and results in poor assessment outcomes. Following this, Garcia and Weiss (2020) underscored that online learning can only be effective if pre-service teachers have reliable internet access and computers, and their teachers have received specialized online instruction training and support. Baczek and Kaplon (2021) added that due to low participation, online learning did not improve the skills and competence of the students. Lastly, Adnan and Anwar (2020) emphasized that online learning is ineffective in developing countries where many students lack access to the internet due to technical and economic constraints.

Having all of the aforementioned realities in mind, TEIs must positively respond to unusual challenges and opportunities by delivering courses in innovative and flexible ways that are appropriate for educational institutions, teachers, and students (CHED, 2020-2021). TEIs must also use appropriate management approaches to recover teachers wannabes' experiential and other types of learning losses during online learning.

Thus, in this premise, the researcher analyzed the loss of skill within the minimum standard program outcomes of the Bachelor of Technical-Vocational Teacher Education (BTVTEd) and examined the difficulties in preparing the BTVTEd students for their role of becoming teachers, particularly during online learning. Also, the researcher explored the strategies employed by the selected TEIs in Quezon Province to address the limitations of experiential learning. In furtherance, based on the notable findings of the study, the researcher developed a plan for managing sustainability and facilitating learning recovery among students in technical-vocational teacher education.

2.0 Methodology

2.1 Research Design

The descriptive-survey research design with correlation was used in this study. As cited in Creswell and Creswell (2018), a survey provides a quantitative description of trends, attitudes, and opinions of a population or tests for associations between variables in a population by studying a population sample. In this study, the descriptive-survey design enables the researcher to answer two types of questions: (1) the descriptive questions, and (2) the questions about variable relationships. The descriptive questions in the study include the skills in the BTVTEd minimum program outcomes loss, the difficulties in preparing BTVTEd students to become teachers during online learning, and how experiential learning loss of BTVTEd students during online learning is managed by the selected TEIs. On the other hand, the question about the variable relationship was expressed by determining whether the identified difficulties in preparing BTVTEd students were associated with how the selected TEIs handle losses in experiential learning. The study led to the development of a sustainability and learning recovery management plan for BTVTEd students based on the highest-rated responses.

2.2 Research Participants

This study was carried out in six TEIs in the Quezon Province, offering a BTVTEd program. It includes three public and three private. These TEIs encountered various challenges while preparing BTVTEd students to become teachers through online learning, and they used a variety of management strategies to deal with the losses of the students in experiential learning. The total enumerative sampling technique was used in this study. According to Crossman (2018), a total enumerative is a type of purposive sampling in which the entire population of target participants is studied due to its manageable size, with all members sharing the given characteristic. As inclusion criteria, all participants have experienced teaching the BTVTEd students using online learning modality during the global health crisis and the new normal setting. The participants were initially composed of 83 BTVTEd teachers. 13 teachers failed to return the survey questionnaires thereby ending with only 70 participants.

2.3 Research Instrument

The study used a modified survey checklist questionnaire for gathering quantitative data. This questionnaire was primarily based on the CMO 79 series 2017 -- the Policies, Standards, and Guidelines for the Bachelor of Technical-Vocational Teacher Education program. The researcher ensured that its contents were tailor-fitted to the objectives of the study. The face and content validations were made on the research instrument. It was validated by six educational management experts. Pilot testing took place as well to guarantee its reliability. The Cronbach Alpha reliability test revealed that most of the questions were constructed very good.

2.4 Data Gathering Procedure

The researcher employed a variety of ways to acquire the needed data for the study. First, the researcher wrote a request letter to the Regional Director of the Commission on Higher Education (CHED) in the CALABARZON region, signed by his research adviser and delivered by the Vice President of Administration of the school where the researcher was affiliated. Second, upon approval, an endorsement letter was issued to the researcher, which he presented to the school administrators (deans and heads or chairpersons) of the randomly selected TEIs offering the BTVTEd program in the Quezon Province. Third, upon the recommendation of the school administrators (deans and heads or chairpersons), the researcher asked for the involvement of the total enumerated teachers of the BTVTEd students during online learning.

2.5 Ethical Considerations

The ethical guidelines were applied in this study. Before the collection of data for the study, the researcher sought first permission from the persons in authority. The names of the TEIs as well as the participants were not mentioned in any part of the study. Their response was treated with outmost confidentiality.

3.0 Results and Discussion

3.1 Skills in the BTVTEd Minimum Standards Program Outcomes Loss During Online Learning

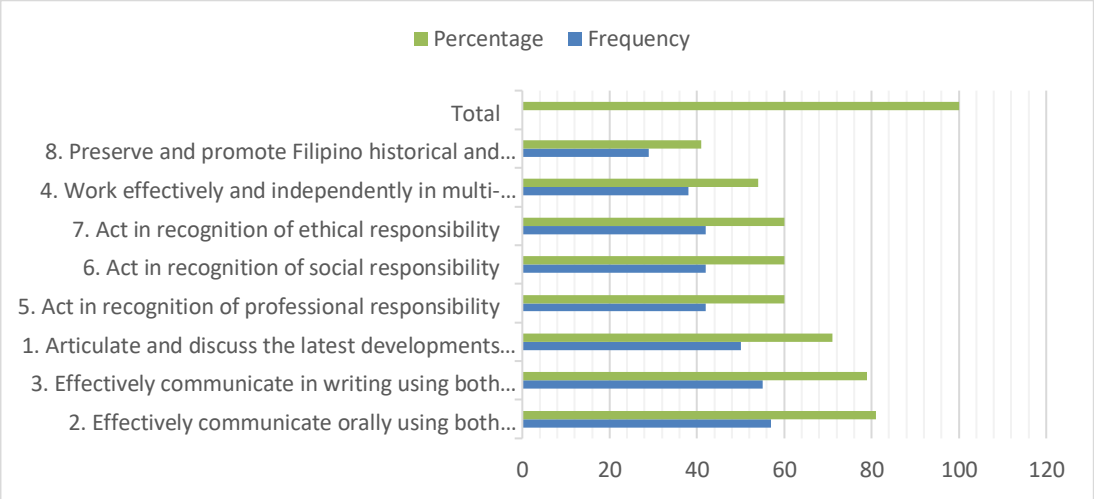

Figure 1. Skills in the BTVTEd minimum standards program outcomes loss during online learning as to common to all programs

The data revealed that 57 or 81% of the participants who worked with the BTVTEd students identified the skills related to oral fluency in both English and Filipino to have the most experiential learning losses during online learning (see figure 1). The data suggests that participants recognized the need to improve the oral communication abilities of the students enrolled in the BTVTEd program in both languages. Jaca (2020) states that pre-service teachers' oral communication skills in English are inadequate and must be improved to meet the requirements of the teaching profession. Because English is the medium of instruction in class, pre-service teachers require specialized English courses to assist them in their practice teaching.

The data also unveiled that 55 or 79% of the participants identified writing skills in English and Filipino as having second to the most losses in experiential learning. Its development during online learning is affected by several

difficulties, including but not limited to lack of human connections (Shore, 2020); system glitches and short attention span (Amadora, 2020); distractions (Madarang, 2021); and the focus of technical-vocational education for practical skills (Omar et al., 2022), and the student's belief that not on writing.

The data likewise disclosed that 50 or 71% of the participants identified the skills regarding discussing recent breakthroughs in technical-vocational education and related disciplines during online learning as having third to the most losses in experiential learning. It can be implied from the findings that due to the limitations of online learning, the participants found it challenging to teach the BTVTEd students, considering that 84 percent of the teachers from the study of Madarang (2021) ranked unreliable mobile/internet connection as the top issue in online distance learning along with the difficulty of self-studying; distractions due to social media, noise from community and neighbors; insufficient load and data allowance; and lack of available gadgets, equipment, resources.

