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EVALUATION OF THE DEVELOPMENT AND IMPLEMENTATION OF THE LEARNER-CENTERED TEACHING MODULE FOR PRESERVICE TEACHERS

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ABSTRACT

Purpose – The study is aimed at evaluating the development and implementation of the Facilitating Learner-Centered Teaching module based on a pedagogical framework which follows the Plan-Do-Study-Act (PDSA) model developed by Cebu Normal University.

Methodology – Guided by a collaborative action research design, the study followed the PDSA cycle which included the iterative stages of planning, implementation, evaluation, and refinement. The development phase involved alignment with Outcomes-Based Education, TPACK, and Universal Design for Learning frameworks. The module underwent expert validation by two specialists in teacher education, who rated its compliance with design principles, theoretical grounding, and inclusivity standards. A pre-testing to assess clarity, content alignment, and usability of the module's use was then conducted with eight preservice teachers who had completed the course, Facilitating Learner-Centered Teaching. Their feedback was analyzed and integrated before the module's implementation in eight classes of second-year preservice teachers (N = 294) during the second semester of SY 2021–2022. Data were collected through expert evaluation forms, questionnaires, student performance records, and course feedback surveys. Quantitative data, including midterm and final exam results, were analyzed using descriptive statistics, while qualitative feedback was subjected to content analysis to identify recurring themes for improvement.

Findings – Student performance in midterm and final exams met the university's standards. In their evaluations, students identified the module's design and its facilitation of the learning experience as critical strengths, though they suggested improvements to foster a better understanding of the lessons covered in the course. The study concluded that the module's success was due to a robust pedagogical framework, expert input, and continuous feedback, making it though still an evolving tool, a valuable tool nonetheless. The module is a work in progress, continuously adapting to meet student needs, current educational demands, and teacher education standards.

Novelty – The study is a research-based development of instructional materials for the pre-service teacher training curriculum.

Significance – The study can contribute towards the professional development of teacher educators, preservice teachers, and instructional materials developers.

Keywords: Collaborative action research, Plan-Do-Study-Act (PDSA) model, facilitating learner-centered teaching course, flexible learning, learner experiences, preservice teachers.

INTRODUCTION

The COVID-19 pandemic has profoundly impacted education systems worldwide, forcing a rapid shift from traditional face-to-face learning to flexible and remote learning. This shift was aimed at ensuring the continuity of teaching and learning without compromising the health and safety of educators and students. At the onset of the said health crisis, the sudden cancellation of classes left both faculty and students unprepared, with widespread concerns about academic continuity, learning modality, appropriate assessment, and access to learning materials as the priority issues (Dayagbil et al., 2021). One of the critical adaptive strategies to address these challenges was the transition from conventional classroom instruction to online learning, a measure adopted by many countries worldwide. Implementing online courses presented challenges and opportunities, as an analysis of online sentiments during this period reveals (Sanchez et al., 2021). With its heavy reliance on technology and internet connectivity, flexible learning options, such as blended learning, modular learning, and asynchronous learning, were also adopted to ensure inclusivity.

In the Philippines, the Commission on Higher Education (CHED) issued guidelines on implementing flexible learning through CHED Memorandum Order (CMO) No. 4, s. 2020. This directive emphasized pedagogical flexibility in terms of time, place, and audience without solely focusing on the use of technology. The move towards flexible learning recognized that many students in the Philippines face higher levels of mental distress due to the limited financial capacity to acquire necessary gadgets and maintain internet connectivity (Alibudbud, 2021). As a developing and resource-scarce country, the government of the Philippines is cognizant of the reality that many students from lower-income households still needed to own laptops or desktop computers, and schools and students had limited access to stable internet connections. This technology disadvantaged students exhibited higher levels of COVID-19-related anxiety (Cleofas & Rocha, 2021). Many schools adopted modular distance learning to address the challenges resulting from the COVIC-19 pandemic by providing more inclusive access to education by allowing students to study using printed or digital Self-Learning Modules (SLMs) (Agaton & Cueto, 2021).

Flexible learning modalities refer to instructional design options that enable a more adaptive educational experience, accommodating issues related to pace, place, and space. One example of a flexible learning modality is modular distance learning, which uses self-learning modules (SLMs) and is particularly significant in the Philippine context. SLMs are designed for use in print or digital formats, allowing students to study independently and at their own pace, regardless of internet access limitations (Oranggaga, Saliha Dicasaran, 2022). Teacher Education Institutions (TEIs) in the Philippines have chosen SLMs as an alternative to purely online learning to address concerns about the availability and reliability of online services (Dayagbil et al., 2021). Research before the pandemic indicated that learning modules effectively bridge learning gaps and promote independent learning among students (Madrazo & Dio, 2020). During the pandemic, modules in asynchronous learning environments demonstrated additional advantages, including convenience and flexibility, easy access to learning materials, and enhanced active learning through activities such as threaded discussions (Pinar, 2021). However, a significant challenge remains in ensuring the quality of these modules before their implementation (Sewagegn & Diale, 2021 in Talimodao & Madrigal, 2021).

