Preservice Teachers' Reflective Practice and Self-Directed Learning in Teaching Practicum Experience: A Mixed-Methods Study

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Abstract

This mixed-methods study explores the role of reflective practice in fostering self-directed learning (SDL) among preservice teachers during their fully online teaching practicum experience. The study involved 230 students enrolled in the Graduate Diploma Program in Curriculum and Instruction at Sukhothai Thammathirat Open University. Data collection methods included pre- and post-practicum administration of the Self-Directed Learning Questionnaire (SDLQ), reflective journals (n=187), and semi-structured interviews (n=12). The quantitative data were analyzed using descriptive statistics and the qualitative data were analyzed from journals and interviews, which were subjected to thematic analysis. Quantitative results showed a consistent increase in motivation, self-monitoring, and self-management after the practicum. Thematic analysis of qualitative data revealed that structured reflection facilitated through teaching videos, mentor feedback, and peer interaction contributed significantly to SDL development. Contextual factors in the teaching practicum such as digital supervision platforms and structured self-assessment frameworks were also found to enhance engagement and personal growth. The findings emphasized the importance of integrating reflective practice into teacher education programs to build autonomy, metacognition, and professional identity aligned with lifelong learning.

Keywords: Reflective practice; Self-directed learning; Online practicum; Preservice teachers; Teacher education

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Introduction

Background and Research Problem

Self-directed learning (SDL) and reflective practice are essential components of teacher preparation, particularly during the practicum. SDL empowers learners to set goals, monitor progress, and evaluate outcomes (Knowles, 1975), while reflective practice encourages preservice teachers to analyze their teaching, improve instructional skills, and apply theory to practice (Schön, 1983; Gencel & Asuman, 2018). These competencies become especially critical at Sukhothai Thammathirat Open University, where the fully online Graduate Diploma Program in Curriculum and Instruction requires preservice teachers to complete a practicum while working at schools nationwide. In other words, preservice teachers in this program must balance autonomous learning with real-time teaching responsibilities. Using tools such as Microsoft Teams, they submit lesson plans, upload teaching videos, and participate in group supervision sessions. This format enhances accessibility and flexibility but also demands strong self-direction and sustained reflective engagement (Thabane, 2022).

Despite the importance of self-directed learning, notable variations in SDL competencies are evident. While some preservice teachers demonstrate effective planning and self-monitoring skills, others struggle with classroom expectations and maintain engagement. Research indicates that peer collaboration and the use of structured reflection tools can significantly enhance SDL (Li et al., 2024; Zhao & Lertlit, 2023). In contrast, the absence of adequate support structures may inhibit meaningful reflective practice and limit the development of autonomous learning behaviors (Weaver et al., 2022). Well-structured SDL interventions are therefore critical to supporting preservice teacher development (Garrison, 1997). However, reflection is not an innate skill; many learners require additional scaffolding and support to develop this capacity. Structured tools and self-monitoring strategies have been shown to improve SDL (Ambreen & Arif, 2022). Yet, despite increasing interest in the design of online practicum experiences, relatively few studies have examined how reflective practice specifically supports the development of SDL in fully digital environments.

Research Gap and Rationale

Although reflective practice and self-directed learning (SDL) are well-documented in teacher education, there is still little known about how they work together in fully online practicum settings. Most previous studies have focused on face-to-face or blended learning

formats, leaving limited evidence on how structured reflection-through video journaling, peer feedback, and digital supervision-supports SDL in asynchronous, technology-based environments. This study addresses that gap by exploring how reflective practice helps develop SDL and by identifying the contextual factors that influence this process in online teaching practicums.

Research Objectives

1. To examine the level of self-directed learning among preservice teachers in the teaching practicum.

2. To investigate how reflective practice in fully online teaching practicum settings promotes self-directed learning in preservice teachers.

3. To explore the contextual factors that influence the relationship between reflective practice and self-directed learning

Research Questions

1 . What is the level of self-directed learning among preservice teachers during the teaching practicum?

