

Modular and Online Learning Experiences of Teacher Education Students in Flexible Learning Implementation

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Manuscript received February 3, 2026; revised February 27, 2026; accepted June 22, 2026; published October 26, 2026

Abstract—The shift to flexible learning during the Philippine natural calamities prompted higher education institutions to adopt alternative instructional modalities, particularly modular and online learning. This study examined the students' evaluations of these modalities at the College of Teacher Education at the Abra State Institute of Sciences and Technology. It assessed students' perceptions and determined the significant differences across academic programs. A descriptive-comparative research design was employed involving the 179 third-year students. Data were collected using a researcher-developed questionnaire validated through the Content Validity Index (CVI) with an average of 0.89 and demonstrating acceptable reliability (Cronbach's $\alpha = 0.74$). Descriptive statistics, including mean and standard deviation, were used to describe students' evaluations. At the same time, Analysis of Variance (ANOVA) was applied to determine significant differences among programs. Findings revealed that students generally had positive evaluations of both modular and online learning. However, issues related to internet connectivity and access to learning resources were identified as major challenges in online learning. Statistical analysis showed a significant difference in students' evaluations of modular learning across programs, while no significant difference was found in online learning. Students also suggested improvements such as enhanced internet access, clearer instructional materials, and stronger teacher support. The study contributes to flexible learning literature by showing that students' evaluations are shaped by learner autonomy, teacher presence, and access to technological resources, especially in a provincial teacher education context. Therefore, the findings highlight the need for improved instructional design and technological support to enhance flexible learning in teacher education.

Keywords—flexible learning, modular learning, teacher education students, descriptive-comparative design, Philippines

I. INTRODUCTION

Several Philippine natural disasters, such as typhoons, earthquakes, volcanic eruptions, and high heat indices disrupted conventional face-to-face instruction. Philippine schools adopted flexible learning modalities to maintain instructional continuity under these crisis conditions. In the Philippine higher education sector, in-person classes shifted to flexible learning, an instructional approach that combines appropriate learning resources, technologies, and delivery modes according to institutional capacity and learner needs [1]. This shift was not merely a temporary change in the classroom format; it required teachers and students to adjust to new forms of communication, assessment, learning management systems, and access to resources.

International research indicates that emergency remote teaching and planned online learning should be distinguished because disruptions to classes are often announced with little

preparation [2, 3]. Students across countries experienced benefits such as flexible schedules and expanded digital resources. However, they also encountered problems related to technological readiness, learning engagement, assessment practices, and unequal access to devices and internet connectivity [4–6]. These concerns show that flexible learning must be evaluated not only as a pedagogical strategy but also as an institutional and equity-related response to disruption.

In this regard, the African higher education literature further illustrates the equity dimension of flexible learning. In Ghana, Agormedah *et al.* [7] reported that students' online learning experiences during the pandemic were affected by internet access, technological preparedness, and institutional capacity to support remote instruction. In Ethiopia, Abera *et al.* [8] found that administrative, technological, and financial limitations constrained faculty and institutional readiness for e-learning. In South Africa, Hendricks and Mutongoza [9] found that students in rural university contexts faced unequal access to online learning due to infrastructure gaps and socioeconomic constraints. Cole [10] likewise emphasized that the transformative potential of educational technology in Africa depends on infrastructure, capacity-building, and inclusive implementation. These studies are relevant to the current Philippine context because students in provincial institutions experienced similar barriers in connectivity, learning resources, and institutional support.

In the Philippines, flexible learning was implemented through combinations of printed modules, digital materials, asynchronous tasks, online meetings, and learning management systems. Earlier Philippine studies reported that students struggled with unstable internet connections, limited gadgets, unclear instructions, heavy workloads, and difficulty communicating with teachers [11–16]. However, flexible learning also provided opportunities for continuity, self-paced learning, and teacher innovation when instructional materials were well designed and when teachers maintained active support.

The College of Teacher Education students at the Abra State Institute of Sciences and Technology experienced modular and online learning for two consecutive academic years during the pandemic. Their experiences are important because teacher education students are future educators who will later design learning experiences for diverse learners. Understanding how they evaluated modular and online learning can therefore inform both institutional improvement and teacher preparation in flexible learning environments.

