

Problem-Based Learning in Psychiatric and Mental Health Nursing: A Comparative Study Between Private and Public Universities

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Abstract

Problem-based learning (PBL) is a student-centred instructional strategy promoting critical thinking, clinical reasoning, and self-directed learning in nursing education. Comparative evidence across different university types in Thailand remains limited. This study aimed to compare PBL instructional evaluation outcomes between nursing students from a private university (accelerated 2.6-year program) and a public university (standard 4-year program). Data were collected from the private university in academic year 2024 and from the public university in academic year 2025; the two cohorts were therefore evaluated in different academic years rather than concurrently.

A descriptive comparative study using independent samples t-test was conducted with 72 nursing students enrolled in a Psychiatric and Mental Health Nursing Practicum course from two universities in Pathum Thani Province, Thailand (private: $n = 36$; public: $n = 36$). The Curriculum Instructional Evaluation Questionnaire (Cronbach's $\alpha = 0.86$), comprising 19 items across two subscales: Subject and Content Aspect (10 items) and Self-Directed Learning and Overall Experience (9 items), was administered at semester end using a 5-point Likert scale.

Private university students scored significantly higher than public university students on all dimensions: overall mean ($M = 4.95$ vs. $M = 4.65$; $t(70) = 2.45$, $p < .05$; $d = 0.57$), Subject and Content ($M = 4.95$ vs. $M = 4.72$; $t(70) = 2.18$, $p < .05$; $d = 0.51$), and Self-Directed Learning ($M = 4.94$ vs. $M = 4.58$; $t(63.4) = 2.71$, $p < .05$; $d = 0.64$). Both institutions achieved Excellent ratings (4.50 and above). The advantage in Self-Directed Learning among private university students likely reflects their prior healthcare work experience, facilitating constructivist engagement with complex psychiatric case scenarios. Prior clinical experience may help explain the observed difference in PBL evaluation outcomes, with implications for curriculum design across both program types. The reflective, self-directed processes central to PBL also resonate with Buddhist psychological principles, particularly *yonisomanasikara* (wise, systematic reflection) and *sati* (mindful awareness), offering a culturally grounded lens for psychiatric nursing education in Thailand.

Keywords: Problem-Based Learning; Psychiatric Nursing Education; Self-Directed Learning; Comparative Study; University Context



Introduction

Nursing education has undergone significant transformation in response to the growing complexity of clinical environments and the demand for practitioners capable of nuanced clinical reasoning, collaborative decision-making, and lifelong learning (Orias et al., 2025). Traditional lecture-based instruction, while providing foundational knowledge efficiently, is widely recognized as insufficient for developing the higher-order cognitive competencies required of contemporary nursing graduates (Al Najjar et al., 2021; Lu et al., 2025). In this context, Problem-Based Learning (PBL), first developed at McMaster University, Canada, in the 1960s, has emerged as a pedagogically robust alternative, positioning learners as active constructors of knowledge through engagement with authentic, ill-structured clinical problems (Ghani et al., 2021; Orias et al., 2025).

PBL is grounded in constructivist theory and Knowles' (1975) theory of self-directed learning, which holds that adult learners draw on prior experience, are intrinsically motivated, and learn most effectively when they can identify their own knowledge gaps and direct their inquiry toward solving meaningful problems. These theoretical underpinnings are particularly salient in psychiatric nursing education, where students must simultaneously develop therapeutic communication skills, clinical reasoning abilities, and cultural sensitivity within complex interpersonal contexts (Shaygan et al., 2023). Kriki et al. (2025) confirmed that PBL is significantly associated with critical thinking development among undergraduate psychiatric nursing students, affirming the relevance of this pedagogy for mental health nursing training. Within the Thai context, these self-directed and reflective processes align closely with core Buddhist psychological principles. Yonisomanasikara (wise, systematic reflection) parallels the analytical reasoning that PBL demands; sati (mindful awareness) supports the therapeutic presence and emotional regulation required in mental health nursing; and the threefold training of trisikkha (sila, moral discipline; samadhi, concentration; and panna, wisdom) offers a holistic framework for cultivating the ethical, attentional, and cognitive competencies central to psychiatric nursing practice. Framing PBL through these principles situates the present study within the scholarly scope of Buddhist psychology and the Thai sociocultural context of mental health care.