Despite the widespread use of self-learning modules during the COVID-19 pandemic, studies on modular distance learning have identified several limitations in the existing materials. Many modules were developed rapidly as emergency responses and were primarily content-driven, resulting in weak alignment between learning outcomes, instructional activities, and assessment tasks (Bozkurt & Sharma, 2020); Talimodao & Madrigal, 2021). Implementation challenges have also been documented, including limited opportunities for interaction and feedback (Dayagbil et al., 2021). In teacher education, these limitations need to be taken seriously as teacher training requires learning experiences that support pedagogical reasoning, reflective practice, and learner-centered instructional decision-making, which are conditions emphasized in the science of learning and development (Darling-Hammond et al., 2020). However, these were not consistently addressed in the existing modular materials. These concerns suggest that while modular learning ensured continuity of instruction, existing modules were not always pedagogically robust or responsive to the professional preparation needs of future teachers.

Table 1

Comparative Synthesis of Existing Modular Learning Materials in Teacher Education

Dimension	Typical Emergency-Developed SLMs	Documented Limitations in Literature	Implications for FLCT Module
Theoretical Foundations	Often implicit or absent	Weak grounding in learning theory; content-driven design (Bozkurt & Sharma, 2020; Talimodao & Madrigal, 2021)	Requires explicit integration of OBE, TPACK, UDL, and constructivist principles
Core Components	Primarily content explanations and activities	Limited scaffolding for pedagogical reasoning and reflection (Dayagbil et al., 2021)	Needs structured reflection, application, and research-based tasks
Delivery Mode	Modular/asynchronous	Minimal interaction and feedback mechanisms (Dayagbil et al., 2021)	Requires intentional design for guided independent learning

Taken together, existing studies on modular distance learning reveal consistent patterns across instructional materials developed during the pandemic. While these modules were effective in ensuring instructional continuity, they were largely content-driven, weakly grounded in explicit pedagogical frameworks, and limited in opportunities for interaction, reflection, and outcome-aligned assessment. When examined across common dimensions (see Table 1), previous modules underperform in addressing the professional learning needs of preservice teachers. These limitations suggest that simply adapting existing self-learning modules would be insufficient. Instead, a deliberately designed, theory-integrated, and empirically validated module is required to support learner-centered teaching competencies under flexible learning conditions.

Centers of Excellence for Teacher Education in the Philippines are pivotal in setting standards and serving as role models for other institutions in their local, regional, and national communities. These centers are responsible for undertaking initiatives to develop quality education in their specific disciplines (Commission on Higher Education, 2006). As part of their mandate to provide high-quality teacher education, these institutions have taken the initiative to develop options for teachers and students to address the challenges posed by the pandemic. For example, Cebu Normal University (CNU) responded to the need for quality flexible learning by designing research-based modules tailored for online and remote learning delivery across several professional education courses. These courses included the following: Foundation of Special and Inclusive Education, Building and Enhancing New Literacies across the Curriculum, Facilitating Learner-Centered Teaching, Assessment of Learning 2, Field Study 2, The Teacher & the Community, School Culture & Organizational Leadership, and the Teaching Internship. The CNU did not merely convert existing materials into a modular format. Instead, it developed new modules because the practical demands of flexible learning in teacher education require a coherent design.

The modules developed by the CNU are grounded in a robust pedagogical framework that integrates multiple theories and approaches to maximize learning outcomes. The CNU Pedagogical Framework draws on the principles of Outcomes-Based Education (OBE), the Technological, Pedagogical, Content Knowledge (TPACK) framework, the Universal Design for Learning (UDL), Gagne's nine events of instruction, and Constructivism. Each learning unit is meticulously designed to target specific learning outcomes while providing options for key players in education, especially teachers and students, who are considering the limitations brought about by the pandemic. There is also an emphasis on research and reflection at the end of each module chapter to foster creative and critical thinking, allowing learners to target a deeper understanding of the subject matter. Thus, the novelty of the crafted module lies in its integrated, theory-grounded, and empirically validated design for preservice teacher learning. It also addresses documented implementation constraints and quality risks observed in modular distance learning while targeting the specific competency demands of facilitating learner-centered teaching.

The effectiveness of flexible learning heavily relies on well-established pedagogical frameworks that guide content design and delivery. The Outcomes-Based Education (OBE) model has been used to ensure that teaching and learning activities align with the intended outcomes. On the other hand, the TPACK framework further enhances this approach by integrating technological knowledge with pedagogical and content knowledge, enabling educators to use technology effectively to support learning (Mishra & Koehler, 2006). The Universal Design for Learning (UDL) framework, on the other hand, encourages inclusive education by offering a variety of representational, interactive, and expressive tools to

accommodate a wide range of learners. Gagne's nine events of instruction offer an organized method for creating educational resources that support the steady development of knowledge and skills. Lastly, the overall approach is constructivist, which emphasizes active learning. The module seeks to expose students to experiences. It encourages them to make meaning of the learning content through introspection, with consideration of targeted outcomes, appropriate integration of technology with universal design, and sequencing aligned with Gagne's events of instruction. After careful deliberation, these frameworks were used to guide the module design.