2. How does reflective practice in fully online teaching practicum settings contribute to the development of self-directed learning?

3. What contextual factors influence the relationship between reflective practice and self-directed learning?

Literature Review

Reflective practice, self-directed learning (SDL), and teaching practicum are essential elements in teacher education. They are closely linked and contribute to the professional development of preservice teachers. Many teacher education programs now emphasize the need for preservice teachers to reflect on their teaching experiences. This process helps them identify areas that need improvement and set personal goals. When applied during the practicum, reflection becomes more meaningful because it happens in an actual teaching context.

Reflective Practice in Teacher Education

The idea of reflection goes back to Dewey (1933), who described it as a careful and persistent process of thinking about beliefs and experiences. Later, Schön (1983) expanded this idea by introducing two types of reflection: reflection-in-action, which happens during teaching, and reflection-on-action, which happens after teaching. These concepts are useful because they help preservice teachers think about what they are doing and why, both during and after lessons. Based on observations from teacher educators, it has been found that many preservice teachers begin to see their strengths and weaknesses clearly when they engage in both kinds of reflective thinking.

Self-Directed Learning and Teacher Development

According to Knowles (1975), self-directed learning (SDL) is a process in which learners take full responsibility for their own learning by setting goals, selecting strategies, and evaluating their progress. This concept is particularly relevant for preservice teachers because they must learn to manage their professional development rather than depending solely on others. Garrison (1997) expanded on this idea by dividing SDL into three components : self-management, self-monitoring, and motivation. He also suggested that these three elements function together- for example, motivation helps preservice teachers stay committed, while self-monitoring allows them to think about what is working or not in their teaching.

Previous Research on Reflection and SDL in Teaching Practicum

Several studies support the idea that reflection helps to develop SDL among preservice teachers. Farrell and Kennedy (2019) showed that reflection helps student teachers to think more deeply about teaching. Similarly, Larrivee (2000) argued that critical reflection changes the way teachers see themselves and their roles. In a more recent study, Zhang (2020) found that even when in settings with limited institutional support, teachers can rely on self-directed reflection to improve their teaching effectiveness. Building on this evidence, researches also highlight how specific reflective tools and support mechanisms can actively promote SDL in practice. Structured tools such as reflective journals, peer feedback, and mentoring have been shown to support SDL quite well (Chinnapong & Pulsuwan, 2012; Mushayikwa & Lubben, 2009). These tools help preservice teachers to think clearly and set achievable goals. Du Toit-Brits et al. (2024) also noted that when student teachers take control of their own curriculum decisions, they develop stronger confidence and autonomy. In addition, (Loyens et al.,2008)

linked SDL with self-regulated learning, especially in problem-based learning contexts. Taken together with these studies and with my own observation, it is clear that structured reflection should be an important part of the practicum because it supports both thinking and doing.

Conceptual Framework

This study is grounded in a conceptual framework that brings together reflective practice and SDL in the context of online teaching practicum. Since many teacher education programs now include online components, it is important to understand how reflection and SDL can be supported in this digital learning environment. To frame reflective practice, this study draws on Schön's (1983) theory of reflection, which used as the basis for understanding how preservice teachers think about their teaching. In the online practicum, these preservice teachers use tools such as video recordings, peer and mentor feedback to reflect on what they did well and what they could improve. According to observations from online practicum supervision, these tools encourage preservice teachers to become more thoughtful and intentional in their teaching decisions. Furthermore, this study applies to the works of Knowles (1975) and Garrison (1997) that define SDL as a process that involve setting goals, planning activities, and evaluating outcomes. These are tasks expected of preservice teachers throughout the practicum. Many of them use personal learning plans or checklists to track the progress of their development, which directly reflects the self-management and self-monitoring aspects of SDL. Importantly, this framework acknowledges the reciprocal relationship between reflection and SDL support each other. As explained by Loyens et al. (2008), students who are more self-directed tend to reflect more effectively, and those who reflect regularly often become more self-directed. In this study, the online platform-Microsoft Teams-is used to support various reflection practices, such as private journaling, peer discussion, and supervisor feedback. These structures provided a supportive environment in which preservice teachers could reflect deeply and take increasing ownership of their professional learning.