Evidence of PBL's effectiveness in nursing education is well-established. A systematic review and meta-analysis by Wei et al. (2024) involving 19 studies ($N = 1,996$) found significantly greater improvement in critical thinking skills among PBL groups compared with controls ($SMD = 0.47$; $95\% \text{ CI} = 0.33 \text{ to } 0.61$; $p < .001$). Similarly, Lu et al. (2025), in a prospective cohort study of 142 nursing interns, demonstrated that PBL significantly enhanced health education ability, self-directed learning, and critical thinking compared with traditional instruction. Shin and Kim (2013), in a meta-analysis of 34 studies, reported a moderate to large effect size (0.70 SD) for PBL on nursing education outcomes. Despite this evidence base, the majority of comparative research has examined PBL within single institutional or program contexts, limiting understanding of how institutional type and student background characteristics moderate PBL effectiveness.

In Thailand, nursing education is delivered through both standard four-year Bachelor of Nursing Science program at public university and accelerated 2.6-year program at private

institution, which are typically designed for students with prior healthcare work experience. This structural difference creates a natural comparative context in which the potential explanatory role of prior clinical experience on PBL outcomes can be examined. Perez-Perdomo and Zabalegui (2023) highlighted that students' pre-existing clinical knowledge base significantly influences how effectively they engage with clinical reasoning strategies, including PBL. Lu et al. (2025) similarly found that PBL benefits were particularly pronounced among learners who could integrate existing experiential knowledge with new clinical problem scenarios.

The present study (Phase 2) extends findings from a longitudinal evaluation of PBL implementation at a private university in Pathum Thani Province (Phase 1), which demonstrated consistently excellent and improving instructional outcomes across four academic years (2021 to 2024; overall $r = 0.868$, $p < .05$; Singtakaew and Charuchinda, 2026). Phase 2 sought to determine whether these positive PBL outcomes were specific to the private university context or could be reproduced in a public university setting. Whereas Phase 1 analyzed four years of repeated within-institution data from the private university alone, the present Phase 2 article reports an entirely new, independently collected dataset that compares the private university cohort with a public university cohort. All comparative findings presented here (Tables 1 to 3) are newly generated and have not been reported in Phase 1. Accordingly, this study aimed to compare PBL instructional evaluation outcomes between students enrolled in the Psychiatric and Mental Health Nursing Practicum course at a private university (2.6-year accelerated program) and a public university (standard 4-year program) during academic years 2024 to 2025.

Objectives of the Research

1. To compare PBL instructional evaluation outcomes between nursing students at a private university (2.6-year program) and a public university (4-year program) in Pathum Thani Province, Thailand.
2. To examine differences in Subject and Content and Self-Directed Learning dimensions of PBL evaluation between the two institutional contexts.

Research Hypotheses

1. H_0 : There is no statistically significant difference in PBL instructional evaluation scores between nursing students at the private university and those at the public university.
2. H_1 : There is a statistically significant difference in PBL instructional evaluation scores between nursing students at the private university and those at the public university.

Literature Review

Theoretical foundations of PBL in nursing education. Problem based learning (PBL) is grounded in three complementary theories that together justify its use in nursing education. Constructivism holds that learners build knowledge actively by engaging with authentic problems and linking new information to existing cognitive schemas (Orias et al., 2025). Knowles' (1975)

Adult Learning Theory (andragogy) characterizes adult learners as self-directed, experiential, and motivated by practical relevance, attributes closely aligned with the instructional design of PBL. Information Processing Theory further explains how learners consolidate and transfer knowledge when learning is anchored in realistic, problem based contexts (Ghani et al., 2021). These frameworks converge on a central premise: that learning is deepened when students actively reason through authentic clinical problems rather than passively receive information.