This study analyzed students' experiences in the College

of Teacher Education (CTE) during the implementation of flexible learning, both offline and online. Also, this study examined differences in students' evaluations of their experiences with the said modalities. Furthermore, students' suggestions were taken into consideration to address their apprehensions about modular and online learning.

Specifically, this study sought to answer the following:

- (1) What is the evaluation of CTE students on their modular learning?
- (2) What is the evaluation of the CTE students of their online learning?
- (3) Is there a significant difference in the evaluation of the CTE students' modular learning experience across the different programs?
- (4) Is there a significant difference in the evaluation of the CTE students' online learning experiences across the different programs?
- (5) What are the suggestions of the CTE students to improve their modular and online learning?

II. LITERATURE REVIEW

A. Flexible Learning in Higher Education

Flexible learning was the immediate instructional response during the COVID-19 pandemic, enabling institutions to combine delivery modes to meet student needs and available resources. However, Hodges *et al.* [3] argued that emergency remote teaching should be understood as a crisis response rather than a fully planned online learning model. Similarly, Bozkurt and Sharma [2] emphasized that pandemic teaching required rapid adjustment under global uncertainty. These arguments suggest that students' evaluations of flexible learning should be interpreted within the context of emergency implementation rather than ideal instructional design.

Recent studies further emphasize that effective flexible learning requires well-designed digital materials, learner engagement, reliable access to technology, and appropriate institutional support [5, 17–19]. These factors collectively influence students' satisfaction, participation, and learning outcomes in flexible learning environments.

Studies on flexible and online learning show that its effectiveness depends on the alignment of pedagogy, technology, interaction, and institutional support [6, 20, 21]. Loon [22] and Veletsianos and Houlden [23] emphasized that flexibility involves more than convenience. It also concerns learner choice, access, timing, pace, and mode of participation. Therefore, flexible learning is a multidimensional system shaped by instructional design, teacher readiness, learner autonomy, technological access, and institutional support.

These studies suggest that flexible learning cannot be viewed only as an alternative instructional mode. Rather, it is a multidimensional system shaped by accessibility, instructional delivery, teacher readiness, learner engagement, and institutional support. Therefore, the effectiveness of flexible learning depends on how well schools balance continuity of instruction with meaningful interaction, organized learning materials, and equitable access to resources.

B. Modular Learning and Learner Autonomy

Modular learning is commonly used in contexts with limited internet access because it enables students to work with printed or digital self-learning materials. This modality is consistent with constructivist principles, which view learners as active participants in knowledge construction [24, 25]. However, learner autonomy in modular learning does not mean that students should be left unsupported. Rather, independent learning becomes effective when modules provide clear objectives, organized content, worked examples, appropriate language, and feedback mechanisms [25–30].

Research on modular learning in the Philippine context indicates that module clarity, manageable tasks, and teacher guidance are critical to student comprehension and performance [12–14]. Bustillo and Aguilos [12] described how the digital divide affected modular learning in the Philippine countryside, while Dangle and Sumaoang [13] reported implementation issues related to module distribution, instructions, and student support. These findings suggest that modular learning should not be treated as simple material distribution; it must be designed as a guided learning system.

C. Online Learning, Teacher Presence, and Engagement

Online learning provides opportunities for synchronous interaction, asynchronous communication, resource sharing, and flexible access to instruction. Its success, however, depends strongly on teacher presence and interaction. The Community of Inquiry framework explains that effective online learning requires teaching presence, social presence, and cognitive presence [31]. Teaching presence involves organizing instruction and guiding learning; social presence involves meaningful interaction; and cognitive presence involves learners' construction of understanding through reflection and inquiry.

Teacher presence is repeatedly identified as a major factor in online learning success. Bao [32] stressed the importance of organized online lessons and manageable activities, while Kearns [33] highlighted clear expectations, feedback, and communication in online assessment. Hrastinski [34] showed that synchronous and asynchronous communication serve different instructional purposes, while Picciano [35] emphasized the need to integrate pedagogical models in online education. Muthuprasad *et al.* [36] further found that students' value online learning when it is flexible, structured, and accessible. Thus, student satisfaction in online learning is influenced by instructional quality, accessibility, interaction, and technological support [37]. However, when students face weak connectivity, limited devices, inadequate digital skills, or reduced interaction, online learning can become stressful and less engaging [11, 15, 38, 39].