In summary, this framework assumes that structured reflection, when supported by digital tools, plays a significant role in fostering preservice teachers to become more self-directed, especially in the unique context of online teaching practicum. This approach may be especially useful for teacher education programs that are shifting toward blended or fully online models. The study's conceptual framework is visually represented in Figure 1

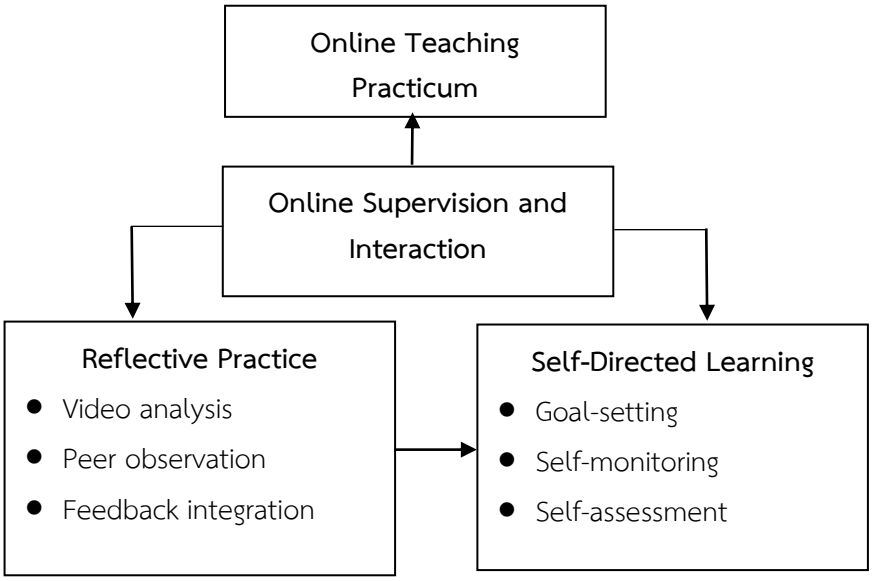


Figure 1 Conceptual Framework
Source: Developed by authors

Research Methodology

Research Design

This study adopted a mixed-methods research design to explore the relationship between reflective practice and SDL among preservice teachers in an online practicum context. Both quantitative and qualitative data were collected and integrated to provide a comprehensive understanding of the phenomenon.

Participants

The study involved first-year preservice teachers enrolled in the Graduate Diploma Program in Curriculum and Instruction at Sukhothai Thammathirat Open University. Of the 280 preservice teachers who attended this program and invited to participate, 230 responded and completed the SDLQ survey, representing approximately 82% of the target population. From this group, 12 participants were selected using a purposive sampling technique. Participation in the interview phase was entirely voluntary. I invited preservice teachers through the course platform, and those who were interested agreed to take part. Each interview was conducted by another assistant professor who is not a part of this research and is not involved in the graduate diploma program in Curriculum and Instruction. Before each interview, the interviewer

explained the purpose of the study and asked their consent to participate as well as reassured that anonymity and confidentiality of the interviewees were maintained throughout the study.

Reflective Practice Activities in the Fully Online Teaching Practicum

The teaching practicum activities in Course 20596 (Phrase 1) of the Graduate Diploma Program in Curriculum and Instruction at Sukhothai Thammathirat Open University were intentionally designed to foster reflective practice in fully online settings. These activities served to cultivate self-awareness, critical reflection, and continuous improvement among preservice teachers. Below is a summary table (Table 1) outlining the core practicum activities, key tasks/ implementation, and modes of reflective engagement.