Empirical effectiveness of PBL in nursing. A substantial body of comparative research supports this premise. In a meta-analysis of 34 nursing education studies, Shin and Kim (2013) reported a moderate to large effect of PBL on training outcomes ($d = 0.70$), with the strongest effects observed in clinical and skills based courses. Wei et al. (2024), synthesizing 19 studies involving nearly 2,000 nursing students, found a standardized mean difference of 0.47 (95% CI 0.33 to 0.61; $p < .001$) favoring PBL for critical thinking development. In a prospective cohort study, Lu et al. (2025) demonstrated that PBL significantly outperformed traditional teaching in health education ability, self-directed learning capacity, and critical thinking among nursing interns, and Al Najjar et al. (2021) similarly reported that PBL surpassed lecture based learning in developing critical thinking, problem solving, and self-directed learning while promoting collaboration and active engagement. Collectively, this evidence establishes PBL as an effective pedagogy relative to lecture based instruction, yet almost exclusively through within program or PBL versus lecture comparisons rather than comparisons across different types of nursing program.

PBL in psychiatric and mental health nursing. The psychiatric nursing context renders PBL particularly apposite, yet it remains comparatively understudied. Students entering mental health placements frequently experience anxiety linked to stigma, uncertainty about therapeutic communication, and apprehension regarding unpredictable patient behavior, concerns that guided, scenario based preparation can effectively address (Shaygan et al., 2023). In a controlled comparison involving 379 medical students, McParland et al. (2004) found that PBL produced significantly better psychiatry examination performance than traditional instruction, particularly on oral components requiring clinical reasoning. More recently, Kriki et al. (2025) confirmed significant associations between PBL and critical thinking skills among undergraduate nursing students in the mental health sector, noting that the ill structured nature of psychiatric case scenarios is well matched to the PBL format. Even so, the psychiatric nursing evidence base remains thinner than that for general nursing and is drawn largely from settings outside Thailand.

Implementation challenges. Realizing these benefits depends on implementation quality. Faculty must develop facilitation skills distinct from didactic teaching, construct culturally appropriate and contextually realistic problem scenarios, and design multidimensional assessments (Kim & Kim, 2022). Matlala (2021) identified educator preparedness and institutional support as critical enabling conditions for durable PBL integration, and Putri and Sumartini (2021) recommended blended assessment, combining knowledge testing, behavioral observation, and student feedback, to capture PBL outcomes comprehensively in clinical nursing contexts. These

factors suggest that PBL outcomes may vary systematically according to the institutional environment in which the pedagogy is delivered.

Institutional context and student background as contextual factors. Emerging evidence indicates that PBL outcomes are shaped not only by implementation quality but also by the characteristics of the learners themselves. In a systematic review of randomized controlled trials, Perez-Perdomo and Zabalegui (2023) found that clinical reasoning strategies, including PBL, yielded stronger outcomes when students brought foundational clinical experience to the learning context. Consistent with this, Lu et al. (2025) reported that the effects of PBL on self-directed learning were most robust among interns who already possessed practical knowledge, and Knowles' (1975) andragogy predicts that adults with richer prior experience engage more effectively with problem based approaches, because accumulated knowledge provides the cognitive scaffolding required for hypothesis generation, evidence synthesis, and reflective practice. These observations are directly relevant to Thai nursing education, in which accelerated program, typically enrolling students with prior healthcare employment, coexist with standard program composed largely of students without such experience.

Research gap. Taken together, the literature robustly establishes that PBL is effective relative to lecture based teaching and that prior clinical experience is associated with stronger self-directed learning. Three gaps nonetheless remain. First, the great majority of comparative studies contrast PBL with traditional instruction within a single program rather than comparing PBL outcomes across institutionally distinct program types (for example, private accelerated versus public standard programs). Second, evidence specific to psychiatric and mental health nursing is limited and derived predominantly from non-Thai settings, despite the distinctive cultural and clinical demands of mental health care in Thailand. Third, and most critically, no known study has directly compared PBL instructional evaluation outcomes between private and public nursing programs in the Thai psychiatric nursing practicum. This leaves unexamined whether the favorable outcomes reported for a single accelerated private program (Phase 1) are reproducible within a public standard program, and how differences in student background might account for any observed variation. The present study addresses this gap by providing the first direct comparison of PBL instructional evaluation outcomes between private and public programs in Thai psychiatric and mental health nursing education.