Flexible learning has opened new avenues for ensuring continuity of learning during crises, but it also comes with considerable challenges. For one, there is a need to acknowledge the digital divide, especially in countries like the Philippines, where access to technology and the internet is unevenly distributed. As much as universities try to ensure that the quality of learning materials remains consistent for both the modular and blended learning interface, there is a need to admit that this is a challenging barrier to overcome. Future research can look into long-term impacts, including psychosocial ones. The results can be helpful not only to teacher educators, curriculum designers, and academics, but also to policy-makers and administrators. This can give insights into creating responsive support systems that promote mental well-being and success.

Driven by need, the rapid shift to flexible learning due to the COVID-19 pandemic has revealed the gaps that must be addressed to offer a more adaptable and inclusive education system. While implementing flexible learning modalities, such as modular distance learning and online education, presents challenges, it also offers opportunities to innovate and improve the quality of education. The experiences of institutions like Cebu Normal University in developing research-based learning modules are aimed at fostering evidence-based design of instructional delivery. More than just the crucial role of robust pedagogical frameworks in flexible learning delivery, it guides teachers to make decisions critical to student learning despite the pandemic crisis. As systems and people continue to evolve in response to global challenges, the insights gained from the pandemic can serve as a springboard for creating more resilient and inclusive learning environments for the future.

The present collaborative action research study was aimed at developing, implementing, and evaluating a learning module for the course *Facilitating Learner-Centered Teaching (FLCT)* in terms of design and implementation. The research team crafted a learning module for the course to aid educators and preservice teachers at teacher education institutions in improving instruction delivery through flexible learning. Specifically, the following questions were addressed:

1) How is the FLCT module validated by experts and preservice teachers participating in the pre-testing implementation?
2) How the teaching-learning experiences are facilitated through the FLCT module?
3) What is the preservice teachers' performance in the major exams for the FLCT?
4) What pedagogical implications can be drawn from the use of the FLCT module?

METHODOLOGY

This collaborative action research (CAR) employed the Plan-Do-Study-Act (PDSA) model to develop, implement, and evaluate a learning module for the course "Facilitating Learner-Centered Teaching." CAR is similar to participatory action research, in which researchers and practitioners, often the subjects or actors within the study, collaborate to identify issues and devise solutions (McIntyre, 2007 & Wimpenny, 2010 in Magnuson et al., 2020)). In this study, a team of dedicated teachers engaged in the process, contributing their insights and expertise to achieve meaningful outcomes (Riel, 2019). In addition, the PDSA process includes the following four general phases (Deming, 1986 cited in Magnuson et al., 2020): (1) Plan: identifying problems based on evidence and developing a solution; (2) Do: implementing the solution while tracking progress; (3) Study: analyzing the results to determine if the solution is adequate or if modifications are needed; and (4) Act: deciding whether to adopt, abandon, or adapt the solution based on the findings.

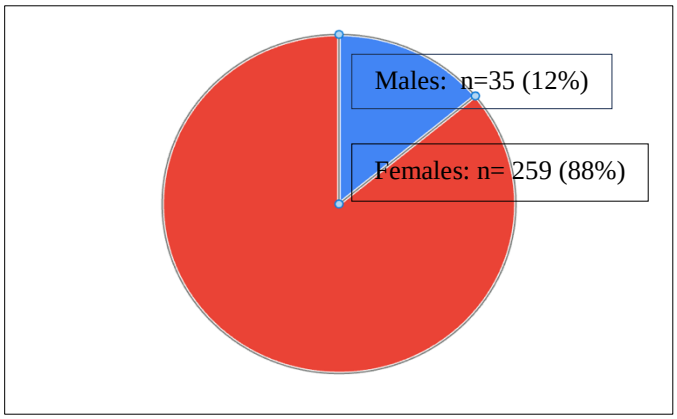
Using this structured approach, the current study developed a learning module tailored to the needs of preservice teachers operating within a flexible learning environment. Conducted between December 2021 and May 2022 at a teacher education institution in the Philippines, the research was aimed at developing a responsive and effective module to enhance the learning experiences of future educators in the evolving educational landscape.

The development of this module began with the researchers' review of existing course offerings that were aligned with the program's overall targeted outcomes and the standards and guidelines for teacher education, the current curriculum, and the available resources for the course. The results of this comprehensive review served as an anchor for the module, thus ensuring alignment with the expectations of graduates from the teacher education program. Following this initial phase, the research team sought validation from two experts to ensure the module adhered to the appropriate design principles and theoretical foundations. The experts evaluated the module's structure and format, guided by established educational theories such as Gagne's Nine Instructional Events (Kruse, 2009) and Constructivism (Harlow et al., 2007).

Furthermore, the experts assessed the content's alignment with the following three key educational frameworks: Outcomes-Based Education (OBE), the Technological, Pedagogical, and Content Knowledge (TPACK) framework, and the Universal Design for Learning (UDL). The researchers also asked the selected experts to consider the module's compliance with guidelines on Gender and Development (GAD) to ensure inclusivity and sensitivity. Revisions were then integrated.