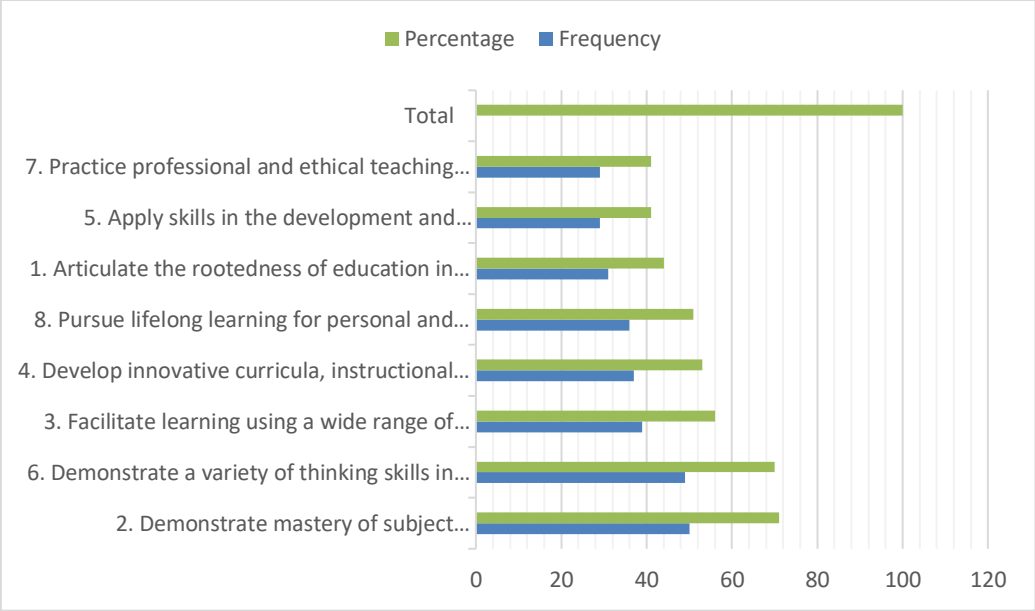

Figure 2. Skills in the BTVTEd minimum standards program outcomes loss during online learning as to specific to the teacher education program

The data showed that 50 or 71% identified the skills associated with subject matter mastery and the requisite proficiency in technical-vocational education as having the most losses in experiential learning (see figure 2). Equally, it indicates that the participants consider it critical to develop the students enrolled in the BTVTEd program since they have short attention spans (Amadora, 2020), are isolated from others, and do not know how to manage time (Tam, 2020); and no eye contact and reactions (Karyala and Kamat, 2020), therefore the overall development of students were hampered during online learning. Additionally, the BTVTEd students' failure to master the topic can be attributed to difficulties establishing communication with peers and instructors, lack of internet connectivity, technical issues, and inadequate resources like computers (Singh, 2019). Mastery of the subject matter is essential since, according to Duru et al. (2020), it can improve teaching quality, inspire students, and boost academic performance. In the same vein, adequate knowledge of the subject matter enables the teacher to teach the learner correctly and simplify topics in a language the learners can easily understand.

In like manner, the data also revealed that 49 or 70% of the participants identified demonstrate a variety of thinking skills holding the second-most losses in experiential learning. Napanoy, Gayagay, and Tuazon (2021) affirm that rigid training for pre-service teachers must be conducted before deployment to their teaching internship. Alamri (2018) added that pre-service teachers are required to have the following teaching skills and experiences: (1) preparing daily lesson plans, (2) presenting lessons, (3) preparing quizzes, (4) choosing an appropriate teaching method for the content, (5) applying an appropriate assessment technique to the content, (6) preparing activities and exercises associated with the lesson, (7) designing appropriate teaching aids, (8) dealing with the teaching

load, (9) managing allocated lesson time, (10) managing classroom efficiently, and (11) commitment to the school system.

It was further disclosed from the data that 39 or 56% of the participants identified facilitating learning using a wide range of teaching methodologies and delivery modes as having the third-most skill loss in experiential learning. It can be construed that it is challenging for the participants to effectively recreate hands-on experiences and critical thinking and apply various instructional techniques during online learning. Thereby, technical-vocational education difficulties happened partly due to the trainers' and trainees' readiness for e-learning, curriculum and assessment content, learning platforms, and internet connectivity (Yeap, Suhaimi, and Nasir, 2021).

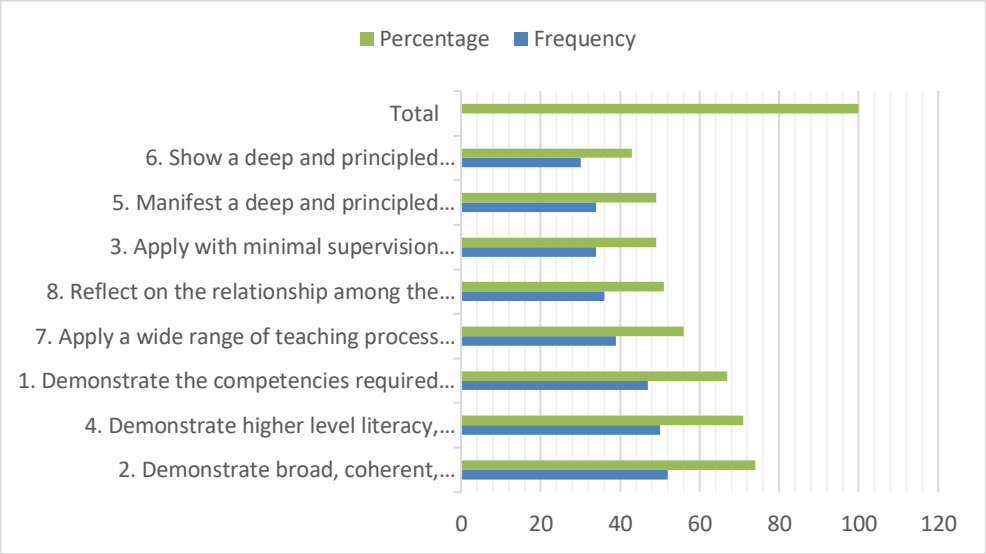

Figure 3. Skills in the BTVTEd minimum standards program outcomes loss during online learning as to specific to a sub-discipline and a major technical-vocational education

It can be observed from the data that 52 or 74% of the participants identified the skills about exhibiting a comprehensive and cohesive understanding of a specific domain within the realm of technical-vocational education, showcasing both knowledge and competent abilities to have the most skills loss in part of the BTVTEd students during online learning (see figure 3). This finding can be linked to a variety of challenges teachers faced, including a lack of technological knowledge, the ability to create digital content and online evaluation for students (Kamal and Illiyan, 2021), a technical-vocational education stream to deliver learning, with a focus on practical training where applying motor skills is critical (Omar et al., 2022), and the commitment of the students to lifelong learning, staying current in their profession and contributing to the progress of knowledge and its practices.

The data also unveiled that 50 or 71% of the participants identified the skills regarding demonstrating higher level literacy, communication, numeracy, critical thinking, and higher learning skills to possess second of the most losses in experiential learning. This result can be ascribed to various restrictions imposed on holding classes during the pandemic, which prioritized safety over providing quality education to all students (CHED, 2020), as well as weak infrastructures such as networks, poor accessibility, unavailability issues, and a lack of digital competencies, which have hampered online education (Onyema et al., 2020).

Lastly, it can be gleaned from the data that 47 or 67% of the participants identified the skills concerning demonstrating the competencies required of the Philippine TVET trainers-assessors' qualification framework holding the third most experiential learning losses. This finding can be explained by Yeap, Suhaimi, and Nasir's (2021) assertion that e-learning is only beneficial for theoretical subjects and that additional solutions are needed for the hands-on aspect of technical-vocational education. Rather than online learning, technical-vocational education students require more traditional teaching and learning, including technical and practical skills.

3.2 Difficulties in the Preparation of Btvted Students in Becoming Teachers During Online Learning As to Common to All Programs, Effectively Communicate Orally Using Both English and Filipino

Table 1. Difficulties in the preparation of BTVTED students on becoming teachers during online learning as to common to all programs, effectively communicate orally using both English and Filipino

NO.	INDICATORS	WAM	QI
4	Use a rich and appropriate vocabulary to convey ideas accurately when delivering reports and conducting demonstration teaching.	3.12	MD
3	Use proper grammar and sentence structure in English and Filipino when communicating orally with teachers and delivering lessons to their students.	3.05	MD
6	Listen attentively to the teachers and their students, ask clarifying questions, and provide appropriate feedback to demonstrate active participation in the conversation.	2.95	MD
7	Pay attention to body language, facial expressions, and gestures to convey messages to students while delivering classroom reports and topics in demonstration teaching.	2.93	MD
8	Speak confidently in front of their peers when delivering reports and conducting actual teaching among the students.	2.93	MD
5	Adjust the tone and pitch of their voice to match the situation and emphasize the information students must remember when teaching.	2.84	MD
2	Pronounce the words correctly in both languages when communicating with teachers or teaching students.	2.77	MD
9	Persuade and engage their students while teaching.	2.74	MD
10	Adjust their communication style to the needs of their audience, such as their peers, or their participation and teaching assistantship and teaching internship students.	2.74	MD
1	Speak English and Filipino fluently and produce messages that students can easily understand.	2.68	MD
AVERAGE WEIGHTED ARITHMETIC MEAN		**2.88**	**MD**

The results showed the tasks linked with developing oral communication skills got an average weighted arithmetic mean of "2.88" and a qualitative index of moderately difficult (see table 1). This data signifies that the participants found the task related to expanding oral communication skills moderately difficult to impart to the students enrolled in the BTVTEd program during online learning. As per CHED guidelines in its memorandum order 04 (2020), higher education institutions are advised to utilize online learning modalities for conducting classes. It is strongly suggested that various technologies like desktop computers, laptops, smartphones, mobile applications, learning packets, and learning management systems be employed. Wherein, it is evident that not all students possess the necessary means to access the essential technologies that enable them to engage in spoken communication in both English and Filipino inside their respective academic settings.