Conceptual Framework

This framework proposes that three theoretical foundations, namely Constructivism, Knowles' Adult Learning Theory (Andragogy, 1975), and Information Processing Theory, collectively underpin PBL implementation through a seven-step instructional process (Thawarawong, 2008). PBL produces two measurable outcome dimensions: Subject and Content Aspect, and Self-Directed Learning and Overall Experience, both assessed via a 19-item evaluation questionnaire. These outcomes are considered in relation to two contextual factors that may help explain group differences: student background characteristics (program type, age, and prior

healthcare experience) and institutional PBL implementation experience. Because the present study compares groups using an independent samples t-test and does not statistically test moderation, these are treated as possible explanatory factors rather than established moderators. The framework positions prior experiential knowledge as a plausible contributing factor through which institutional context may strengthen or constrain PBL effectiveness in psychiatric nursing practicum education. Consistent with the scope of Buddhist psychology, the framework is further informed by yonisomanasikara (wise reflection) and sati (mindful awareness) as cognitive and affective processes that support the self-directed inquiry and reflective practice the model describes (see Figure 1).

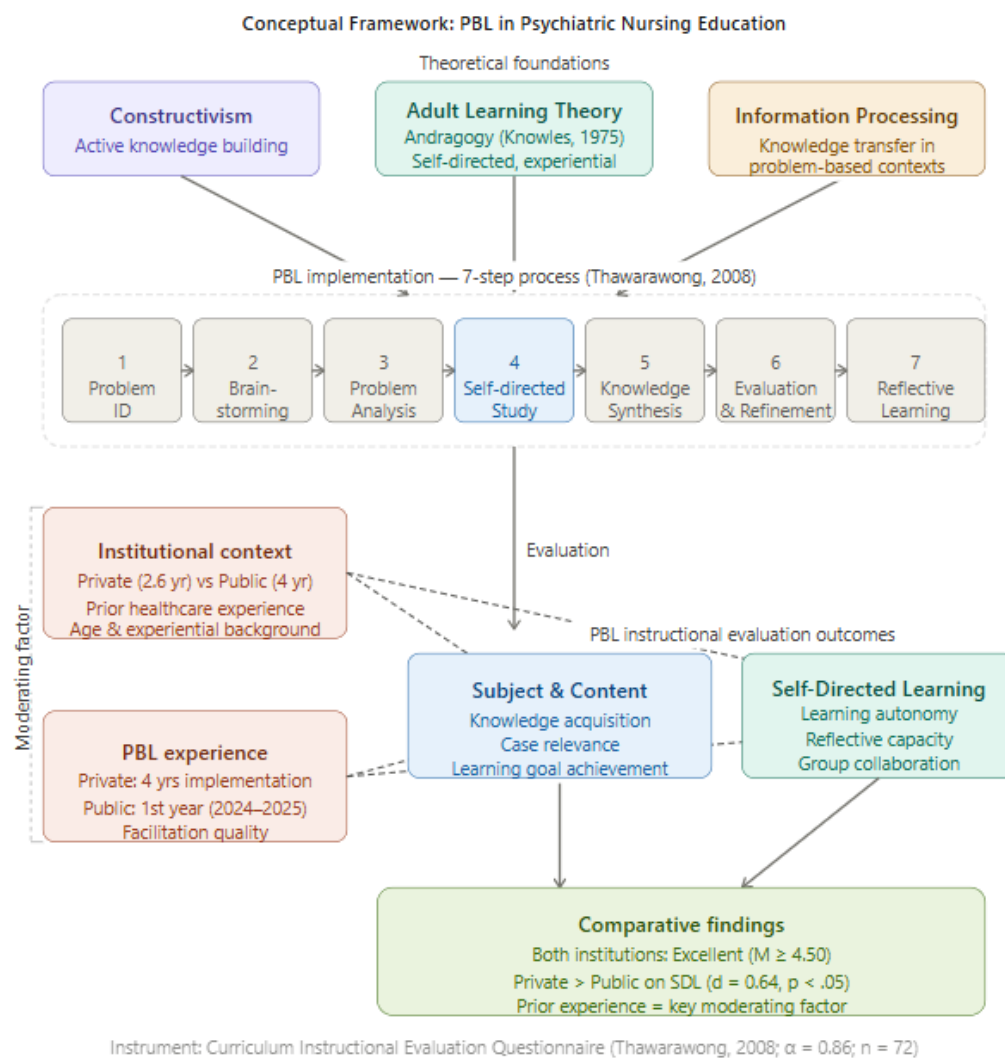


Figure 1 Conceptual Framework of the Study

Research Methodology

This study employed a descriptive comparative design using quantitative methods. The study was carried out as part of routine instructional quality-improvement activity, drawing on existing, anonymous course-evaluation data that contained no personally identifiable information; on this basis, it qualified for exemption from full ethical review. No individual identifiers were collected, and all data were analysed and reported only in aggregate to protect

student confidentiality. At the point of data collection, students were informed that their responses were anonymous, that participation was voluntary and involved no incentives, and that their responses would neither affect their grades nor their academic standing. Students were further informed that aggregated, de-identified data might be used for instructional research and quality improvement. All responses were submitted through each institution's official learning management system, stored securely, and accessed only by the research team, in accordance with applicable data-protection requirements.

Population and Sample

The target population comprised nursing students enrolled in the Psychiatric and Mental Health Nursing Practicum course at two universities in Pathum Thani Province, Thailand, during academic years 2024–2025: a private university offering a 2.6-year Bachelor of Nursing Science program and a public university offering a standard 4-year program. A total of 72 students participated: private university ($n = 36$, academic year 2024/Semester 1) and public university ($n = 36$, academic year 2025/Semester 1). All enrolled students in each cohort were invited to participate; the study therefore used a total-population (census) approach rather than probability sampling. Because the entire eligible population at each institution was included, no a priori