D. Equity, Technology Access, and Provincial Contexts

Flexible learning implementation also exposes structural inequalities. Kennedy *et al.* [40] showed that the quality of remote learning varied according to access and support. In developing and rural contexts, internet connectivity, device availability, household learning conditions, and institutional preparedness affect students' participation and achievement [7, 9, 11, 41]. Philippine studies similarly documented student difficulties related to poor signal,

financial constraints, lack of gadgets, unclear tasks, and reduced teacher-student communication [7, 8, 13, 16, 42].

These studies collectively indicate that evaluating modular and online learning must consider both instructional quality and access conditions. A learning modality may appear pedagogically sound, but its effectiveness may be weakened if students lack internet access, learning resources, feedback, or manageable workloads. Therefore, the present study treats student evaluation as an outcome shaped by instructional design, teacher support, learner autonomy, and access to technology.

E. Research Gap

Although many studies have examined either modular or online learning during the pandemic, few have compared the two modalities among teacher education students at a provincial state institution. There is also limited evidence on whether students from different academic programs evaluate modular and online learning differently. Addressing this gap can help teacher education institutions improve flexible learning systems, particularly in resource-constrained contexts.

F. Conceptual Framework

The conceptual framework of the study, shown in Fig. 1, illustrates how Constructivist Learning Theory, the Community of Inquiry Framework, and the Equity and Access Perspective inform the implementation of flexible learning through modular and online learning, which are then evaluated by students in terms of their experiences, program-based differences, and suggestions for improvement.

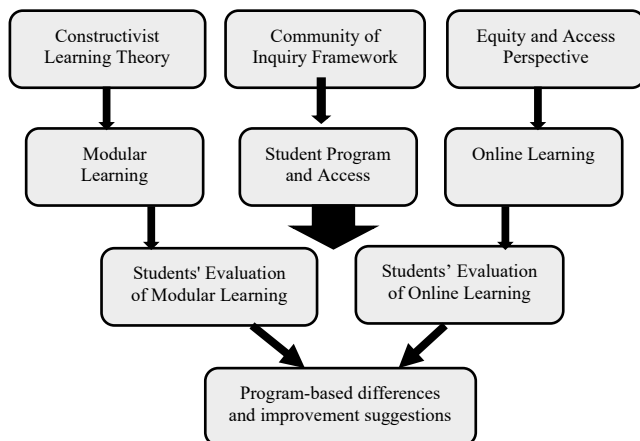


Fig. 1. Conceptual framework of the study.

III. MATERIALS AND METHODS

This section describes the research design, population, sampling technique, data-gathering instrument, procedure, and statistical treatment.

A. Research Design

This study utilized the descriptive-comparative research design. It described and evaluated the modular and online learning experiences of the CTE students. Also, it examined the significant differences in respondents' evaluations of their modular and online learning.

B. Population of the Study

The respondents in this study were third-year students

enrolled in the different programs of the College of Teacher Education (CTE) at ASIST Main Campus, Lagangilang, Abra. CTE college programs include the Bachelor of Early Childhood Education (BECed), Bachelor of Elementary Education (BEEd), Bachelor of Secondary Education (BSEd), Bachelor of Physical Education (BPE), Bachelor of Technology and Livelihood Education (BTLEd), and Bachelor of Science in Home Technology (BSHT). In total, 179 Third Year students participated in this study. Table 1 below presents the population of the respondents according to their respective programs:

Program	Number of Respondents
BECed	13
BEEd	88
BSEd	24
BPE	38
BTLEd	7
BSHT	9
Total	179

Total enumeration sampling was employed to include all accessible third-year students enrolled in the College of Teacher Education's programs. This approach ensured comprehensive representation of the target population and yielded 179 respondents.