Shore (2020) identified problems in online classes. These include: (1) human connections, (2) student motivation, (3) instructor ignorance, and (4) inappropriate courses. The student's mood, involvement, and engagement in an online classroom cannot be measured like in a lecture-based classroom. Many students enrolled in classes are unprepared for additional hurdles from the absence of face-to-face instructor interaction. Many of the aids and strategies that schools and teachers use to educate more classically become irrelevant if they are not adequately trained to handle the technological complexities of online classes. Thus, the findings shed light on where participants struggled to cultivate the oral communication abilities of students enrolled in BTVTEd programs within online education and need further improvement.

The data also revealed that the tasks associated with developing the skills of students enrolled in the BTVTEd program during online learning, particularly in the aspect of effectively communicating in writing using both English and Filipino language (see Table 2 on the next page), were found to be moderately difficult to the participants, as indicated by its average weighted arithmetic mean of 2.95. This finding can be ascribed to several factors that influence the successful and efficient execution of online education. As such, Karyala and Kamat (2020) mentioned that teachers might lack experience in developing and effectively communicating digital content in online classes. There is no eye contact, and students do not provide feedback through reactions, reducing the effectiveness of instruction. The overall development of the students may be hampered if they rely entirely on online learning, and they may underperform later in their professional careers.

It can be deduced from the idea that a possible reason for the students not fully achieving the competence outlined in the minimum standards program outcomes is the lack of experience among teachers in developing and effectively communicating digital content online. This deficiency hinders students' ability to meet specific tasks

Table 2. Difficulties in the preparation of BTVTED students on becoming teachers during online learning as to common to all programs, effectively communicate in writing using Both English and Filipino

NO.	INDICATORS	WAM	QI
2	Provide written manuscripts that adhere to high grammar, punctuation, and spelling standards in both English and Filipino.	3.07	MD
3	Create written documents that are concise, direct-to-the-point, and free of repetition and excessive wordiness.	3.04	MD
1	Prepare written documents such as a lesson plan, research paper, communication letter, and term paper that are clear, well-organized, and contain logically flowing ideas.	3.02	MD
4	Produce written communication with content that is tailored to the comprehension and familiarity level of the target audience.	3.00	MD
8	Proofread and edit any written communication to ensure clarity and accuracy.	2.96	MD
9	Provide proper citations and references in written work to credit sources and maintain credibility.	2.96	MD
7	Consider cultural sensitivity when communicating in both languages, as this can affect how the message is registered to the receiver.	2.95	MD
5	Use the appropriate register (formal, informal, or colloquial) for the context and audience in both Filipino and English.	2.87	MD
10	Clearly state the purpose of written communication, whether it is to inform, persuade, instruct, or entertain.	2.84	MD
6	Employ appropriate formatting, such as headings, bullet points, and paragraphs, to make the written content visually appealing and easy to read.	2.82	MD
AVERAGE WEIGHTED ARITHMETIC MEAN		**2.95**	**MD**

such as ensuring adherence to elevated grammar, punctuation, and spelling standards in both English and Filipino; generating written material that exhibits conciseness, clarity, absence of duplication, and avoidance of excessive terminology; and producing various types of written materials, including lesson plans, research papers, communication letters, and term papers, which should demonstrate clarity, effective organization, and a coherent progression of ideas.

Prince (2020) cites that teaching writing skills online is a significant challenge for educators. Also, as noted in Cambridge English, Prince mentioned that the average duration required to advance from one level to the subsequent level is roughly 200 hours of guided instruction. The time commitment typically ranges from approximately 160 hours at the introductory levels, while at the more advanced levels, it can extend up to 220 hours. Thus, addressing the issue, a potential course of action may entail providing teachers with professional development opportunities to augment their proficiency in digital communication and integrate efficacious online pedagogical approaches. Providing resources and support to assist teachers in effectively instructing students to satisfy specific writing requirements and generate diverse forms of written content could provide advantageous outcomes.

The data revealed (see table 3) that the participants rated the tasks linked to promoting competencies associated with the commitment of BTVTEd students to lifelong learning, staying up-to-date in their profession, and contributing to the progress of knowledge and practices during online learning to be moderately difficult, as evidenced by the calculated average weighted arithmetic mean of 3.06. It can be implied that while the tasks are not rated as extremely challenging, they are not considered easy either. Understanding the difficulty level is crucial for educators and institutions to tailor their approaches and support mechanisms accordingly.

Gupta and Sampat (2021) argue that to mitigate the growing discrepancy in educational achievement, it is crucial to establish strategies that aid educators in cultivating the belief that all students can acquire knowledge. According to Priya and Sampat (2021), identifying obstacles teachers and students encounter in their daily routines and exploring strategies to address these challenges can prompt teachers to critically examine the relationship between their instructional approaches and their influence on students. Promoting classroom technologies and suitable pedagogical methods among instructors may enhance students' learning outcomes, potentially transforming teachers' perceptions of student capabilities.

The participants found it very difficult to instill in BTVTEd students skills such as: writing research papers or articles that meet the standards of the oral examination committee, submitting them to the Dean's office, having them referred by experts, and publishing them in the school research journal or any research publications available online; Present research findings or novel ideas at relevant colloquia to exhibit active engagement and current

expertise; and Developing patents or unique solutions in the sector as tangible signs of being at the forefront of development.

Table 3. Difficulties in the preparation of BTVTED students on becoming teachers during online learning as to common to all programs, articulate and discuss the latest developments in a specific field of practice

NO.	INDICATORS	WAM	QI
1	Create research papers or articles that meet the standards of the oral examination committee, submit them to the Dean's office, referred by experts, and publish them in the school research journal or any research publications available online.	3.70	VD
2	Present research findings or innovative ideas at relevant colloquia to demonstrate active participation and knowledge of recent developments.	3.36	VD
9	Create patents or innovative solutions in the field as tangible indicators of being on the cutting edge of development.	3.28	VD
4	Participate actively in field-related organizations, which often provide access to exclusive content, conferences, and networking opportunities that allow them to stay current on the latest developments.	3.10	MD
8	Integrate emerging technologies into their work to demonstrate awareness of and adoption of the most recent advancement.	3.10	MD
10	Create and maintain a blog or website where a professional sharing of thoughts, analysis, and the latest developments in the field demonstrates a commitment to stay informed and share knowledge.	3.10	MD
12	Write critical reviews or analyses of recent publications in the field to demonstrate the ability to assess and contribute to an ongoing discussion.	3.08	MD
7	Collaborate on research projects, especially those addressing cutting-edge issues, and demonstrate a desire to advance in the field.	3.04	MD
11	Serve as a mentor or educator in the field to demonstrate commitment to passing on knowledge about the most recent developments to the next generation.	2.94	MD
3	Cite the works of other professionals and researchers considered valuable and relevant to the field of specialization.	2.92	VD
6	Participate actively in field-specific online forums, discussion boards, or social media groups to exchange ideas and discuss the latest developments with peers.	2.66	MD
5	Attend webinars and training sessions related to the field regularly to continue learning and stay current on new trends and technologies.	2.46	SD
AVERAGE WEIGHTED ARITHMETIC MEAN		**3.06**	**MD**

According to Quevillon (2021), during online learning, inactive students are more likely to comprehend the essential lecture information and feel disconnected from their teacher and peers, and fostering collaboration is crucial. Addressing such challenges in online learning environments may require additional support, instructional strategies, or resources to help participants and students improve their abilities in writing research and other pertinent documents. Generating patents or new solutions in the field is a complicated curriculum component, posing significant challenges for the participants and their students in their attempts to accomplish it. It is ambitious or advanced skills that BTVTEd students are expected to achieve, and it may require significant effort, expertise, and resources to excel in this aspect.