Table 1 Reflective Practice-Oriented Activities in the Fully Online Teaching Practicum

Activity	Key Tasks / Implementation	Modes of Reflective Practice
1. Orientation and Individual Learning Plan	- Attending online orientation - Completing initial self-assessment of teaching competencies - Developing a personalized learning plan	Self-evaluation of readiness; goal setting; reflective planning on strengths and needs
2. Learning from Peer Teachers	- Analyzing video recordings of expert/peer teachers - Completing reflective worksheets focusing on instructional design, teaching behavior, and student engagement	Peer-modeling reflection; critical comparison; identification of transferable teaching strategies
3. Discovering Self as a Teacher	- Recording 1–2 hours of own teaching - Reviewing and analyzing teaching video - Completing self-reflection journal and identify strengths and areas for development	In-depth video-based self-analysis; recognition of teaching patterns and critical incidents
4. Lesson Design and Planning	- Observing mentor’s teaching practices	Dialogic and iterative reflection; collaborative critique with

Activity	Key Tasks / Implementation	Modes of Reflective Practice
	- Co-designing 6–8 hours of lesson plans - Submitting lesson plans for feedback - Revising lessons plans based on suggestions	mentors and supervisors
5. Practicing Teaching and Post-Teaching Reflection	- Conducting 6–8 hours of real teaching - Recording at least one lesson for supervision - Analyzing student responses and instructional delivery - Submitting post-teaching reflection form	Real-time self-assessment; problem identification; guided reflection on instructional impact
6. Teaching Supervision and Group Presentation	- Presenting teaching video in supervision session - Sharing experiences with peers - Receiving and responding to supervisor's feedback	Group-based dialogic reflection; peer-supported feedback integration; reflection-in-action
7. Final Reflection and Self-Evaluation	- Completing final teaching competency self-assessment - Reflecting on personal growth during the practicum - Planning next steps for teaching development	Summative metacognitive reflection; personal synthesis of learning experience; professional goal setting

Instruments

1. Self-Directed Learning Questionnaire (SDLQ): A 14-item Likert-scale instrument adapted from Garrison (1997), was used to assess students' self-management, self-monitoring, and learning motivation. Its quality was validated by three experts with a range of 0.67-1.00, and it demonstrated high reliability with a Cronbach's alpha coefficient of 0.94

2. Reflective Journals: 187 out of 230 participants submitted at least two reflective journal entries throughout the practicum, documenting teaching experiences and responses to feedback.

3. Semi-Structured Interviews: Conducted with 12 selected participants to gather in-depth insights into reflective strategies, challenges, and perceptions of SDL development.

Data Analysis

Quantitative data were analyzed using descriptive statistics to compare SDLQ scores before and after the practicum. Qualitative data from reflective journals and interviews were analyzed through thematic analysis, which involved coding and grouping the information to find common patterns related to reflection and self-directed learning. The triangulation was used to make the findings more reliable. To increase the accuracy of the qualitative findings, member checking was also used. This helped confirm that the findings were trustworthy and based on what participants really meant.

Research Result

To present a clear understanding of the research outcome, the results are organized into two sections: quantitative findings, which show changes in self-directed learning (SDL) levels before and after the practicum and qualitative findings, which explore how reflective practice contributed to the development of SDL among preservice teachers and the contextual factors influence the relationship between reflective practice and self-directed learning.

Quantitative Findings

Data were collected from 230 preservice teachers using SDLQ. The objective of this research was to assess the level of SDL among preservice teachers in the teaching practicum, focusing on three main components: learning motivation, self-monitoring, and self-management.

The quantitative findings revealed that preservice teachers demonstrated high to very high levels of SDL across all three domains. Motivation: Increased from a mean of 4.10 (SD = 0.67) to 4.26 (SD = 0.63), shifting from a "high" to a "very high" level. Self-Monitoring: Improved from 4.05 (SD = 0.66) to 4.44 (SD = 0.63), also showing a shift from "high" to "very high." Self-Management: Increased from 4.20 (SD = 0.65) to 4.47 (SD = 0.65), indicating development from "high" to "very high."