C. Data Gathering Instrument

The study utilized a researcher-developed questionnaire based on an extensive review of the literature on flexible, modular, and online learning. To establish content validity, the instrument was evaluated by three education experts using the Content Validity Index (CVI). The instrument obtained a Scale-Level Content Validity Index Average (S-CVI/Ave) of 0.89, indicating excellent content validity. According to Polit and Beck [43] an S-CVI/Ave value of 0.80 or higher is considered acceptable for research instruments. A pilot test was subsequently conducted to assess reliability, yielding a Cronbach's alpha coefficient of 0.74, which indicated acceptable internal consistency. Parts I and II assessed the experiences of CTE students in their modular and online learning. Both parts of the questionnaire consisted of ten (10) indicators.

Parts III and IV analyzed the differences between the modular and online learning experiences of the CTE students. These parts were composed of ten (10) indicators as well.

Part V elicited the student-respondents' suggestions for improving the implementation of modular and online learning.

D. Data Gathering Procedure

The researchers sought written permission from the CTE Research Coordinator, the College Chairperson, and the Dean to conduct this study. The questionnaire was administered via Google Forms, and the survey link was distributed to respondents through their official Facebook Messenger group chats. The researchers tallied, analyzed, and interpreted the gathered data using appropriate statistical tools.

E. Statistical Treatment of Data

The collected data were organized, categorized, and analyzed using appropriate statistical tools. The mean was

used to determine students' evaluation of modular and online learning experiences. To determine whether significant differences existed in students' evaluations across academic programs, Analysis of Variance (ANOVA) was employed. The null hypothesis stated that there was no significant difference in students' evaluations of modular and online learning across academic programs. The alternative hypothesis stated that at least one academic program differed significantly in its evaluation. The hypothesis was tested at the 0.05 significance level. If the p-value was less than or equal to 0.05, the null hypothesis was rejected; if the p-value was greater than 0.05, the null hypothesis was retained. All statistical analyses were processed using the Statistical Package for Social Sciences (SPSS).

Additionally, qualitative responses from students' suggestions were analyzed using thematic analysis, grouping them into recurring themes such as communication, modality, content clarity, and learning delivery. These themes provided additional insights that complemented the quantitative findings.

IV. RESULT AND DISCUSSION

This section presents the survey results.

A. What Is the Evaluation of CTE Students on Their Modular Learning?

CTE students experienced modular learning, which provides self-paced access to instructional materials but depends heavily on clarity, structure, and usability. Table 2 below shows students' evaluations of the said mode of learning.

Table 2. Evaluation of CTE students on modular learning

Indicators	CTE	
	Mean	DR
1. The module format is simple, and I can easily follow.	4.15	O
2. The text and font size used are appropriate for me.	4.45	A
3. The design and layout of the module are attractive and pleasing to look at.	4.27	A
4. The printing is clear, and the binding is firm.	4.35	A
5. The lesson content is comprehensive and informative.	4.36	A
6. The concepts are supported with concrete examples, which help me understand better.	4.19	O
7. The illustrations, drawings, and diagrams sustain my interest and my focus to learn.	4.16	O
8. The activities engaged me in mastery learning and led me to independent learning.	4.24	A
9. I can answer the tests, prompts, and tasks in the modules because they have explicit directions and instructions.	4.29	A
10. The words used in the modules are understandable and at my own level of comprehension.	4.11	O
OVERALL	4.26	A

Legend:

Range: Descriptive Rating (DR)

4.21–5.00: Always (A)

3.61–4.20: Oftentimes (O)

2.41–3.60: Sometimes (SS)

1.81–2.40: Seldom (S)

1.00–1.80: Never (N)

Table 2 presents CTE students' evaluations of their experiences with modular learning. Based on the results shown in Table 2, the overall mean is 4.26, indicating "Always." The positive result of modular learning may

indicate that respondents developed adaptive self-regulated learning habits during the prolonged exposure to flexible learning. Furthermore, the results imply that students benefit from printed modules, as the materials were organized, readable, and aligned with their level of understanding.