Table 4. Difficulties in the preparation of BTVTED students on becoming teachers during online learning as to specific to the teacher education program, demonstrate mastery of subject matter/discipline

NO.	INDICATORS	WAM	QI
5	Conduct original research or make significant contributions to existing research in the field.	3.16	MD
3	Identify gaps, inconsistencies, or areas for improvement in the subject matter.	3.06	MD
10	Show a comprehensive understanding of how the subject interacts with other fields.	3.02	MD
11	Make significant contributions or advancements in the subject matter.	3.02	MD
4	Solve complex problems and apply knowledge in real-life situations.	2.98	MD
1	Discuss the fundamental concepts, theories, and principles within the discipline.	2.92	MD
13	Address persistent or complex issues within the discipline.	2.90	MD
15	Demonstrate integrity and responsibility in research and practice.	2.90	MD
8	Recognize new challenges and opportunities within the discipline.	2.88	MD
2	Explain complex concepts clearly and concisely.	2.86	MD
7	Apply subject matter expertise in real-world scenarios.	2.84	MD
9	Educate and mentor others about the topic.	2.84	MD
12	Gain respect and recognition from peers and subject matter experts.	2.78	MD
14	Adhere to ethical standards and professional codes of conduct in the field.	2.68	MD
6	Teach, mentor, or guide others in learning about the subject.	2.64	MD
AVERAGE WEIGHTED ARITHMETIC MEAN		**2.97**	**MD**

The data showed that the participants viewed the tasks, demonstrating proficiency in the subject matter/discipline as moderately challenging to achieve for some students enrolled in the BTVTEd program during online learning (see table 4). It was evident from the obtained average weighted arithmetic mean of 2.97 and a qualitative index of moderate difficulty level across all indicators. These difficulties can be attributed to restrictions incorporated with several memos issued during the pandemic to safely continue the school operations and securely deliver teaching and learning without sacrificing the health conditions of the school's internal and external stakeholders, as well as the advisories that mainly entail procedures for preventing, controlling, and mitigating the spread of the virus in HEIs (CHED, 2021).

Similarly, this moderate difficulty experienced by the participants can also be ascribed to several factors that affect the effective delivery of online learning. These include: (1) a lack of comprehensive feedback from students, (2) feelings of isolation due to limited interaction with peers, (3) challenges in effectively managing time and maintaining high levels of self-motivation, (4) difficulties in facilitating effective communication, (5) potential for dishonesty during online assessments, (6) a greater emphasis on theoretical knowledge rather than practical application, (7) limitations in terms of applicability to specific disciplines, and (8) inaccessibility for individuals who lack computer literacy skills (Tamm, 2020).

Table 5. Difficulties in the preparation of BTVTED students on becoming teachers during online learning as specific to the teacher education program, demonstrate a variety of thinking skills in planning, monitoring, assessing, and reporting learning processes and outcomes

NO.	INDICATORS	WAM	QI
10	Experiment with different learning methods and materials to boost creativity.	3.10	MD
20	Present analytical findings and draw meaningful conclusions from the data collected.	3.08	MD
19	Assess the quality and effectiveness of the learning process using data analysis and critical thinking.	3.02	MD
18	Collect and analyze data, feedback, and evidence to track progress and make data-driven decisions.	3.00	MD
27	Assess the effectiveness of metacognitive strategies in optimizing learning.	3.00	MD
9	Incorporate creative techniques like brainstorming or mind mapping into the learning plan to foster innovative thinking.	2.98	MD
3	Critically examine information and evidence to determine the quality of one's work and the validity of conclusions.	2.96	MD
24	Describe collaborative experiences, challenges, and the value they brought to the learning process.	2.96	MD
22	Assess the dynamics of collaborative efforts and develop strategies to improve teamwork.	2.94	MD
26	Reflect on one's thought processes, identify cognitive biases, and make changes.	2.94	MD
28	Share insights into how metacognition influenced the learning journey and outcomes.	2.94	MD
12	Highlight innovative ideas, solutions, or projects that emerged during the learning process.	2.92	MD
7	Evaluate the effectiveness of problem-solving approaches used during the learning process and make necessary adjustments.	2.90	MD
23	Examine the impact of collaboration on learning outcomes and personal development.	2.90	MD
11	Reflect on the creative aspects of the learning journey and how they contributed to the outcomes.	2.88	MD
16	Share the insights gained through reflective thinking and explain how they influenced the learning journey.	2.88	MD
1	Create a well-structured learning plan that includes objectives, timelines, and resources while considering potential obstacles and alternative approaches.	2.86	MD
2	Evaluate progress, identify errors or gaps in understanding, and make necessary changes to the learning plan.	2.86	MD
14	Examine and reflect on the learning process, personal growth, and shifting perspectives.	2.86	MD
15	Engage in self-assessment focusing on personal development and lessons learned rather than outcomes.	2.86	MD
6	Recognize when problems arise and use problem-solving techniques to address them effectively.	2.84	MD
4	Present assessments and conclusions in a clear, well-organized, and evidence-based manner, emphasizing critical analysis.	2.84	MD
21	Incorporate collaborative activities into the learning plan, such as group projects or discussions.	2.84	MD
8	Describe how specific problems in the context of the learning experience were identified and solved.	2.82	MD
17	Define clear success criteria and benchmarks for the learning plan.	2.82	MD
25	Set goals for self-awareness and self-regulation in the learning plan.	2.78	MD
5	Identify potential learning challenges or obstacles and devise strategies to overcome them.	2.71	MD
13	Include time in the learning plan for reflection, such as journaling or self-assessment.	2.61	MD
AVERAGE WEIGHTED ARITHMETIC MEAN		**2.90**	**MD**

The data disclosed that the tasks associated with the development of skills in planning, monitoring, analyzing, and reporting learning processes and outcomes that required a wide range of cognitive skills were moderately

difficult for the participants to impart to the students enrolled in the BTVTEd program via online learning modality (see table 5), as evidenced by an average weighted arithmetic mean of 2.90, and a moderate level of difficulty qualitative index applied across all indicators. The findings of Napanoy, Gayagay, and Tuazon (2021) support the results of the study, as they indicate that a considerable proportion of pre-service teachers consistently face difficulties in developing lesson plans that integrate essential activities and in selecting appropriate teaching styles that accommodate individual differences. According to the same author, the challenges might be ascribed to inadequate preparation and training of pre-service teachers. In like manner, the study of Alamri (2018) conforms to the result of the present study as it states that skills related to classroom teaching were highly challenging for the participants. These skills include selecting the proper evaluation method, managing the classroom effectively, preparing tasks and exercises for the lesson, and creating quizzes.

Table 6. Difficulties in the preparation of BTVTED students on becoming teachers during online learning as to specific to the teacher education program, facilitate learning using a wide range of teaching methodologies and delivery modes appropriate to specific learners and their environments

NO.	INDICATORS	WAM	QI
3	Encourage active learning using problem-solving, case studies, debates, role-playing, and real-world applications.	2.97	MD
7	Ensure that all instructional materials and methods, including those for students with disabilities, are accessible to all learners.	2.95	MD
2	Adjust lesson plans, assignments, and assessments to accommodate students' needs and abilities.	2.92	MD
9	Use gamification, storytelling, and real-world relevance to motivate students.	2.87	MD
6	Encourage student collaboration through group projects, peer teaching, and teamwork.	2.85	MD
8	Reflect on teaching practices and solicit student feedback to make continuous improvements.	2.85	MD
10	Communicate learning objectives and expectations to students so that they understand what is expected of them and why they are learning specific content.	2.85	MD
5	Recognize and respect cultural diversity in the classroom and adopt instruction to be culturally sensitive.	2.79	MD
1	Give clear instructions and assistance to remote or online learners.	2.74	MD
4	Give students timely and constructive feedback to help them understand their progress and areas for improvement.	2.72	MD
AVERAGE WEIGHTED ARITHMETIC MEAN		**2.85**	**MD**

The data showed that the participants rated the tasks related to teaching methodologies and delivery modes as moderately difficult to teach in the BTVTEd students in an online learning environment (see table 6). It was indicated by an average weighted arithmetic mean of 2.85, with a moderate level of difficulty qualitative index observed in all indicators. The result suggests that the difficulties experienced by participants in a digital educational setting significantly affect the knowledge and skills acquisition among students enrolled in the BTVTEd. In particular, in their ability to inspire active learning through problem-solving strategies, case studies, discussions, role-playing exercises, and real-world applications that are moderately difficult for the participants to impart and see in action with the students. Following this, Shore (2020) confirms that many of the tools and tactics used by schools and teachers to educate more traditionally will become obsolete if they are not appropriately prepared to deal with the technological challenges of online classrooms.