power analysis was performed. The two cohorts were nonetheless drawn from different institutions, different academic years, and markedly different student backgrounds (notably age and prior healthcare experience), and are therefore not equivalent groups; observed differences should be interpreted as reflecting the combined influence of institutional context and student background rather than institutional type alone. All students had completed their prerequisite theory units and were enrolled in or had completed their clinical placement at affiliated psychiatric hospitals in Pathum Thani Province at the time of data collection.

Research Tools

The instrument used for the comparative analysis in the present study (Phase 2) was the Curriculum Instructional Evaluation Questionnaire, comprising 19 items across two subscales: Subject and Content Aspect (10 items) and Self-Directed Learning and Overall Experience (9 items), rated on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). This questionnaire was content-validated by three independent experts and pilot-tested prior to administration, yielding a Cronbach's alpha of 0.86, and it provided all of the comparative data reported here. A second instrument, the 54-item PBL Input-Process-Output Evaluation Questionnaire (Thawarawong, 2008; Cronbach's alpha = 0.81 in this project), was used only in the earlier stage of the wider research program (Phase 1, academic year 2022, the first year of PBL implementation). It is noted here solely to clarify the relationship between the two phases and was not used in the Phase 2 analysis.

PBL Implementation

Both universities implemented PBL within the Psychiatric and Mental Health Nursing Practicum course using the same seven-step process adapted from Thawarawong (2008): (1) problem identification; (2) brainstorming; (3) problem analysis; (4) self-directed study;

(5) knowledge synthesis and dissemination; (6) evaluation and refinement; and (7) reflective learning. At both institutions, students were organized into groups of six to eight and presented with authentic psychiatric case scenarios involving conditions such as schizophrenia, major depressive disorder, bipolar disorder, and substance use disorders, all contextualized within Thai socio-cultural and community mental health frameworks.

Facilitating instructors at both institutions held equivalent academic qualifications (doctoral or master's degrees in psychiatric or mental health nursing) and had received PBL facilitation training of comparable duration. The private university had been implementing the PBL model for four consecutive years prior to the Phase 2 data collection (2021–2024; see Phase 1 findings), whereas the public university introduced this approach in the 2024–2025 academic year following curriculum revision. This institutional experience differential was noted as a potential confounding variable and is addressed in the discussion.

Data Collection

Online questionnaire links were distributed to all enrolled students at the conclusion of their respective practicum semester. Completion was voluntary and anonymous, administered through each institution's official learning management system. Students completed the survey independently as part of the standard course evaluation procedure. Responses were collected and compiled by the research team prior to data analysis.