Among the indicators, students gave high scores to the appropriateness of text and font size ($M = 4.45$) and the clarity of printing and binding ($M = 4.35$). The high evaluation of module design and readability, therefore, indicates that visually organized, learner-friendly instructional materials contribute positively to students' comprehension and engagement. This finding supports Constructivist Learning Theory, which emphasizes that structured and accessible learning materials facilitate independent knowledge construction. Similar findings were reported by Flores and Lopez [14], who emphasized that clarity and organization of modules significantly influence students' academic performance and learning motivation. The result implies that effective instructional design remains a critical component of successful modular learning implementation. Thus, prior research findings affirm that the effectiveness of modular learning depends largely on the quality and clarity of self-learning materials [14, 25].

On the other hand, lower ratings in interpreting instruction suggest that learner autonomy remained dependent on instructional clarity and teacher scaffolding. This result means that, while modular learning promotes autonomy, it also places a cognitive burden on students when instructional guidance is insufficient. These findings are supported by several studies reporting that students experienced difficulties interpreting tasks and managing learning independently due to limited teacher support and too many activities [2, 11, 27].

Modular learning provides students the opportunity to work independently, acquire knowledge and skills through the guidance of texts, and accomplish tasks independently. The students' evaluation of their modular learning shows how they thrive in their learning successes despite not being closely guided by their teachers. The modules they receive facilitate their acquisition of conceptual knowledge and guide them how to apply the information through the activities provided. Thus, modular learning led them to independent learning, which helped them master the competencies required for the subject.

B. What Is the Evaluation of the CTE Students of Their Online Learning?

CTE students evaluated their online learning experiences based on accessibility, engagement, and teacher support. Their perception is shown in Table 3.

Table 3 presents the evaluation of CTE students' online learning experiences. The results reveal an overall mean of 3.88, interpreted as "Oftentimes," indicating that students generally viewed online learning as a useful modality for continuing their education during the disruptions of face-to-face classes. Notably, a mean rating of 4.14 was observed in indicators related to teacher accessibility, and approachability with 4.23 rating, suggesting that teacher presence played a significant role in shaping positive learning experiences.

The result is strongly anchored to the Community of Inquiry (CoI) framework, which suggests that teachers'

presence influences student engagement and satisfaction in online learning environments. Thus, this pattern is supported by studies indicating that teachers' ability to provide timely feedback, clear instructions, and consistent communication appears to lessen some of the inherent limitations of online learning, particularly in contexts where students face technological constraints [1, 15].

Table 3. Evaluation of CTE students on online learning

Indicators	CTE	
	Mean	DR
1. I enjoyed our online classes.	3.70	O
2. I can fully participate in our online classes.	3.60	O
3. There is no problem with my internet signal during my online engagement with my classmates and my teachers.	2.94	SS
4. The instructions posted by my teachers are easy to follow.	4.10	O
5. The tests, prompts, and tasks designed by my teachers are engaging and challenging.	4.23	A
6. I am given ample time to finish my tasks before the deadline set by my teachers.	4.10	O
7. My teachers are accessible and always available when I have inquiries about my subject.	4.14	O
8. My teachers post the results of my responses to the assessment tests, prompts, and tasks regularly.	4.03	O
9. My teachers are approachable in dealing with my learning problems.	4.23	A
10. I can easily access links and URL addresses provided by my teachers as materials for learning.	3.71	O
OVERALL	3.88	O

Legend:

Range: Descriptive Rating (DR)
 4.21–5.00: Always (A)
 3.61–4.20: Oftentimes (O)
 2.41–3.60: Sometimes (SS)
 1.81–2.40: Seldom (S)
 1.00–1.80: Never (N)

On the other hand, the indicator “There is no problem with my internet signal” had the lowest average rating of 2.94, described as “Sometimes”. This result demonstrates that, for students, internet signal issues remain the most pressing digital learning obstacles, particularly in rural areas. Limited access to stable internet infrastructure significantly constrains students' ability to fully participate in synchronous and asynchronous learning activities. This finding is consistent with prior research highlighting connectivity issues as a primary barrier to effective online learning in developing contexts [8, 9, 30].

According to Bakıoğlu and Çevik [39], the main issue with computers was students' inability to use computer applications, which led to internet disconnections. According to the same study, students' inability to use a computer or the internet led them to participate in live courses less frequently, which, in turn, decreased their motivation.