It is also revealed from the data that the tasks associated with developing the skills of the BTVTEd students in ensuring all instructional materials and methods, including those for students with disabilities, were moderately challenging for the participants because online learning requires a different approach to teaching and learning. Teachers must adapt to new technologies and platforms to deliver instructions effectively. In addition, students with disabilities may require additional accommodations to access instructional materials and methods, which can be challenging to provide in an online environment (Parrish, 2019).

In addition, the participants found the task associated with adjusting lesson plans, assignments, and assessments to accommodate students' different needs and abilities moderately difficult due to the lack of face-to-face interaction and the absence of physical classroom materials. It makes it challenging for the teachers to gauge students' understanding of the subject matter and provide necessary support, particularly during online learning (Adetunji, 2018).

As a result of the difficulties faced by the teachers, Napanoy, Gayagay, and Tuazon (2021) confirmed that pre-service teachers have problems identifying suitable activities and strategies to address the diversity of the students. Thus, they must undergo training in blended learning, output-based activities, and new pedagogical approaches in light of the difficulties.

Table 7. Difficulties in the preparation of BTVTED students on becoming teachers during online learning as specific to a sub-discipline and a major (technical-vocational teacher education), demonstrate broad, coherent, meaningful knowledge and skills in any of the specific fields in technical and vocational education

NO.	INDICATORS	WAM	QI
5	Perform tasks precisely, whether in construction, vehicle repair, software programming, or any other field.	2.87	MD
8	Produce high-quality work by paying close attention to detail, precision, and following industry standards and best practices.	2.83	MD
2	Effectively operate, maintain, and troubleshoot tools, equipment, and technologies related to their field of specialization.	2.81	MD
6	Adopt new tools, techniques, and technologies as they emerge.	2.71	MD
9	Plan, organize, and manage projects while adhering to the established goals, resources, and deadlines.	2.71	MD
12	Demonstrate an understanding of ethical considerations specific to the field, such as confidentiality, data security, and adherence to professional codes of conduct.	2.65	MD
14	Understand and meet the needs of clients or end-users in a customer-facing role.	2.65	MD
15	Demonstrate knowledge of relevant laws, regulations, and compliance requirements and ensure their work meets these standards.	2.67	MD
13	Identify potential problems before they become major issues and take appropriate preventive measures.	2.63	MD
1	Explain in detail the fundamental concepts and principles of their chosen field and apply them to real-world problems.	2.62	MD
7	Create technical documents, reports, and presentations.	2.62	MD
3	Identify potential hazards and take the necessary precautions to avoid accidents.	2.58	MD
10	Pursue certifications, attend workshops, or stay current on industry trends.	2.56	MD
4	Identify and analyze problems, create solutions, and successfully implement them.	2.54	MD
11	Work well as part of a team, communicate ideas, and contribute to achieving common goals.	2.50	SD
AVERAGE WEIGHTED ARITHMETIC MEAN		**2.66**	**MD**

The disclosed that the participants rated the tasks associated with exhibiting comprehensive and cohesive proficiency in any of the specified domains within the realm of technical-vocational education, showcasing a profound understanding and practical application of information and abilities as moderately difficult to teach in the students enrolled in the BTVTEd program during online learning (see table 7). It received an average weighted arithmetic mean of 2.66 and a qualitative index of moderate difficulty across all indicators, except for indicator 11, where participants found it somewhat difficult for the students to work well as part of a team, communicate ideas, and contribute to achieving common goals.

The difficulties participants encounter in instructing the core courses of BTVTEd programs within an online learning environment can be ascribed to various factors. These factors may include but are not limited to: (1) the use of ICT among technical-vocational students is more effective in developing cognitive learning than occupational hands-on skills (Yasak and Elias, 2015); and (2) school and industry closures prevent students from completing practical training, which is an essential aspect of technical-vocational education due to its emphasis on practical skills and work-readiness. Lockdowns caused significant disruption for students because laboratory-based training and work-based learning either ceased or continued in limited numbers with rigorous hygiene procedures (ILO, 2020).

Consequently, imparting specific actions to BVTEd students, such as executing activities with precision in various areas like construction, car maintenance, software development, or other relevant subjects; ensuring the production of high-quality work by demonstrating meticulous attention to detail, precision, and adherence to industry standards and best practices; and proficiently handling, maintaining, and troubleshooting tools, equipment, and technologies specific to their area of expertise, poses a moderate challenge in the absence of field experience. Wherein, as cited in the study of Napanoy, Gayagay, and Tuazon (2021), field experiences are a fundamental component within pre-service teacher education programs.

The data revealed that the activities related to exhibiting advanced competency in literacy, communication, numeracy, critical thinking, and learning abilities required for higher education were regarded as moderately difficult to instill in the students enrolled in the BTVTEd program during online learning (see table 8 on the proceeding page). It gained an average weighted arithmetic mean of 2.95 and a qualitative index of moderately difficult throughout all indicators.

Table 8. Difficulties in the preparation of BTVTED students on becoming teachers during online learning as specific to a sub-discipline and a major technical-vocational teacher education, demonstrate higher level literacy, communication, numeracy, critical thinking, and learning skills needed for higher learning

NO.	INDICATORS	WAM	QI
12	Conduct statistical analyses, comprehend data distributions, and draw meaningful conclusions.	3.20	MD
11	Solve complex mathematical problems, analyze data, and interpret quantitative data.	3.12	MD
13	Apply mathematical concepts to real-world problems and situations.	3.12	MD
3	Dissect and interpret literature, identifying themes, symbols, and literary devices.	3.10	MD
16	Think outside the box to find novel solutions to complex problems.	3.10	MD
17	Build sound arguments, recognize fallacies, and make coherent, evidence-based arguments.	3.10	MD
18	Make sound decisions by weighing the pros and cons and considering the long-term consequences.	3.10	MD
14	Examine the validity and relevance of information, arguments, and evidence.	3.08	MD
4	Conduct extensive research using various sources, such as books, scholarly articles, and online databases.	3.06	MD
15	Determine problems, develop strategies, and make sound decisions.	3.06	MD
1	Understand complex texts, extract key information, and analyze the content critically.	3.00	MD
6	Articulate ideas clearly and persuasively during class discussions, presentations, or debates.	3.00	MD
22	Locate, synthesize, and organize information effectively to support learning objectives.	3.00	MD
19	Take charge of one's learning by setting goals, managing time effectively, and remaining motivated.	2.94	MD
5	Use citation styles such as APA, MLA, or Chicago when referencing sources.	2.92	MD
2	Write clear, well-structured essays or reports that effectively communicate complex ideas.	2.88	MD
23	Continuously evaluate one's learning, solicit feedback, and improve over time.	2.88	MD
10	Use various digital communication platforms and tools like email, video conferencing, and collaboration software.	2.78	MD
21	Evaluate the credibility and relevance of information sources in the digital age.	2.78	MD
7	Listen carefully to others, ask pertinent questions, and engage in meaningful dialogues.	2.72	MD
9	Create professional emails, reports, and other written communications.	2.70	MD
8	Develop effective relationships with peers and professors, and be respectful of different points of view.	2.68	MD
20	Be open to new ideas, adapt to changing circumstances, and learn from mistakes.	2.64	MD
AVERAGE WEIGHTED ARITHMETIC MEAN		**2.95**	**MD**

The result exhibited that participants encountered moderate challenges in fostering the development of 21st-century abilities among BTVTEd students during online learning. These challenges may be associated with the findings of previous studies (Thangaiah et al., 2020; Nasir et al., 2018), which suggest that certain teachers prefer traditional teaching methods instead of online teaching. This preference may stem from reduced engagement between students and teachers, attributed to the teachers' limited ICT skills and inadequate collaboration among students to hone their 21st-century skills in online learning settings.