These results suggested that the structured, fully online practicum-designed with supportive reflective activities and supervision that effectively supported the development of SDL.

Table 2 The level of SDL among preservice teachers in the teaching practicum focusing on three main components

Dimension	Pre-Practicum Mean (SD)	Interpretation (Pre)	Post-Practicum Mean (SD)	Interpretation (Post)
Motivation	4.10 (0.67)	High	4.26 (0.63)	Very High
Self-monitoring	4.05 (0.66)	High	4.44 (0.63)	Very High
Self-management	4.20 (0.65)	High	4.47 (0.65)	Very High

Qualitative Results

This study employed a thematic analysis approach to analyze qualitative data collected from interviews with 12 preservice teachers and reflective journals submitted by 187 participants who completed a fully online teaching practicum. The aim was to investigate how reflective practice contributed to the development of SDL, how preservice teachers engaged in such practice, and the contextual factors influencing this relationship. Three major themes emerged: (1) Contribution of Reflective Practice to SDL, (2) Engagement in Reflective Practice to Enhance SDL, and (3) Contextual Factors Influencing Reflective Practice and SDL.

1. Contribution of Reflective Practice to Self-Directed Learning

This major theme highlighted how reflective practice functioned as a transformative process that enabled preservice teachers to become more aware of themselves as educators, develop practical teaching strategies, and begin constructing their professional identities. Through structured reflection, participants reported changes in their perspectives, increased motivation to improve, and gained a deeper sense of professional growth. The data analysis revealed three themes.

Theme 1.1: Awareness and Self-Development through Reflection

Participants described how reflection allowed them to observe their own teaching behaviors and recognize both strengths and areas for improvement. Reviewing teaching videos and writing reflective journals helped them understand their classroom decision-making processes and promoted a more conscious approach to teaching. This increased awareness contributed to greater self-confidence and encouraged proactive learning.

Theme 1.2: Promoting Self-Directed Learning through Planning and Management

Reflective tools such as individual learning plans (ILPs) enabled preservice teachers to plan ahead, manage time effectively, and monitor their own progress. Participants stated

that such tools helped them stay organized and take responsibility for their tasks-behaviors aligned with the characteristics of self-directed learners.

Theme 1.3: Learning and Developing Specific Teaching Skills

Participants reported that reflection contributed to the development of specific teaching competencies, including lesson planning, questioning techniques, and classroom management. By reflecting on their teaching actions and student responses, they were able to adjust and improve their instructional methods toward more learner-centered practices.

The following table 3 provides selected examples of participant responses that illustrate each theme and sub-themes:

Table 3 Sample of participants' responses by theme and sub-themes of contribution of reflective practice to self-directed learning

Theme	Sub-Themes	Sample Response
Awareness and Self-Development through Reflection	Identifying Strengths and Areas for Improvement	Watching videos of myself and my peers helped me realize what still needs improvement in my teaching. (Reflective journal)
	Applying Feedback and Reflections to Improve Practice	After receiving feedback from my supervisor, my teaching clearly improved. (Interview)
	Developing Confidence and Professionalism	I feel that I have improved a lot and become more confident in teaching. (Interview)
Promoting SDL through Planning and Management	Using Individual Learning Plans as Tools	I used the personal learning plan as a calendar for managing and tracking tasks… It helped me become more disciplined. (Reflective journal)
	Developing Planning and Instructional Design Skills	Reflective practice helped me improve lesson planning and design appropriate learning activities. (Reflective journal)
	Building Discipline and Responsibility	I managed my time well each day and was able to accomplish tasks as planned. (Reflective journal)
Learning and Developing Specific Skills	Learner-Centered Instructional Management	Switching to an inquiry-based approach made students more excited and eager to participate in every class. (Interview)
	Communication and Interaction Skills	I can now explain things more clearly and ask better questions during class. (Reflective journal)

2. Engagement in Reflective Practice to Enhance Self-Directed Learning (SDL)

This major theme explored how preservice teachers engaged in various reflective methods and how those approaches contributed to the development of self-monitoring, problem-solving, and metacognitive regulation-key components of self-directed learning. The data revealed three themes that illustrate the meaningful role of reflection in shaping professional learning behaviors.