Figure 1

Demographics of Second-Year Preservice Teachers



After several revisions, a pre-testing phase was conducted with eight preservice teachers who had already completed the course. This phase functioned as a pre-test rather than a formal pilot study. It was intended to check the clarity, usability, and alignment of the module with its intended pedagogical frameworks, as well as to identify ambiguous instructions or design issues (Sekaran, 2003). Feedback from this small group informed further refinements to the module prior to its large-scale implementation. The study did not aim to generate statistically generalizable findings at this stage, but rather to ensure the module's feasibility and instructional soundness before deployment in the main action research cycle. The selected preservice teachers were asked to complete a questionnaire evaluating the module's adherence to its theoretical frameworks and to provide their comments and suggestions for further enhancement. Based on their feedback, the module was refined once more before its implementation in eight classes of second-year preservice teachers (N=294) (See Figure 1). This iterative process ensured that the final module was theoretically sound, instructionally clear, and feasible for implementation in a flexible learning environment prior to its use with the full cohort of preservice teachers (N = 294). Total population sampling was used as all students who took the course were involved in the study.

The researchers, who were also teachers, collected the students' midterm and final exam scores and analyzed them using descriptive statistics to assess the preservice teachers' performance. The focus on significant examination scores was intentional, as these exams were based on a table of specifications precisely aligned with the module's intended learning outcomes. The researchers also examined critical activities within the module to analyze performance across chapters and understand which activities have facilitated teaching-learning.

Feedback from the module users was gathered via a Google Form. The respondents were the students who had participated in the study. They were asked to share what they considered the module's strengths and what areas could be improved. This feedback was subjected to content analysis to identify recurring themes and areas that required refinement. The researchers then gathered other relevant data, including student performance and feedback. Based on these results, improvements were again integrated into the module to enhance its effectiveness and ensure it met the learning needs of future preservice teachers in a flexible learning environment.

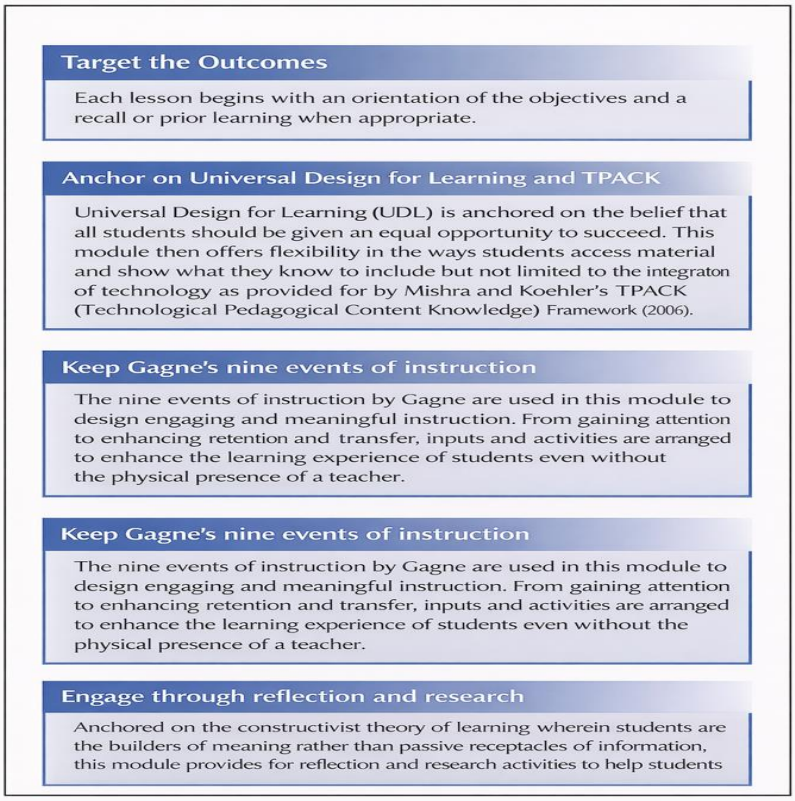
RESULTS AND DISCUSSION

Design and Validation of the Learning Module

The researchers thoroughly reviewed the program, standards, and guidelines for teacher education at the CNU, with a specific focus on the course "Facilitating Learner-Centered Teaching." In addition, they examined the current curriculum, previously used materials, and the latest research relevant to the course to identify the theoretical foundations for the module design (see Figure 2). Clear theoretical underpinnings on the teaching-learning philosophy that informs instructional decisions guided the module writers and evaluators. This helped ensure that everyone involved in creating these materials was on the same page and that the module writers, evaluators, and implementers have maintained coherence, cohesiveness, and consistency.

Figure 2

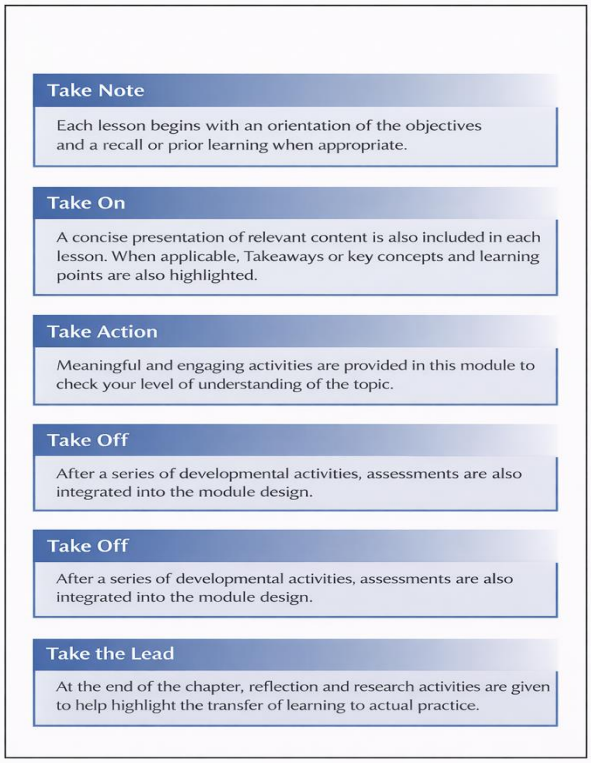
T.A.K.E. – The Theoretical Underpinnings of the Learning Module