Furthermore, while students generally appreciated teacher support, qualitative responses suggest that interaction in online environments remained limited. This evaluation reflects a gap between instructional delivery and meaningful engagement, where communication may exist but does not always translate into active participation or collaborative learning. This finding supports existing literature indicating that insufficient social presence can reduce students' sense of belonging and hinder deeper learning [15, 40].

To ensure that module contents are validated and clear, online learning must be conducted. The students' evaluation of the online learning proves that further deepening of the concepts provided in the modules is still needed which can be done through online learning. Here, students are able to further ask questions and validate their interpretations from the texts they read in the modules. On the other hand, the teachers can right away respond to the queries of the learners and further supply missed concepts.

Though the students claimed that poor internet connection challenged the conduct of online classes, their evaluation that teachers are approachable in addressing their learning problems indicated that guidance from their teachers is still essential. Furthermore, the limited connection was not a barrier to their participation in the online activities designed by their teachers.

C. Is There a Significant Difference in the Evaluation of CTE Students' Modular Learning?

Table 4. Significant difference in the evaluation of college of teacher education students on their modular learning

Indicators	F	Sig
1. The module format is simple, and I can easily follow.	1.030	0.402
2. The text and font size used are appropriate for me.	0.959	0.445
3. The design and layout of the module are attractive and pleasing to look at.	2.549*	0.030
4. The printing is clear, and the binding is firm.	0.171	0.973
5. The lesson content is comprehensive and informative.	1.066	0.381
6. The concepts are supported with concrete examples, which help me understand better.	1.621	0.157
7. The illustrations, drawings, and diagrams sustain my interest and my focus to learn.	0.740	0.595
8. The activities engage me in mastery learning and lead me to independent learning.	0.867	0.504
9. I can answer the tests, prompts, and tasks in the modules because they have clear directions and instructions.	1.222	0.301
10. The words used in the modules are understandable and at my own level of comprehension.	0.737	0.597
Overall	3.760*	0.003

*Significant Difference at 0.05 level

Table 4 presents the results of the Analysis of Variance (ANOVA) conducted to determine whether there are significant differences in students' evaluations of modular learning across the different CTE programs.

The ANOVA results indicated a statistically significant difference among the programs ($p = 0.003$), suggesting that students' evaluations varied across academic programs. This result suggests that students from different programs had varying perceptions of the modules' design and presentation. Thus, the significant difference in students' evaluations of modular learning across all programs suggests that module quality varies and is inconsistent across programs. This may have been attributed to how instructors prepared modules, designed activities, used examples, or organized printed materials.

The study's findings are supported by Barrot *et al.* [11], who found that remote education and learning experiences, as well as the learning outcomes of Filipino students, are influenced by the demand for academic work, instructional materials, and resource availability and clarity. Previous

research supports this interpretation, emphasizing that instructional design and resource availability significantly influence students' learning experiences in flexible learning environments [3, 31, 43].

Another research confirmed that distance education learning outcomes, experiences, and overall success depend on course design, instructional organization, and delivery. They argued that instructional design inconsistencies and inadequate planning and organization inhibit equitable distribution of learning across varied disciplines [30].

The existence of significant differences underscores the urgent need for standardization, coupled with quality assurance, in the development and implementation of modular learning materials across programs. Consistency in instructional design, clarity in guidelines, and equitable distribution of workload are all critical to ensuring that learning experiences are fair and effective for every student.

All indicators, except one, show parallel results on their evaluation of modular learning. It means that modular learning is one alternative to ensure learning continuity. In places where online instruction is not possible, a modular alternative is one of the best options. As evaluated by the students, the content is comprehensive, the activities are engaging, and the format is generally acceptable. Thus, modular learning provides learners with the window to re-read concepts and review the activities before finally submitting them to their teachers. When instructions provided are clear, printed texts are understandable, and examples are definite in the learning modules, modular learning can help students perform better.