Data Analysis

All data were analysed using a statistical software program (SPSS Statistics version 26). The statistical significance threshold was set at $p < .05$. The following analytical approaches were applied:

1.Descriptive statistics (frequency, percentage, mean, standard deviation [SD], and range) were used to describe sample characteristics and questionnaire responses.

2.Comparative analysis: An independent samples t-test was used to compare mean PBL evaluation scores between the two institutions across academic years 2024–2025, with statistical significance set at $p < .05$. Because the two groups differed substantially in age and prior healthcare experience, any observed differences may reflect these background characteristics as well as institutional context; the t-test results are therefore interpreted as group comparisons rather than as evidence of an institutional-type effect.

Results

A total of 72 students participated: 36 from the private university and 36 from the public university. Sample characteristics are presented in Table 1. Male students constituted 22.2% ($N = 8$) of the private university sample and 13.9% ($N = 5$) of the public university sample. Private university students had a mean age of 29.4 years ($\sigma = 3.6$) and an average of 6.1 years of prior healthcare work experience, whereas public university students were younger ($\mu = 21.3$ years; $\sigma = 1.2$) and predominantly without prior healthcare employment.

Table 1 Sample Characteristics by University Type

Characteristic	Private University (n = 36)	Public University (n = 36)
Program duration	2.6 years	4 years
Sampling approach	Total population (census)	Total population (census)
Semester	1st (2024)	1st (2025)
Male n (%)	8 (22.2%)	5 (13.9%)
Female n (%)	28 (77.8%)	31 (86.1%)
Mean age, years (SD)	29.4 (3.6)	21.3 (1.2)
Prior healthcare experience	Yes (≥ 1 year)	No

Note: σ = standard deviation.

Descriptive Statistics

Both groups achieved mean evaluation scores classified as Excellent (≥ 4.50) across all dimensions. The private university group consistently outscored the public university group on all subscales, with an overall mean difference of 0.30 points (4.95 vs. 4.65). Standard deviations were substantially lower in the private university group across all dimensions, indicating greater response consistency. Detailed descriptive statistics are presented in Table 2.

Table 2 Descriptive Statistics of PBL Evaluation Scores by University Type

Dimension	Private University μ	σ	Public University μ	σ	Level (Private)	Level (Public)
Subject & Content	4.95	0.24	4.72	0.41	Excellent	Excellent
Self-Directed Learning	4.94	0.33	4.58	0.52	Excellent	Excellent
Overall	4.95	0.28	4.65	0.46	Excellent	Excellent

Note: μ = mean; σ = standard deviation; score ≥ 4.50 = Excellent (interpretation criterion established by the research team using equal-interval classification of the five-point Likert scale); $N(\text{private}) = 36$; $N(\text{public}) = 36$.

Independent Samples t-Test Results

Results of the independent samples t-test revealed statistically significant differences between the two groups across all three evaluation dimensions (Table 3). Levene's test for equality of variances indicated unequal variances for the Self-Directed Learning subscale ($F = 4.12, p = .046$); accordingly, Welch's correction was applied for that comparison. Cohen's d values

indicated small-to-moderate effect sizes, consistent with meaningful practical differences in educational outcomes.

Table 3 Independent Samples t-Test Results Comparing PBL Evaluation Scores by University Type

Dimension	t	df	p	Cohen's d	Direction
Subject & Content	2.18	70	< .05	0.51	Private > Public
Self-Directed Learning	2.71	63.4*	< .05	0.64	Private > Public
Overall	2.45	70	< .05	0.57	Private > Public

*Note: * Welch's correction applied due to unequal variances (Levene's test $p = .046$). Cohen's d: 0.20–0.49 = small; 0.50–0.79 = medium.*

The largest intergroup difference was observed in the Self-Directed Learning dimension (mean difference = 0.36; $t(63.4) = 2.71$, $p < .05$; $d = 0.64$), reflecting a medium effect size and suggesting that prior healthcare experience may have contributed to, or may help explain, the higher self-directed learning scores among private university students. On the basis of these results, the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) was supported: statistically significant overall differences in PBL evaluation scores were found between the two groups ($t(70) = 2.45$, $p < .05$), with the largest difference in the Self-Directed Learning dimension ($t(63.4) = 2.71$, $p < .05$).