Similarly, Das (2022) states that teachers face difficulties adapting to new instructional approaches. Because of their prior exposure to traditional classroom teaching methods, many are unfamiliar with online learning. Teachers may find it difficult to teach sophisticated numerical concepts, particularly calculations. Meanwhile, in the study conducted by Mahuyu and Makochekanwa (2020), it was observed that students in technical-vocational education programs can be classified as low achievers in terms of academic performance, socio-economic background, engagement in manual labor, and lack of organizational skills. However, Gupta and Sampat (2021) present a contrasting viewpoint, suggesting that the expectations teachers hold for their students can significantly influence their level of achievement.

Indeed, numeracy skills are essential for technical-vocational education students because they can help them obtain the practical skills and information needed for their chosen career occupations. Numeracy skills are solving issues and making judgments using numbers, symbols, and procedures in various circumstances. It also includes understanding mathematical concepts like number and quantity, measurement, shape, dimensions, orientations,

data and chance, mathematical relationships and reasoning, and the skills mentioned in the top three indicators of the analyzed learning outcome.

Table 9. Difficulties in the preparation of BTVTEd students on becoming teachers during online learning as to specific to a sub-discipline and a major (technical-vocational teacher education), demonstrate the competencies required of the Philippine TVET trainers - assessors qualification framework

NO.	INDICATORS	WAM	QI
20	Participate in community outreach and development activities to raise awareness of the importance of TVET and its impact on society.	3.02	MD
2	Create and deliver effective, engaging training sessions addressing diverse learners' needs and learning styles.	2.94	MD
19	Provide guidance and mentorship to less experienced trainers and assessors, contributing to their professional development.	2.94	MD
9	Participate in ongoing learning and professional development to stay current on industry trends and teaching methods.	2.91	MD
1	Show a thorough understanding of the subject matter related to their training and assessment responsibilities.	2.89	MD
3	Create valid and reliable assessment tools and methods for accurately measuring the learners' competence.	2.89	MD
8	Place the needs and interests of learners at the center of training and assessment activities.	2.89	MD
10	Collaborate with industry partners to ensure training programs align with current industry needs and standards.	2.89	MD
4	Communicate clearly and effectively with learners, colleagues, and industry partners, both orally and in writing.	2.85	MD
7	Manage training resources such as materials, equipment, and time.	2.79	MD
6	Maintain ethical standards, professionalism, and a positive learning environment.	2.77	MD
15	Identify and address issues that arise during training and assessment.	2.74	MD
18	Keep abreast of TVET regulations and ensure compliance with national and local requirements.	2.74	MD
17	Seek feedback from learners, peers, and supervisors to improve training and assessment practices.	2.70	MD
5	Adjust to changing technology, industry practices, and educational methods.	2.68	MD
16	Effectively collaborate with colleagues, mentors, and support staff to improve the overall learning experience.	2.68	MD
11	Make effective use of technology in teaching, assessment, and administration.	2.62	MD
13	Respect and accommodate learners' diverse cultural backgrounds and needs.	2.60	MD
12	Ensure the safety of learners during practical training and uphold high-quality standards in training and assessment.	2.55	MD
14	Keep detailed records of learner performance, assessment outcomes, and training activities.	2.49	SD
AVERAGE WEIGHTED ARITHMETIC MEAN		**2.78**	**MD**

The data entailed that the tasks connected with developing competencies required by the PTTAQF were rated by the participants as moderately difficult to achieve during online learning (see table 9). It obtained an average weighted arithmetic mean of 2.78, with a qualitative index of moderately difficult level across all indicators, except for indicator no. 14 about BTVTEd students' ability to keep detailed records of their learners' performance, assessment outcomes, and training activities, which was somewhat difficult for them to attain in part of their students.

The moderate difficulties encountered by the participants can be linked to the research findings of Munyi et al. (2021), which support the notion that some instructors have low skills in integrating ICT in the classroom due to traditional teaching habits preferred over implementing ICT in teaching methods. Furthermore, as highlighted by Hoftijzer et al. (2020), the transition to distance and online learning poses a significant obstacle due to the emphasis of technical-vocational education on practical skills and employability. The acquisition of practical skills through experiential learning occurs within educational workshops and laboratories or through direct engagement in hands-on activities. Certain practical activities necessitate specialized equipment or materials, rendering e-learning methodologies a weak alternative to traditional methods. Also, as Calago (2023) seconded, technical-vocational students face a deficiency in experiential learning and hands-on experience within the context of online classes. The remote learning modality was not considered a replacement for practical, experiential learning.

It can also be inferred from the result that providing continuous support, guidance, and mentorship to BTVTEd students, especially in areas perceived as moderately challenging with emphasis on the three top-rated indicators, is crucial for their success in developing the competencies required by the PTTAQF. Wherein, Bakri and Zakaria

(2018) assert that the establishment and functionality of a workshop, equipped with appropriate tools, equipment, machines, and facilities, are vital for successfully implementing technical-vocational education programs. Ismail et al. (2018) further emphasize the importance of competent and skilled vocational lecturers or teachers in facilitating an effective teaching and learning process within technical-vocational education. This emphasis is justified by the program's objective of equipping students with the technical knowledge, skills, and attitudes necessary to meet the job market demands.

3.3 How Experiential Learning Loss of the BTVTEd Students During Online Learning is Managed by the Selected Teacher Education Institutions (TEIs)

Table 10. How experiential learning loss of the BTVTED students during online learning is managed by the selected teacher education institutions (TEIS)

NO.	INDICATORS	WAM	QI
14	Ensure that all in-person general education, professional education, and specialized/major subjects classes resume safely in school.	3.40	MM
10	Strengthening the school learning continuity plan to mitigate the adverse effects of the pandemic using online learning.	3.37	MM
15	Understanding the needs of the students to respond positively and recover losses in learning effectively.	3.34	MM
13	Necessitating teachers to improve instructional efficiency, incorporate catch-up learning, and promote students' psychosocial health and well-being.	3.33	MM
2	Developing appropriate solutions to the identified problems.	3.30	MM
1	Assessing the level of learning of the students.	3.27	MM
4	Implementing intervention training programs tailored to the needs of students to address the losses in experiential learning directly.	3.27	MM
7	Promoting resiliency, improving emergency response, and preparing school stakeholders to deal with unforeseen problems.	3.21	STM
9	Improving the overall quality of education practices in schools.	3.17	STM
11	Holding faculty development training such as upskilling, reskilling, and retraining teachers ensures they have the 21st-century skills and knowledge needed to share with students effectively.	3.20	STM
12	Requiring teachers to improve the content of their learning materials and the delivery of instruction.	3.17	STM
5	Reaching out to all the struggling students and assisting them academically and technically.	3.11	STM
6	Providing access to upgraded infrastructures such as sufficient classrooms, laboratories (including educational technology laboratory and workshop laboratories for specialized subjects), and physical facilities.	3.06	STM
8	Keeping the struggling students in school so they can attend in-person and laboratory classes.	3.01	STM
3	Giving adequate funding to all programs and activities launched to reduce losses in experiential learning.	3.00	STM
AVERAGE WEIGHTED ARITHMETIC MEAN		**3.22**	**STM**

The data showed that participants expressed that the school administrators from the TEIs in Quezon Province sometimes manage the losses in experiential learning among BTVTEd students during online learning, as evidenced by an average weighted arithmetic mean of "3.22" (see table 10). This data suggests that there may be variability in how effectively TEIs are addressing such issues. Therefore, understanding and sharing successful practices among institutions could be beneficial. TEIs can also consider adopting a continuous improvement mindset, monitoring the impact of their strategies regularly, and making improvements depending on feedback and changing conditions. In consonance with this, Chetana (2022) mentioned that most businesses cannot survive in a fast-changing environment unless they are well-managed. Creating a favorable managerial environment for the collaborative efforts of people working in an organization to achieve planned objectives necessitates applying management knowledge to a wide range of practical problems to achieve the best possible outcome with the given circumstances and realities.

As cited in Barrot (2021), developing and improving the school's learning continuity plans to offset the impact of the pandemic, particularly in addressing learning losses, is critical. Schneider (2020) identifies three major actions that can help reverse pandemic-related losses: (1) understanding the crisis and accelerating learning; (2) responding to the crisis with new resources to help students catch up; and (3) preventing academic underachievement among the most vulnerable students. Similarly, Mateo (2022) believes that to overcome the

learning crisis, all students must be reached and retained in school, with regular assessments of their learning level prioritizing the teaching of catch-up learning and developing psychosocial health and well-being.