The initial design of the module comprises 112 pages and is organized into four chapters, each containing two to four lessons. Every lesson is structured into four parts, with an additional activity concluding each chapter (see Figure 3). The module is designed to be completed within 54 hours, aligning with the total hours allocated for the course. Clearly outlining the theoretical underpinnings and the purpose of each part of the module helps preservice teachers actively facilitate their learning, even in the absence of a teacher. The parts of the module show the flow of activities and how each activity builds on the next.

Figure 3

Parts of the Learning Module



Expert Validation of the Module

Two experts reviewed the module in terms of its compliance with the format and design framework. The module was fully compliant with the format, including the module overview, course content, learning outcomes, learning experiences, enhancements, and references. Expert 1 rated the module as having average compliance with the Outcomes-Based Education (OBE), Technological Pedagogical Content Knowledge (TPACK), Universal Design for Learning (UDL), and Gender and Development (GAD) frameworks. In contrast, Expert 2 gave the module a high compliance rating, except in mapping specific lesson objectives and the appropriateness of assessment strategies to course outcomes, both of which were rated as average.

The experts' comments and suggestions for improvement were categorized into the following three areas: correcting errors, clarifying ideas, and enhancing content. Suggestions for correcting errors included addressing grammatical mistakes, ensuring alignment between content and assessment activities, completing all module sections, adhering to a standard referencing format, citing sources for images, and using only one action verb per intended learning outcome. Recommendations for clarifying ideas involved providing explicit instructions, adding introductory or bridging statements to improve coherence, and verifying that preservice teachers could complete activities remotely. To enhance the content, the experts suggested reviewing the length of the exercises, reconsidering the need to discuss Bloom's Taxonomy multiple times, and combining similar intended learning outcomes. Based on these suggestions, the research team revised the modules and proceeded with the pre-testing phase.

Pre-Testing of the Module

Eight preservice teachers were asked to use, read, and complete the activities in the module, with two preservice teachers assigned to each chapter. Their evaluations, summarized in Table 2, provided valuable guidance for the researchers in refining the modules. In this evaluation, concepts related to gender and development were integrated under the theme of Diversity and Inclusion. The preservice teachers were also asked to provide feedback on their satisfaction with the module's use, both quantitatively and qualitatively. Overall, the preservice teachers strongly agreed that the module adhered to the various evaluation parameters, except for the TPACK framework for Chapter 2.

Upon further review of the activities, the preservice teachers noticed that the use of technology could have been much higher for this chapter. This is due to the consideration that the preservice teachers only had limited access to gadgets and the internet. In summary, in the perception of the preservice teachers, the points for improvement are providing more explicit instructions, more illustrations to support the material, and better organization and discussion. After incorporating these revisions, the modules were further refined and implemented across eight classes of second-year students at the College of Teacher Education. This is necessary to ensure that the refined module will better meet learners' needs.

The Teaching-Learning Experience
The Perspective of the Faculty Members

The CNU faculty members believe that designing the module was both a great privilege and a special responsibility. The faculty members viewed the task with a sense of responsibility and accountability. There are challenges when designing modules, including knowing where to begin and how to best design in order to comply with the course and degree program standards. In a modular learning environment, learners should remain the center of attention, as they are the core of the educational process. Some questions that helped the faculty researchers in this journey include: *"How is it done, and what should be our guide in modular learning?*"

The faculty researchers also thought that teachers are bearers of innovation and sometimes backbreaking roles, but there is a need to maximize the preservice teachers' learning experiences. This reveals the teachers' struggles amid the crisis and how the ideals of the work need to be balanced against the realities they face. However, the course facilitators have been creative and innovative. According to Boholano et al. (2021), teachers quickly adapted to the shift from in-person to remote teaching, enhanced their ICT skills, and prepared for remote teaching.

The faculty researchers provided three relevant guides that would apply to any teaching course. The first step was to clarify the module's purpose. Modules had to have clear learning outcomes—statements of knowledge, skills, attitudes, and values that students were expected to achieve by the end of the course. Second, the constructive alignment of the teaching and learning activity and assessment was aligned with the intended outcomes. The choice of learning experiences and assessments made the learning experience more coherent and targeted. The third was to consider the course in context. Effective module design required taking into account the specific context of the course, including learners' backgrounds, available resources, and any challenges they might face. Overall, the faculty researchers found that designing the modules was a hugely rewarding experience.