D. Is There a Significant Difference in the Evaluation of CTE Students' Online Learning?

Table 5. Significant difference in the evaluation of college of teacher education students on their online learning

Indicators	F	Sig
1. I enjoyed our online classes.	1.431	0.215
2. I can fully participate in our online classes.	0.519	0.762
3. There is no problem with my internet signal during my online engagement with my classmates and my teachers.	1.984	0.083
4. My teachers' instructions are easy to follow.	1.628	0.155
5. The tests, prompts, and tasks my teachers designed are engaging and challenging.	2.484*	0.033
6. I am given ample time to finish my tasks before the deadline set by my teachers.	1.686	0.140
7. My teachers are accessible and always available when I have inquiries about my subject.	1.192	0.315
8. My teachers regularly post the results of my responses to assessment tests, prompts, and tasks.	0.815	0.541
9. My teachers are approachable when it comes to my learning problems.	0.450	0.813
10. I can easily access the links and URLs my teachers provide as learning materials.	0.815	0.541
Overall	1.054	0.388

*Significant Difference at 0.05 level

Table 5 summarizes the ANOVA results for students' evaluations of online learning, differentiated by program. The ANOVA ($F = 1.054$, $p = 0.388$) indicates no significant difference in students' overall evaluation of online learning across programs. This result shows that there is a general consistency in the experiences of students on online modality regardless of their specialization. This pattern aligns with

research showing that motivational and engagement profiles in online learning are influenced more by institutional and instructional design factors than by program type alone [17, 44]. Thus, student engagement and satisfaction in online courses can be consistent across different institutions when course design emphasizes independence and active learning, highlighting the role of engagement frameworks over contextual program variation.

On the other hand, the statement "The tests, prompts, and tasks designed by my teachers are engaging and challenging" demonstrated significant variance ($F = 2.484$, $p = 0.033$). This result indicates that, contrary to the other statements, teachers across programs varied their pedagogical and evaluative practices in online teaching. This is supported by research indicating that variations in teacher feedback and interaction patterns can yield differential engagement outcomes in online settings; for example, studies using epistemic network models demonstrate that the frequency and nature of teacher feedback significantly shape students' cognitive engagement during online courses [19, 45].

A similar evaluation of students' use of online learning indicates that students do not differ in their experiences across all instances of implementing this modality. It means that though students come from different contexts, the same level of experience was felt. Furthermore, students accept online learning as an alternative for acquiring competencies. They viewed online learning as another platform to express their ideas and explore other learning alternatives freely. It is evident in the consistent evaluation of the students that, outside the four corners of the classroom, their teachers remain supportive of their learning, providing clear instruction, patiently waiting for them to complete the task, and always available online for queries and needed assistance.

Therefore, the result suggests that while specific instructional elements, such as task design and teacher engagement may vary, the overall online learning experience is perceived similarly across programs. This highlights the importance of comprehensive measures of online learning satisfaction and outcomes to ensure uniformity across modalities while maintaining course quality and engagement structures.

E. What Are the Suggestions of the CTE Students to Improve Their Modular and Online Learning?

According to Kearns [32], all communication must be mediated through technology as a direct result of the physical separation between students and the instructor. Asynchronous technologies such as email, discussion boards, blogs, and wikis were widely used in the online classes examined in this study to facilitate student communication. On the other hand, students may struggle to keep up with the numerous postings across multiple groups and discussion boards, especially in classes where debate is sometimes weak. Table 6 shows students' suggestions for improving online and modular learning. The students' responses were categorized into themes: Communication, Modality, Content, and Learning Delivery.

As indicated in the Communication column, respondents proposed performing simple tasks and receiving step-by-step guidance. They also expect teachers to answer students' questions about the modules and to engage in active

correspondence with students. Additionally, students cited poor internet connection as a serious problem in remote classes. Even in this short class, students described several factors that inhibited learning. Barrot *et al.* [11] confirmed that a lack of guidance and instruction is a barrier to learning, specifically for remote learning, for students in the

Philippines. A lack of instruction was also a barrier in the studies conducted by Adedoyin and Soykan [38], as a lack of interaction and communication contributed to low participation and poor academic achievement in the online learning environment.