Discussion

The findings of this comparative study extend the Phase 1 evidence base by demonstrating that PBL produces consistently excellent instructional outcomes not only within a single accelerated program over time, but also across institutionally distinct program types, supporting the applicability of PBL as an effective pedagogical strategy within the psychiatric nursing practicum contexts studied. Because only two institutions in a single province were examined, broader generalisation requires confirmation in further multi-site research.

PBL effectiveness across contrasting institutional contexts. Both the private university ($\mu = 4.95$) and the public university ($\mu = 4.65$) achieved Excellent-level overall evaluation scores, confirming that PBL yields positive outcomes regardless of program structure when implemented with adequate facilitation quality and contextually appropriate case design. This finding addresses a gap in the existing literature, where comparative evidence across university types in the Thai nursing education context has been limited. The public university's Excellent-level scores in its inaugural year of PBL implementation are particularly notable, suggesting that well-prepared facilitators and culturally grounded psychiatric case scenarios can generate high-quality outcomes even in the absence of accumulated institutional experience, a finding consistent with Matlala's (2021) position that educator preparedness constitutes the primary enabling condition for successful PBL integration.

Prior experiential knowledge as a moderating mechanism. The most theoretically significant contribution of this study lies in the differential pattern of outcomes observed between the two institutions. The intergroup difference was markedly larger for Self-Directed Learning (mean difference = 0.36; $d = 0.64$) than for Subject and Content (mean difference = 0.23; $d = 0.51$), a pattern that cannot be adequately explained by institutional PBL experience alone. Private university students' mean age of 29.4 years and an average of more than six years of prior healthcare employment provided a substantive experiential scaffold through which the constructivist mechanisms of PBL, namely hypothesis generation, knowledge gap identification, and evidence synthesis, operated more fluidly. This interpretation aligns with Knowles' (1975) andragogical principle that adult learners with richer prior experience are better positioned to direct their own inquiry, and with the systematic review by Perez-Perdomo and Zabalegui (2023), which found that clinical reasoning strategies yield stronger outcomes when students possess foundational clinical knowledge. Critically, this moderating effect was most pronounced in the dimension that most directly reflects autonomous learning capacity, providing convergent evidence that prior experience specifically potentiates self-directed engagement rather than merely enhancing content mastery.

Distinguishing institutional experience from student background effects. A methodological strength of this study is its ability to partially disentangle two candidate explanations for the observed intergroup differences: accumulated institutional PBL experience and student background characteristics. Although the private university had implemented PBL across four consecutive years prior to Phase 2 data collection, the public university's first-year overall mean of 4.65 closely approached the private university's inaugural-year score of 4.85 reported in Phase 1, suggesting that the performance gap is unlikely to be attributable primarily to implementation maturity. The disproportionate magnitude of the Self-Directed Learning differential further supports student background experience, rather than institutional experience, as the more parsimonious explanatory variable. These observations complement the Phase 1 finding that iterative PBL implementation drives longitudinal improvement by introducing a cross-sectional dimension: even at comparable early stages of institutional implementation, students with prior healthcare experience demonstrate meaningfully stronger self-directed learning engagement.

Implications for curriculum design in Thai nursing education. The juxtaposition of findings across Phase 1 and Phase 2 yields actionable guidance for curriculum designers in both program types. For standard four-year program at public university, the current findings indicate that while PBL produces excellent outcomes from the outset, the self-directed learning dimension may benefit from deliberate pre-PBL scaffolding, including structured reflective journaling, self-assessment exercises, and peer-teaching activities, to build the metacognitive readiness that experienced students bring naturally. For accelerated program, the data affirm that prior healthcare experience constitutes a genuine educational asset that should be explicitly activated through PBL case designs grounded in the Thai sociocultural and community mental health context. Because the present study did not directly measure or analyse these elements, the



findings may also have implications for future curriculum development, including the possible integration of Buddhist perspectives on mental illness (for example, *yonisomanasikara* and *sati*) and extended-family caregiving dynamics into psychiatric nursing education. Taken together, these cross-phase findings suggest that optimising PBL effectiveness requires not only iterative refinement of implementation quality over time, as demonstrated in Phase 1, but also deliberate alignment of instructional design with the experiential profiles of the student cohort.