Table 2

Preservice Teachers' Perceptions of the Learning Module

Chapter	Parameter	Perception	Over-all Assessment	Suggestions and Recommendations
1	OBE	SA (3.5)	All the topics were useful and relevant, and the activities made students think and brainstorm with others. The arrangement was logical, and the module was impressive.	None
	TPACK	SA (3.67)		
	UDL	SA (3.8)		
	Diversity and Inclusion	SA (3.67)		
	Satisfaction	SA (3.5)		
2	OBE	SA (3.83)	The module provided a wide array of options to cater to the varying capacities of students to participate in class. Group work also allowed the sharing of ideas and was appreciated. It is a guide for critical takeaways for future teachers.	More visual presentations, explanations on certain topics, and examples should be included to foster better understanding. Improve the organization.
	TPACK	A (3.17)		
	UDL	SA (3.6)		
	Diversity and Inclusion	SA (3.67)		
	Satisfaction	SA (3.8)		
3	OBE	SA (3.92)	Organized, comprehensive, achievable, and supportive of students learning. Assessments need improvement.	Clearer instructions and consider giving activities to take the lead that cater to multiple intelligences, and not just essays.
	TPACK	SA (3.75)		
	UDL	SA (4.0)		
	Diversity and Inclusion	SA (4.0)		
	Satisfaction	SA (3.9)		
4	OBE	SA (4.0)	The module was well-designed and helped to facilitate learning. It contained the needed information and assessment to facilitate growth personally and academically.	Include pictures, clip arts and other graphic illustrations.
	TPACK	SA (3.5)		
	UDL	SA (3.9)		
	Diversity and Inclusion	SA (4.0)		
	Satisfaction	SA (3.8)		

In implementing the module, the other actors in the learning environment also played their critical part. There were still scenarios in which preservice teachers found it challenging to meet task deadlines, and access certain materials which had been be limited at times. Some of the difficulties took time to anticipate at the design stage. In addition, although the module was designed to provide a variety of activities, conditions during the actual school year had continued to change, which would inevitably affect students' compliance. Beyond compliance, there continues to be discussion about students' learning quality. Although grades reflect performance as measured by the assessments, negotiation of these activities in the flexible learning environment raises questions about whether the students have captured the course's intended learning outcomes. There is a need for monitoring and evaluation during implementation to ensure interventions are implemented.

When implementing the module, the teachers conducted an orientation for the student teachers at the start of the semester and advised on how classes should proceed when using the module. If preservice teachers could not join the synchronous online classes, the module guided them through the activities. This helped to anchor the preservice teachers to the direction of the course. At the end of the semester, they were asked to provide feedback on the module's strengths and also the areas for improvement. Ultimately, while the design and implementation of modules presented particular challenges, they also offered opportunities to enhance learning experiences. By focusing on explicit purposes, constructive alignment, and contextual considerations and continuously adapting based on student feedbacks and changing conditions, educators can create modules that are not only effective, but also be transformative in fostering meaningful learning outcomes.

Qualitative Assessment of the Module by the Preservice Teachers

The pre-service teachers reported two significant areas of strength in the use of the module to facilitate learner-centered teaching. The team gathered 61 evaluations of the module. Regarding the module's strengths, there were nine initial codes for the analysis, which can be classified into two categories. The first strength refers to the module's design, which includes comprehensive discussions, clear content, valuable inputs, well-organized structure, appropriate activities, and ease of use. This can be seen in the remarks by respondent S38 who states,

> *"Students will not have to rely on educated guesses about what material will be presented in subsequent modules because they will have complete knowledge of the subjects discussed in each one."*

This implies that preservice teachers appreciate that the lessons are arranged to support coherence and that the needed information is presented logically. Furthermore, S40 adds,

> *"It also includes comprehensive details and content that may be readily and easily navigated through self-learning."*

This feedback highlights the importance of presenting materials clearly and easily understood without sacrificing coverage. The ability of students to pursue learning even in the absence of the teacher is crucial, so clear instructions must be in place, among other things.

The second strength identified pertains to facilitating the teaching and learning experience. This includes allowing sufficient time for students to complete assignments and activities, having an approachable teacher who supports and guides the learning process, and considering the context in which the module is used. This result reveals that, as much as the module itself is complete on its own, the supporting systems in the implementation must be present to ensure successful implementation. The mention of time highlights the consideration for pace, which varies from course to course, student to student, and context to context. It is almost impossible to cater to all the needs, but careful reflection as input to future design will be much needed for continuous improvement. Collectively, these factors enhance the overall effectiveness of the learning experience and contribute to a more supportive and engaging educational environment.

For areas requiring improvement, the 15 initial codes from the evaluations can be categorized into the following two main themes: Fostering Deeper Understanding and Improved Design. Fostering Deeper Understanding encompasses several vital suggestions, including incorporating real-life examples to illustrate concepts, providing explicit instructions to guide students, defining challenging terms to enhance comprehension, and including more detailed explanations. Additionally, feedback from the participants of the study emphasized the need for more illustrations to support the textual content and the provision of additional time to complete activities.

Suggestions on Improved Design focus on enhancing the module's overall usability and appeal. These include using fewer words and larger font sizes for better readability, improving content organization, and integrating engaging elements, such as fun activities and a wider variety of tasks. Recommendations also included refining assessment methods, correcting typographical errors, and reviewing the module's length to ensure it is manageable for students. For instance, S33 shared the following view,

"I think the organization of text so that it would be clean."

while S40 states,

"The module should add more illustrations or pictures to make it more alive and easier to understand."