Theme 2.1: Reflective Engagement with Planning and Teaching Practice

Preservice teachers used reflective journaling and teaching video analysis to observe, evaluate, and revise their instructional approaches. These tools allowed them to carefully plan their teaching tasks, organize lesson submissions, and make timely adjustments. Participants reported that these reflective strategies encouraged them to become more organized and better prepared for real teaching situations.

Theme 2.2: Reflective Tools and Feedback Loops

Structured reflection tools such as teaching video analysis, feedback from supervisors, and peer discussions facilitated deeper reflection and self-evaluation. Participants recognized that reviewing their own teaching, as well as receiving input from others, helped them identify their strengths and weaknesses and refine their teaching strategies accordingly.

Theme 2.3: Development of SDL Dispositions

Through sustained reflective practice, preservice teachers began to exhibit core dispositions associated with SDL, including autonomy, responsibility, and intrinsic motivation. They gained confidence in their teaching abilities and became more capable of solving real classroom problems independently. Reflection thus contributed not only to technical skills but also to professional identity formation and self-efficacy.

The following table 4 provides selected examples of participant responses that illustrate each theme and sub-themes:

Table 4 Samples of participants'responses by theme and sub-themes of engagement in reflective practice to enhance self-directed learning (SDL).

Theme	Sub-Themes	Sample Response
Reflective Engagement with Planning and	Improved Instructional Planning and Design	It allowed me to plan my tasks and prepare for submissions... including designing instruction and

Theme	Sub-Themes	Sample Response
Teaching Practice		writing lesson plans. (Interview)
	Diversified Teaching Methods and Media	My teaching became more diverse-for example, games, flashcards, and educational TV. (Reflective journal)
	Learner-Centered Awareness	Watching the video helped me see how students responded... I became more self-aware and improved my teaching. (Interview)
	Peer and Supervisor Feedback	Supervision revealed my strengths and weaknesses, and peer perspectives helped me improve further. (Interview)
	Self-Review through Teaching Videos	The video helped me see what I did well and what needed fixing... I learned from myself. (Interview)
Development of Self-Directed Learning Dispositions	Responsibility and Time Management	It helped me become more responsible and better manage my time for teaching and assignments. (Interview)
	Motivation and Confidence Building	I feel more confident in teaching and more like a real teacher. (Interview)
	Research Awareness and Problem Solving	Analyzing classroom problems allowed me to identify real issues and resolve them directly through research. (Interview)

3. Contextual Factors Influencing the Relationship Between Reflective Practice and SDL

This theme addressed the external and internal factors that influenced how preservice teachers engaged in reflective practice and how these influences contributed to the development of SDL. The findings suggested that institutional support, structural design, and individual contexts were all essential in shaping reflective depth and effectiveness. Three themes were identified under this category.

Theme 3.1: Guidance and Supervision

Support from mentors and supervisors played a key role in facilitating meaningful reflection. Rather than offering direct solutions, mentors often posed thought-provoking questions

that encouraged preservice teachers to analyze their decisions critically and reflect more deeply. This form of scaffolded guidance promoted independent thinking and self-assessment.

Theme 3.2: Structure and Learning Design

The design of the teacher education program-including required reflection forms, submission schedules, and designated reflection periods-provided a structured routine that sustained reflective engagement. These tools helped preservice teachers to focus their reflection on relevant teaching experiences and to revisit specific classroom events systematically.

Theme 3.3: Personal and Environmental Conditions

Individual experiences and specific teaching environments also shaped how preservice teachers engaged in reflection. Participants reported that diverse student needs and real classroom challenges prompted them to think more critically about their instructional decisions. These authentic teaching contexts encouraged adaptive thinking and problem-solving-essential attributes of SDL in real-world practice.