Limitations

Several limitations should be considered when interpreting these findings. First, all outcomes were derived from student self-report and are therefore subject to self-report and social-desirability bias. Second, the sample was restricted to two institutions within a single province (Pathum Thani), which limits the generalisability of the results to other regions and institutional settings in Thailand. Third, the two institutions differed in their accumulated PBL implementation experience, which is confounded with institutional type and cannot be fully separated from student-background effects in the present design. Fourth, the study relied solely on a perception-based evaluation questionnaire and did not include objective outcome measures such as Objective Structured Clinical Examinations (OSCEs) or standardised clinical competency scales, so the findings reflect students' evaluative perceptions rather than directly measured clinical competence.

Body of Knowledge

Beyond confirming the effectiveness of PBL, this study generates three pieces of new knowledge specific to psychiatric and mental health nursing education in the Thai context. First, a public university achieved Excellent-level PBL evaluation outcomes in its very first year of implementation, indicating that facilitator preparedness and culturally grounded case design, rather than accumulated institutional experience, are the decisive enabling conditions for high-quality PBL. Second, the private–public difference was greatest in the Self-Directed Learning dimension, identifying prior healthcare experience as the student-background characteristic most strongly associated with autonomous engagement in PBL. Third, interpreting these results through Buddhist psychology yields a context-specific proposition: PBL outcomes in Thai psychiatric nursing appear to be shaped jointly by learners' experiential readiness and their capacity for wise, mindful reflection (*yonisomanasikara* and *sati*). Taken together, these contributions form a tentative “experiential readiness and reflective capacity” framework for designing and evaluating PBL in Thai psychiatric nursing practicum education, which future multi-site studies can test and refine.

Suggestions for Future Research

1. Conduct longitudinal follow-up at the public university to determine whether PBL evaluation scores improve over successive implementation years, enabling a within-institution comparison analogous to the Phase 1 trend analysis.
2. Expand the comparative framework to include objective outcome measures—Objective Structured Clinical Examinations (OSCEs), standardised clinical competency scales, and direct observational assessments—to complement self-report evaluation data and reduce potential response bias.
3. Investigate the specific mechanisms through which prior healthcare experience facilitates self-directed learning in PBL contexts, using qualitative methods such as focused group discussions or think-aloud protocols to capture students' cognitive processes during case analysis.
4. Develop and evaluate pre-PBL scaffolding interventions for students in standard four-year program to determine whether structured preparation in self-directed learning competencies can reduce the performance gap identified in this study.
5. Explore the integration of technology-enhanced PBL approaches, including virtual patient simulation and AI-assisted case generation, to enrich the psychiatric case scenario bank and extend PBL access across diverse institutional settings in Thailand.
6. Conduct multi-site comparative studies including institutions from different Thai provinces and regions to enhance the generalisability of findings regarding institutional type as a moderator of PBL effectiveness in psychiatric nursing education.

Conclusion

This study demonstrates that PBL produces consistently excellent instructional evaluation outcomes in psychiatric and mental health nursing practicum education across both private university (accelerated 2.6-year) and public university (standard 4-year) contexts in Pathum Thani Province, Thailand. Both institutions achieved Excellent-level overall evaluation scores, supporting the applicability of PBL as an effective active learning strategy within the contexts studied and consistent with existing evidence (Wei et al., 2024; Lu et al., 2025; Orias et al., 2025). However, statistically significant intergroup differences, most pronounced in Self-Directed Learning ($t(63.4) = 2.71, p < .05; d = 0.64$), suggest that prior healthcare work experience may enhance the self-directed engagement central to PBL's effectiveness. These findings are consistent with Knowles' (1975) andragogical theory and with empirical evidence highlighting the contribution of experiential background to clinical reasoning development (Perez-Perdomo & Zabalegui, 2023; Lu et al., 2025). The findings from the present study suggest that student background characteristics may be an important consideration in PBL design and evaluation; however, given the small, two-institution sample within a single province, this interpretation should be examined further in research across multiple institutions and regions before firmer conclusions are drawn.

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