The overall appearance of the module is also crucial for students, and therefore, the designers must pay careful attention to its visual presentation. A well-crafted module must be both functionally practical and visually appealing to engage students and facilitate their learning. Considerations such as layout, font size, color schemes, and visuals should be thoughtfully integrated to enhance readability and the user experience. By prioritizing the module's aesthetic aspects, module designers can create a more engaging and accessible learning resource that supports students' academic success.

Midterm and Final Examination Performance

During the second semester of SY 2021-2022, eight cohorts comprising 294 preservice teachers utilized the module. The average performance of these preservice teachers, as reflected in a 60% pass rate (see Table 3), suggests that the module effectively supported them in meeting the targeted outcomes of the course. Additionally, measures of central tendency indicate a symmetrical distribution of scores (see Figure 4 and Figure 5), suggesting that the module has been appropriately balanced in difficulty. This symmetrical distribution implies that the module has been both challenging and supportive of learning, providing a well-calibrated learning experience for the preservice teachers.

Table 3

Midterm and Final Examination Performance of Preservice Teachers

Measure	Midterm Examination	Final Exam
Mean	36.05	37.04
Median	36.00	37.00
Mo e	38.00	36.00
Standard Deviation	4.95	5.22
Kurtosis	0.47	0.03
Skewness	-0.17	0.01
Range	28	27
Minimum	22	23
Maximum	50	50

Notes. N=294

Based on the faculty researchers' observations, preservice teachers generally kept up with the assigned tasks for each lesson. However, some tasks proved more challenging than others. A notable example was the requirement for a recorded teaching demonstration, which many preservice teachers needed help with to complete on time. Recognizing the technological limitations faced by the preservice teachers and understanding the importance of this demonstration in showcasing their development of critical teaching skills, the faculty researchers decided to accept late submissions as a compromise.

It is also worth noting that some delays were attributed to the preservice teachers' commitment to submitting high-quality work. There were cases in which the preservice teachers asked permission to conduct demonstrations at neighboring schools, where it was allowed in order to demonstrate the best possible performance despite the constraints of the pandemic. This request was not from all the student teachers, as restrictions varied from one student teacher to another and cannot be interpreted to mean their lack of willingness to do more for students. Nevertheless, the extra effort exerted by some of the student teachers indicated that these preservice teachers appreciated the relevance of the assigned tasks. Such experiences highlight the importance of ensuring that module tasks are meaningful from the student teachers' perspectives, which could lead to enhanced motivation and engagement in learning.

The researchers conducted a detailed analysis of preservice teachers' performance by selecting one critical performance task from each module chapter for evaluation (see Table 4). This analysis only included preservice teachers who had submitted all required materials, meeting the deadline before the start of the analysis. Evaluating these critical tasks revealed that students achieved nearly perfect scores on most of the tasks. This outcome is further supported by the negative skewness of the scores, indicating that while most students performed well, a few performed poorly. This could mean that the activities the students were asked to do were relatively straightforward, or that they had, to some degree, mastered the intended learning outcomes for each chapter and met the assessment criteria set by the instructor.

However, it is essential to note that a passing percentage of 60% or lower for Chapter 1 suggests some challenges. The difficulty of the tasks or the preservice teachers' adjustment to remote instruction using the

module could have contributed to these lower scores. Chapter 1, focusing on effective teaching, included lessons on teaching philosophies and the characteristics of an effective teacher. The lower performance for this chapter might indicate that the content or format posed challenges for students. This could also be because everyone was still adjusting to the distance or remote learning environment, with little to no teacher presence, and the overall demands of module learning.

The module comprised five chapters, each designed to address critical aspects of teaching. Chapter 1 delved into effective teaching, covering the philosophies and characteristics of successful educators. Chapter 2 focused on effective communication for learning, with five lessons ranging from communication skills to the art of questioning. Chapter 3 was dedicated to lesson planning, equipping preservice teachers with skills to write instructional plans using classical and innovative methods, and consisted of four lessons. The final chapter, Chapter 4, addressed the use of instructional strategies, exploring assessment criteria for practical lessons and teaching skills, and contained three lessons.

Table 4

Performance Task Scores of Participant Preservice Teachers

	Chapter 1	*Chapter 2*	*Chapter 3*	*Chapter 4*
Mean	48.02	96.08	48.31	95.30
Standard Error	0.22	.36	0.17	0.40
Median	50	100	50	100
Mode	50	100	50	100
Standard Deviation	3.71	6.04	2.83	6.75
Sample Variance	13.75	36.45	8.01	45.60
Kurtosis	7.54	-0.35	0.40	-0.82
Skewness	-2.37	-1.15	-1.36	-0.95
Range	24	20	10	20
Minimum	26	80	40	80
Maximum	50	100	50	100

Notes. N=294

In its final form, the module was 112 pages long, including the cover page. It was designed to provide a comprehensive learning experience across these critical areas. The structured approach and detailed content were aimed at supporting preservice teachers in developing essential teaching skills and effectively applying them in their practice.