Selected participant responses illustrating themes and sub-themes are summarized in Table 5.

Table 5 Samples of participants' responses by theme and sub-theme of contextual factors influencing the relationship between reflective practice and SDL

Theme	Sub-Themes	Sample Response
Guidance and Supervision	Supervising Professors' Feedback	Supervision from my academic advisor helped me identify my strengths and weaknesses to improve my teaching practice. (Interview)
	Peer Learning and Exchange	I gained diverse teaching ideas from observing peers in different schools. (Interview)
	Post-Supervision Reflection	Reflecting on each lesson helped me understand what I did well and what I needed to improve. (Interview)
Structure and Learning Design	Use of Individual Learning Plans	The individual learning plan helped me manage myself and submit work on time. (Interview)
	Opportunities for	Filming my teaching showed me where to

Theme	Sub-Themes	Sample Response
	Structured Reflection	improve, and I became more self-directed in enhancing my skills. (Interview)
	Support Resources and Models	I reviewed sample lesson plans because it was my first time designing one myself. (Interview)
Personal and Environmental Conditions	Prior Experience and Confidence	Studying helped boost my confidence that I could truly become a teacher. (Interview)
	Time Management and Responsibility	I prioritized tasks to submit them before the deadline. (Interview)
	Interactions with Peers and Mentors	Peers also gave me feedback and reflections, which helped me improve. (Interview)
	Real-World Teaching Challenges	I had three students with ADHD and one with autism, which required me to adjust my teaching accordingly. (Interview)

Integrated Analysis of Quantitative and Qualitative Findings

The integration of quantitative and qualitative findings offers a comprehensive view of how reflective practice fosters SDL among preservice teachers. Quantitative results from 230 participants revealed significant gains across three SDL domains-motivation, self-monitoring, and self-management-with all moving from “high” to “very high” after a fully online practicum. While Qualitative data illuminate how these gains were achieved. Participants reported that reflective activities boosted their confidence and strengthened their teaching identity, which corresponds with the observed rise in motivation scores. As one participant explained, *“I feel more confident in teaching and more like a real teacher*.” Similarly, self-monitoring was supported by tools such as journals, learning plans, and teaching videos, which helped participants identify strengths and areas for improvement. As another shared, *“The video helped me see what I did well and what needed fixing… I learned from myself.”*

Improvements in self-management were linked to time management and planning skills, also fostered by structured reflection. One student shared, *“I used the personal learning plan as a calendar… It helped me become more disciplined.”* In addition, contextual supports

such as peer collaboration, mentor feedback, and the challenges of real classroom teaching further strengthened SDL. Overall, reflective practice emerged as a core mechanism for cultivating motivated, self-regulated, and resilient educators.

Discussion

This study explored how reflective practices within a fully online teaching practicum contributed to the development of SD competencies among preservice teachers. The integration of quantitative and qualitative data provides compelling evidence that reflection functions not only as an instructional strategy but also as a developmental process that supports the growth of autonomous, self-regulated learners.

The quantitative analysis showed statistically significant improvements in participants' motivation, self-monitoring, and self-management from pre- to post-practicum. These improvements indicate that a well-structured online practicum can successfully foster autonomy in learning, even in the absence of traditional face-to-face supervision. These findings are consistent with the work of Garrison (1997) and Knowles (1975), who emphasized that SDL is most effective when learners take responsibility for managing and evaluating their own learning processes - principles that remain applicable in digital learning environments. Complementing these findings, the qualitative findings provide insight into the processes that facilitated these developments. Participants described how engaging in structured reflection-through journaling, teaching video analysis, and receiving constructive feedback-helped them identify areas for improvement, revise lesson plans, and enhance their classroom strategies. Reflection, in this context, was not seen as a separate activity, but rather an integral part of instructional decision-making and self-assessment. This echoes findings by Farrell and Kennedy (2019), who suggested that guided reflective practice enhances pedagogical reasoning and professional confidence. Furthermore, participants' descriptions revealed a strong connection between reflection and the deepening of SDL capabilities. As participants reported that through regular reflective tasks, they became more intentional in planning, more adaptive in their teaching, and more capable of evaluating their own performance-traits associated with metacognitive development and professional responsibility. This finding aligns with Etscheidt et al. (2012), who highlighted the importance of guided reflection in promoting metacognitive awareness and instructional improvement.