Table 6. Students' suggestions on flexible learning improvement

Theme	Main Student Concern	Sample Response	Suggested Improvement
Communication	Students need clearer instructions and teacher responses	"They should answer our questions."	Provide regular consultation and feedback channels.
Modality	Students prefer more interactive discussions	"Teachers should meet us in Google Class for more discussion."	Add scheduled online or blended discussion sessions.
Content	Students need simpler modules, clearer examples, and better illustrations	"Make the module simple."	Revise modules using simple language, clear examples, and visual aids.
Learning Delivery	Students need more time and a manageable workload	"Give more time to answer our modules."	Coordinate deadlines and reduce excessive tasks.
Technology Access	Students experience a poor signal and a lack of internet support	"We need a strong signal."	Provide internet support, offline alternatives, or flexible submission options.

Looking at the second column, modality, most students do not find modular learning very helpful. Some of them even proposed the imposition of face-to-face classes or, if not, the total maximization of the online mode so that they could better understand the lesson through the experience of teaching and learning. This result is consistent with Bao's [32] findings, which cited teacher motivation as an important factor in determining the effectiveness of online teaching. In this regard, Aristovnik *et al.* [4] stated that students from different countries preferred active learning over passive and self-directed learning, particularly because of the interest and assistance they received.

For the Content column, students want activities that are clearer and simpler to accomplish. Some also said they sometimes do not understand the module because the words are too broad or too deep. They also suggested that the illustrations should be clearer. This result aligns with [35], who found that students preferred learning materials that were better structured, simpler, easier to understand, and more appropriate to their level of understanding. Their study found that these characteristics, along with a clear, organized presentation of content, are essential in distance education.

Lastly, regarding Learning Delivery, students have asked for more time to complete their assignments and for more examples to clarify topics. This is consistent with Dhawan's study [45], which emphasized that instructional delivery should be flexible because students' needs vary, especially with technology at their disposal. This study also found that students' performance and mental health are adversely affected by inflexible due dates and heavy assignments in online learning.

Thus, flexible learning has multiple dimensions, and these findings indicate that integrating all components of effective communication, interactive instruction, streamlined learning materials, and flexible delivery is vital to advancing it. This will help build systems that are more inclusive, responsive, and learner-focused.

V. CONCLUSION

The College of Teacher Education students in this study report overall positive experiences with modular and online learning during the implementation of flexible learning. Modular learning promotes self-directed learning due to

organized teaching materials and structured tasks. Conversely, online learning creates teaching and learning interactions through easy communication and participatory teaching activities.

The study, however, has revealed some challenges, particularly due to the unstable internet connection that affects students' engagement in online learning activities. Moreover, a statistically significant difference was noted in students' evaluations of modular learning by program, reflecting the varied levels of instructional design and implementation. Nevertheless, no significant differences were noted in students' evaluations of online learning across programs, indicating that experiences were generally consistent.

The findings show that both modular and online learning supported instructional continuity during the pandemic. However, their effectiveness depended on the clarity of instructional materials, teacher support, manageable workload, and access to reliable technology. These results suggest that flexible learning should be strengthened through standardized module design, improved feedback systems, and institutional support for students with limited connectivity.

This study encounters several limitations that warrant consideration for future advancements. Primarily, the research was confined to CTE students at a single institution, potentially restricting the generalizability of findings on modular and online learning experiences to broader teacher education contexts in the Philippines. Additionally, reliance on self-reported student perceptions via questionnaires may introduce response biases, overlooking objective performance metrics or external validations. Future investigations could address these by expanding the sample across multiple institutions in diverse settings, such as urban and rural regions, and by integrating multi-source data, including module completion analytics, teacher observations, and pre-post assessments, to strengthen the validity of future findings.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Maria Rebecca B. Talledo conceptualized the research idea, designed the data gathering tools, processed the data, and collaborated with Ma. Lourdes Q. Bejarin on interpreting findings and drafting the conclusion. Franxes Ghia U. Tordil authored the methodology section. Donna Joy C. Valdez developed the rationale and theoretical framework. Ma. Lourdes Q. Bejarin further contributed to data interpretation, refinement of conclusions, and proofreading the entire paper. All authors reviewed and approved the final version.

ACKNOWLEDGMENT

The authors extend their sincere gratitude to the CTE students and faculty of Abra State Institute of Sciences and Technology for their enthusiastic participation and support during data collection, and to the anonymous reviewers for their insightful and constructive feedback, which significantly strengthened the manuscript.

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