3.4 Association Between the Identified Difficulties in Preparing Btvted Students to Become Teachers and How TEIs Manages the Losses in Experiential Learning During Online Learning

Table 11. Association between the determined difficulties and how TEIS manages the losses in experiential learning during online learning

DETERMINED DIFFICULTIES	N	R	P-VALUE	INTERPRETATION
1. Articulate and discuss the latest developments in a specific field of practice	53	.095	.500	Not Significant
2. Effectively communicate orally using both English and Filipino	57	.132	.329	Not Significant
3. Effectively communicate in writing using both English and Filipino	55	.303*	.025	Significant
4. Demonstrate mastery of subject matter/discipline	50	.015	.920	Not Significant
5. Facilitate learning using a wide range of teaching methodologies and delivery modes appropriate to specific learners and their environments	42	.162	.305	Not Significant
6. Demonstrate a variety of thinking skills in planning, monitoring, assessing, and reporting learning processes and outcomes	50	.193	.179	Not Significant
7. Demonstrate the competencies required of the Philippine TVET trainers-assessors qualification framework	49	-.049	.736	Not Significant
8. Demonstrate broad, coherent, meaningful knowledge and skills in any of the specific fields in technical and vocational education	50	.138	.341	Not Significant
9. Demonstrate higher level literacy, communication, numeracy, critical thinking, and learning skills needed for higher learning.	51	.346*	.013	Significant

The data revealed that TEIs in Quezon Province have not directly addressed the difficulties teachers encounter and their detrimental effects on the experiential learning of BTVTEd students during online learning (see table 11). The programs implemented by TEIs are mismatched to the identified issues. Hence, no association exists between 7 out of 9 identified difficulties, and the applied management strategies by the TEIs lead to the decision that they are not significant.

Meanwhile, a significant positive linear association of ".346" exists between the variables "demonstrate higher level literacy, communication, numeracy, critical thinking, and learning skills needed for higher learning" and "how TEIs manage the losses in experiential learning" and ".303" exists between the variables "effectively communicate in writing using both English and Filipino" and "how TEIs manage the losses in experiential learning." Despite its strength of association falling under the slight association, it is still significant as it obtained a p-value of ".013" and ".05" respectively less than the significance level of .05. Therefore, the null hypothesis is rejected, and it is concluded that there is a statistically significant association between the variables.

According to the findings, as one variable increases, another variable also tends to increase as well. In other words, as the amount of difficulty increases, so should the approach to dealing with the issues. The findings of Sulaiman and Ismail's (2020) research support the assertions made in the present study since they demonstrate a robust and favorable association between professional competence and 21st-century skills among teachers. Teachers' characteristics, pedagogical approaches, ethical behavior, and technological competence, in conjunction with school leadership and advancement, are pivotal in cultivating 21st-century skills. Similarly, Dominado's (2020) research posits a strong and statistically significant correlation between the proficiency of teachers in 21st-century abilities and their technological competencies. Consequently, augmenting teachers' 21st-century skills and technology proficiency will likely enhance the collaborative dynamics between teachers and students. The elements of teacher competence can aid in developing potential teachers following 21st-century teaching and learning concepts.

4.0 Conclusion

The BTVTEd students lose the ability to: (1) articulate and discuss the latest developments in a specific field of practice; (2) mastery of subject matter or discipline; and (3) higher-level literacy, communication, numeracy, critical thinking, and learning skills needed for higher learning during online learning. Therefore, the school administrators should take corrective actions to compensate for the experiential learning losses of the students still in the BTVTEd program. Ensuring that any related school-based intervention programs are effective in assisting students to understand what they are missing, accelerate their learning, and achieve the skills outlined in the BTVTEd minimum standards program outcomes. The school administrators should also consider promoting and encouraging BTVTEd graduates to look into the TESDA Online Program for further skills development.

Most of the tasks associated with preparing BTVTEd students during online learning were moderately difficult for the participants. Thus, the school administrators should initiate a capacity-building training program to retrain, restore, and retool teachers of the BTVTEd program on how to effectively and efficiently carry out their duties regardless of the implemented teaching-learning modalities.

The school administrators of the TEIs in Quezon Province sometimes manage the issues connected with preparing BTVTEd students to become teachers during online learning. They sometimes manage to provide adequate financial resources to support an intervention program. Hence, without a budget, a great plan such as the sustainability and learning recovery management plan of the present study, will become pointless. The school administrators must find ways to implement such an intervention program. Finally, the school administrators should also revisit, reevaluate, realign, and improve the current school program to mitigate losses in experiential learning for BTVTEd students. Assuring that as challenges for obtaining quality technical-vocational education emerge, efforts to address them should rise as well.

5.0 Contributions of Authors

The author indicates an equal contribution to each part. The author examined and approved the completed work.

6.0 Funding

Gratitude is extended for the financial assistance provided by the College of Sciences, Technology and Communication Incorporated to complete the study.

7.0 Conflict of Interests

The author discusses no conflicts of interest for the publication of this paper.

8.0 Acknowledgment

The researcher expresses sincere gratitude to the following individuals who made significant contributions that led to the completion of this study. Firstly to Dr. Marife S. Magpantay, the researcher adviser, for providing valuable insights and suggestions during the process of completing the entirety of the study; Secondly to the Oral Examination Committee, consisting of Dr. Luis Miguel P. Saludez, Dr. Gillian Portia P. Dimaranan, Dr. Vanessa C. Zubieta, Dr. Arvin N. Natividad, and Dr. Rosario P. Bandelaria, for their thorough evaluation and valuable feedback, which greatly contributed in enhancing the content of the study; Thirdly to the Deans and Heads of the Teachers Education Institutions in the Quezon Province that offer Bachelor of Technical-Vocational Teacher Education programs, their generous cooperation in allowing the researcher to utilize their school as a research locale and permitting their teachers to participate in the study; Fourthly to the research participants, for generously allocating some of their time to respond to the survey questionnaire of the study; Fifthly to the validators of the research instrument namely, Dr. Juanito A. Merle, Dr. Jeniffer M. Oestar, Dr. Walter F. Galarosa, Dr. Jean Rose Rabano, and Dr. Maria Zorayda Torres, for their valuable assistance in enhancing the contents of the survey questionnaire. Sixthly to the School of Teacher Education family, which includes Teacher Jo, Teacher Bhel, and other teachers, for their spiritual, emotional, and intellectual support, as well as their motivation given to the successful completion of the study; and lastly, special acknowledgment is extended to Dr. Nelson D. Mendoza for granting the researcher permission to temporarily leave his post for data collection and to finish the study.

9.0 References

Adnan, M. & Anwar, K. (2020). Online learning amid the COVID-19 pandemic: Students' perspectives. Journal of Pedagogical Sociology and Psychology, Vol 2 (1), Retrieved from https://doi.org/10.33902/JPSP.2020261309

Adetunji, J. (2018). Being able to adapt in the classroom improves teachers' well-being. Retrieved from https://tinyurl.com/mvre7rnb

Amadora, M.G. (2020). Common problems that occur during online class. Retrieved from www.mb.com.ph/2020/09/18/common-pro...

Alamri, H.R.H. (2018). Challenges in practicum: views and perceptions of EFL pre-service teachers towards field experience skills in real classrooms. Arab World English Journal, Vol 9 (1). https://dx.doi.org/10.24093/awej/vol9no1.11

Baczek, M. & Kaplon, B.W. (2020). Students' perception of online learning during the COVID-19 pandemic. Semantic Scholar. Retrieved from https://bit.ly/3TRjwzt

Bakri, A., & Zakaria, I. H. (2018). Uplifting the function of maintenance management towards sustainable performance of laboratory and workshop in TVET institutions. The Journal of Social Sciences Research, No. 6, 153-160. https://doi.org/10.32861/jssr.spi6.153.160

Barrot, J. (2021). Students' online learning challenges during the pandemic and how they cope with them: The case of the Philippines. Education Information Technology 26 (2). https://doi.org/10.1007/s10639-021-10589-x

Calago, M. (2023). COVID-19 pandemic challenges for technical-vocational education. International Journal of Indian Psychology, 11(4). https://doi.org/10.25215/1104.007

CHED. (2021). CMO no. 31 s. 2021: Guidelines on the conduct of laboratory-based learning experience (LBLE) in limited face-to-face setup of industrial technology program. Retrieved from www.ched.gov.ph

CHED. (2020-2021). Joint CHED-DEPED memorandum order: New normal policies and guidelines on the deployment of pre-service teachers for field study and teaching internship for A.Y. 2020-2021. Retrieved from www.ched.gov.ph

CHED. (2020). CMO 04 Guidelines on the implementation of flexible learning. Retrieved from https://www.manilatimes.net/2021/05/24/news/national/flexible

CHED. (2017). CMO 79: Policies, standards, and guidelines for the Bachelor of Technical-Vocational Teacher Education (BTVTEd). Retrieved from www.ched.gov.ph

Chetana, D. (2022). Definitions of management by management thinkers, authors, experts, scholars, and gurus. Retrieved from https://www.businessmanagementideas.com/management/definitions-of-management/definitions-of-management/19418

Creswell, J.W. & Creswell, J.D. (2018). Research design: Qualitative, quantitative, and mixed methods approach. Thousand Oaks, California: Sage Publication, Inc.