Contextual factors support also played an important role in shaping reflective engagement. Mentor guidance, peer feedback, and exposure to diverse teaching challenges provided essential scaffolding that helped participants gradually build autonomy. These supports align with Vygotsky's (1978) sociocultural theory, which highlights how learning is mediated through guided interaction and social context. In addition, the findings affirm the relevance of learner agency and autonomy, as discussed by Knowles (1975) and Van Lier (2004), particularly in online settings where structured support is necessary. While some scholars have raised concerns about the reflective depth achievable in virtual environments (Brookfield, 2017), others such as Suphasri and Chinokul (2021) have demonstrated the potential of digital tools can support meaningful reflective thinking, especially when accompanied by effective supervision and feedback.

Importantly, the findings also reflect the ethical and critical dimensions of reflective practice. Several participants reported that reflection helped them reconsider their teaching values and adjust to students' diverse needs. This is in line with Larrivee (2000) and also consistent with Weaver et al. (2022), who found that structured reflection tools help teachers improve instructional quality. Choy et al. (2021) similarly emphasized the importance of teacher self-awareness and assessment in linking reflection with SDL.

In summary, the findings demonstrate that reflective practice, when embedded in online practicum experience, is as a powerful vehicle for developing SDL. It fosters ownership of learning, adaptability in teaching, and the formation of professional identity. The results support the integration of structured reflection and mentoring as essential components of effective teacher education.

Conclusion

This study confirmed that reflective practice plays a pivotal role in cultivating self-directed learning competencies among preservice teachers in an online practicum context. Quantitative data showed measurable growth in motivation, self-monitoring, and self-management, while qualitative data illustrated how participants engaged in reflection to support their evolving professional identities and classroom practices. By utilizing tools such as feedback, personal learning plans, and structured journaling, participants developed greater confidence, autonomy, and teaching efficacy. Importantly, the online environment did not hinder reflective engagement.

Rather, with appropriate scaffolding and structure, it provided an effective platform for preservice teachers to become active agents in their own professional learning. Reflection served not only as a method for evaluating performance but also as a catalyst for long-term growth and teacher development.

The findings of this study support the idea that meaningful professional growth can be achieved in digital learning environment, especially when reflection is supported by a clear framework and effective mentoring. As the world continues to evolve and digital lifestyles become increasingly common, teacher education programs are also undergoing significant changes. It is likely that we will see more integration of digital tools and online practicum models in the near future. Thus, this study shows the possibilities that online teacher education can create powerful opportunities for preservice teachers to become more confident, capable, and self-directed professionals. Online settings can help future teachers reflect, grow, and improve their practice. Teacher development is no longer limited to traditional classroom settings, but it can be done in a digital context as well with thoughtful design and appropriate support.

Recommendations and Future Research

Based on the findings, it is recommended that teacher education programs should incorporate structured reflective activities-such as video analysis, reflective journals, and ongoing mentoring-into the design of both online and in-person practicum experiences. These tools should be supported by timely feedback from mentors and peers to reinforce continuous professional learning.

Future studies should examine the long-term impact of reflective practice on SDL beyond the practicum period. Comparative research between online and traditional practicum models could yield further insights into contextual influences on reflective engagement. Moreover, there is a need to investigate how cultural, institutional, and technological factors shape the quality and depth of reflection in teacher education. Finally, future research may also focus on developing or refining instruments to assess the effectiveness of reflective tools in supporting SDL development across diverse educational contexts.

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