Pedagogical Implications of Module Use

Both the facilitators of learning and the preservice teachers were essential in assessing the effectiveness of the module use, especially the content presentations that informed pedagogical practice. As educators by profession, we find it challenging to analyze teaching and learning encounters in the module and to evaluate the process. One of the facilitators shared,

> *"I found making the templates for the module easy since the collaboration in crafting it made the task faster and lighter."*

This statement highlights the value of teamwork in the module development process. It underscores how collaboration among facilitators can streamline the creation of educational materials, making the task less burdensome and more efficient. This collective effort not only enhances the quality of the module, but also supports facilitators in delivering a more effective learning experience for the preservice teachers.

According to Pino et al. (2021), educators have encountered challenges in dealing with modes of delivery and stakeholder groups. The challenges made the facilitators vulnerable amid the crisis. It helps that a community supports the educator in the said task. One of the faculty researchers adds,

> *"I feel pressure to perform the necessary tasks that are increasingly prevalent in facilitators' conversations and widely accepted as a function of the profession."*

This statement underscores the mounting demands placed on educators and the pressure to meet these expectations. Monitoring teaching styles and self-awareness instruments dramatically helps enhance and continually improve the benefits for learners. Reflective thought is essential for both educators and learners. Facilitators who strive to be better should ask what, how, and why to teach to reflect on the use of powerful tools for the effective facilitation of learning.

Some chapters in the module for *Facilitating Learner-Centered Teaching* concluded by asking the students to reflect on their lessons. All the preservice teachers reflected on their insights to meet the teaching standards; however, how the reflection develops differs for one individual to another. As Farren (2008) has stated, integrating technology with active learning activities in the modular learning modality is important for realizing the potential of relevant experiences. Throughout their second year, the preservice teachers in the degree program were guided to inquire about their pedagogical practice and articulate their tacit knowledge about it. Considering the design, development, and demonstration of assigned tasks can provide substantial evidence for assessing teaching quality. The study by Richardson (2005) supports the idea that the use of formal instruments to measure students' evaluations and satisfaction have led them to perceive that they had good grades in the course. One of the faculty researchers asked the preservice teacher with the lowest grade about the struggle experienced, and the preservice teacher shared,

> *"I just think I got distracted by everything, such as my lesson planning not being polished and any other duties that come within."*

This statement highlights the impact of external pressures and distractions on academic performance, emphasizing the need for targeted support to help preservice teachers manage their responsibilities effectively and improve their learning experience.

As the faculty researchers reflected on their experiences with the development, implementation, and evaluation of the module, three significant pedagogical implications emerge. First, the choice of content, design of activities, and choice of assessments should be guided by theoretical underpinnings, especially in

remote learning. In the validation of the experts and the pre-testing of the implementation with the selected preservice teachers, very few comments on the design were made.

Second, not only is the module important, but how it is implemented makes a difference. Comments on having an approachable instructor and being given sufficient time for compliance highlight how the teacher factor affects the overall teaching experience. No matter how good the module is, if the teacher does not provide a nurturing environment, preservice teachers will be unable to maximize its benefits. Lastly, remote learning, especially the use of modules, is made successful by team effort not only among faculty members and students, but also by the institution's overall policy-making environment. The ability to extend deadlines and adjust instruction is a freedom that faculty members can experience only if the institution allows it. Furthermore, the faculty researchers noted that creating the module was relatively more straightforward as a team. The teacher must be supported no matter what modality is being used.

The results from the design, validation, and implementation stages show that the theoretical assumptions behind the FLCT module were effectively put into practice. When considering both expert ratings and preservice teachers' positive perceptions, this suggests a precise alignment that is crucial in outcomes-based education. Furthermore, the reported accessibility, flexibility, and ease of use of the module align with the principles of Universal Design for Learning, indicating that offering multiple ways to engage and express oneself supported preservice teachers' involvement. The inclusion of technology-based tasks and reflective activities also demonstrates the application of the TPACK framework, showing how pedagogical and content objectives were met without depending heavily on constant internet access. Overall, these findings support the idea that a thoughtfully designed, theory-driven module can promote learner-centered teaching in adaptable, modular learning environments.

This study goes beyond simply noting positive perceptions about the module used; it also contributes to the teacher education field by demonstrating how different pedagogical frameworks can be intentionally combined into a single modular design that enables flexible learning. Unlike many modules developed during the pandemic, which primarily served as content repositories, the FLCT module incorporated structured instructional sequences, reflective activities, and learner-centered tasks to enhance preservice teachers' pedagogical thinking. The results indicate that this integrated approach not only improves content comprehension, but also fosters the professional skills necessary for learner-centered teaching. In this way, the research builds on previous work on modular learning by illustrating how theory-based module design can fill existing gaps in pedagogical consistency and instructional support within teacher education programs.

CONCLUSION

In summary, the present study has found that the development, implementation, and evaluation of the module for Facilitating Learner-Centered Teaching was successful, the module has a strong pedagogical framework to anchor the design, expert module writers and educators to craft and implement it, and feedback from experts and preservice teachers to validate it. The module is a work in progress, continually considering the needs of students and the demands of the current context, and with due consideration of teacher education standards that must be met. Viewed collectively, the results demonstrate how theory-

informed module design, when paired with responsive implementation practices, can strengthen learner-centered teacher preparation in flexible learning contexts.

Further research on students' performance during their student internship can be conducted to determine whether the course competencies have been met. Lastly, the validated module used in this study should be made available for other educators.

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