Crossman, A. (2018). Total population sampling. Retrieved from https://www.statisticshowto.com/total-population-sampling/

Das, U. (2022). Online learning: Challenges and solutions for learners and teachers. Management and Labour Studies, Volume 48, Issue 2. https://doi.org/10.1177/0258042X211069501

Diyan, R.S., Mukti Ali, K., & Irawan, I. (2022). Educational management of online learning in a pandemic situation. Journal Educational Innovation of MH Tharim, vol 6 (2). Retrieved from https://bit.ly/3ZO4PPQ

Dominado, N.L. (2020). Teachers performance, technology, and 21st century skills: A basis for a faculty development program. International Journal of Innovation, Creativity and Change, Volume 13, Issue 1. Retrieved from https://www.ijicc.net/

Duru, P.O. et al. (2020). Effects of Teacher Subject Mastery on the Academic Performance of Secondary School Students in Jalingo Local Government Area of Taraba State. Journal of Contemporary Education Research, Vol. 20 No. 8. Retrieved from https://tinyurl.com/242829yh

Garcia, E. & Weiss, E. (2020). COVID-19 and student performance, equity, and U.S. education policy: Lesson from pre-pandemic research to inform relief, recovery, and rebuilding. Retrieved from https://files.eric.ed.gov/fulltext/ED610971.pdf

Gratz, M. & Lipps, O. (2021). Large loss in studying time during the closure of schools in Switzerland in 2020. Research in Social Stratification and Mobility, 71.

Gupta, N. & Sampat, S. (2021). How teacher expectations empower student learning. Retrieved from https://tinyurl.com/yo2qso5k

Hoftijzer, M., Levin, V., Santos, I., & Weber, M. (2020, May 4). TVET in the times of COVID-19: challenges and opportunities. https://tinyurl.com/yqb49geh

Ismail, K., Mohd Nopiah, Z., & Mohd Sattar, R. (2018). Challenges faced by vocational teachers in public skills training institutions: A reality in Malaysia. Journal of Technical Education and-Training (JTET) 10, 13-27. https://doi.org/10.30880/jtet.2018.10.02.002

International Labour Organization. (2020). ILO-UNESCO-WBG joint survey on technical and vocational education and training (TVET) and skills development during the time of COVID-19. International Labour Organization. https://tinyurl.com/yt76jrjm

Jaca, C.A.L. (2020). Oral communication needs of pre-service teachers in practice teaching. Randwick International of Education and Linguistics Science Journal, 1(1), pp.67-73. https://doi.org/10.47175/rielsj.v1i1.31

Kamal, T. & Illiyan, A. (2021). School teachers' perception and challenges towards online teaching during COVID-19 pandemic in India: an econometric analysis. Asian Association of Open Universities Journal, Vol 16 (3). https://doi.org/10.1108/AAOUJ-10-2021-0122/

Karyala, P. & Kamat, S. (2020). Online education in India – the good, the bad, and ugly! Retrieved from www.indiabioscience.org

Madarang, C.R.S. (2021). New poll says unstable internet remains to challenge in distance learning. Retrieved from www.interaksyon.philstar.com

Mahuyu, J., & Makochekanwa, A. (2020). Perspectives of parents towards technical and vocational education and training (TVET) in Zimbabwe. Advances in Politics and Economics, 3, 1-7. https://doi.org/10.22158/ape.v3n4p1

Mateo, J. (2022). DepEd sets strategies to address learning losses. Retrieved from https://www.philstar.com/headlines/2022/08/11/2201847/deped-sets-strategies-address-learning-losses

Munyi, F. W., Okinda, R., & Wambua, F. (2021). E-learning adoption model in TVET institutions in Kenya during and post-COVID-19. International Journal of Applied Computer Science, 6, 1-10.

Napanoy, J.B., Gayagay, G.C., & Tuazon, J.R.C. (2021). Difficulties encountered by pre-service teachers: Basis of a pre-service training program. Universal Journal of Educational Research, 9(2): 342-349, 2021. https://doi.org/10.13189/ujer.2021.090210

Nasir, M. K. M. (2020). The influence of social presence on students' satisfaction toward online courses. Open Praxis, 12, 485-493. https://doi.org/10.5944/openpraxis.12.4.1141

Newton, P.E. (2021). Learning during the pandemic: The context for assessments in summer 2021. Ofqual's Strategy, Risk, and Research Directorate, Retrieved from https://bit.ly/3zfGOFr

Olandres, A. (2017). Akamai q1 2017 report: Philippines dead last in Internet speeds. Retrieved from https://bit.ly/40kaQE8
Omar, M.K., Jie, D.M., Puad, M.H.M., & Ismail, N. (2022). Critical competency attributes of technical and vocational education and training (TVET) postgraduate students in online learning environment. International Journal of Academic Research in Progressive Education and Development, 11(1): 428-447. https://doi.org/10.6007/IJARPED/v11-i1/12124
Onyema, E.M., Eucheria, N.C., Obafemi, F.A., Sen, S., Atonye, F.G., Sharma, A., & Alsayed, A.O. (2020). Impact of Coronavirus pandemic on education. Journal of Education and Practice, 11(13), 108-121.
Parrish, N. (2019). Ensuring that instruction is inclusive for diverse learners. Retrieved from https://tinyurl.com/yrm3pf38.
Prince, J. (2020). Teaching English writing skills online: Adapting to the online classroom & maximizing student potential. Retrieved from https://infocus.eltngl.com/2020/06/29/teaching-english-writing-skills-online/
Priya, A. & Sampat, S. (2021). School leadership in low-income countries. Global School Leaders. Retrieved from http://bit.ly/3fLjJla
Quevillon, K. (2021). Online teaching: 3 unique challenges and how to solve them. Retrieved from www.tophat.com
Shore, J. (2020). "Problems in online classes." Retrieved from www.education.seattlepi.com
Singh, C.K.S. (2019). Pre-service teachers' mastery of technological pedagogical content knowledge for teaching English language. Universal Journal of Educational Research. https://doi.org/10.13189/ujer.2019.071705
Schneider, M. (2020). Operation reverses the loss, Redux. Retrieved from https://ies.ed.gov/director/remarks/12-9-2020.asp
Sulaiman, J. & Ismail, S.N. (2020). Teacher competence and 21st-century skills in transformation schools 2025 (TS25). Universal Journal of Educational Research, 8(8). https://doi.org/10.13189/ujer.2020.080829
Stracke, C.M. et al. (2022). Responding to the initial challenge of the COVID-19 pandemic: Analysis of international responses and impact in school and higher education. Sustainability, 14 (3) 1876; https://doi.org/10.3390/su14031876
Tamm, S. (2020). 10 biggest disadvantages of e-learning. Retrieved from www.student.org
Thangaiah, E. A., Jenal, R., & Yahaya, J. (2020). Penerokaan penggunaan e-pembelajaran dalam kalangan pelajar dan pengajar tvet-satu kajian awal. Journal of Southeast Asia Social Science & Humanities (Akademika), 3, 5-18.
Yasak, Z., & Alias M. (2015). ICT integrations in TVET: Is it up to expectations? Procedia-Social and Behavioral Sciences, 204, 88-97. https://doi.org/10.1016/j.sbspro.2015.08.120
Yeap, C.F., Suhaimi, N., & Nasir, K.M. (2021). Issues, challenges, and suggestions for empowering technical vocational education and training education during the covid-19 pandemic in Malaysia. Creative Education, Vol. 12 No. 8. https://doi.org/10.4236/ce.2021.128138