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Research Article

NURSING STUDENT'S PERCEPTION OF WORK-BASED LEARNING PROGRAMS: SYSTEMATIC REVIEW

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Abstract
Work-based learning (WBL) is a critical approach in nursing education that emphasizes experiential learning. However, qualitative studies frequently report challenges nursing students face in WBL settings. This study aims to systematically analyze qualitative evidence on nursing students' experiences in work-based learning within healthcare organizations, highlighting key challenges and areas for improvement. A systematic review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) 2020 guidelines. Literature searches were performed using Medline, Embase, CINAHL, and JSTOR databases. Quality appraisal was conducted using the JBI-QARI framework. The initial search yielded 311 studies, seven of which were deemed eligible based on inclusion criteria that focused on qualitative English-language studies involving nursing students. The review identified three major challenges in WBL: (1) time constraints limiting learning opportunities, (2) workplace environmental factors such as lack of mentorship and high-pressure conditions, and (3) unclear benefits perceived by students in WBL programs. These factors contribute to varying levels of engagement and satisfaction among nursing students. This study is the first systematic review to evaluate nursing students' perceptions of WBL, offering a comprehensive analysis of recurring issues. The findings provide valuable insights for educational institutions and healthcare organizations to enhance WBL effectiveness through structured mentorship, improved scheduling, and targeted support strategies, ultimately bridging the gap between theoretical knowledge and practical experience in nursing education.

Keywords: Nursing, Qualitative, Student, Systematic Review, Work-based learning

INTRODUCTION

Contemporary healthcare operates in a rapidly evolving knowledge environment that requires clinicians to be well-educated, lifelong learners who actively engage with research evidence to inform practice. The increasing complexity of healthcare delivery necessitates continuous scrutiny of knowledge to enhance patient care outcomes. As a result, the education of health professionals, particularly nurses, has shifted from an apprentice-based training model—where routine tasks and activities are emphasized—to a university-based curriculum that fosters critical thinking, evidence-

based practice, and reflective learning. This transformation underscores the growing importance of work-based learning (WBL) as a means to bridge the gap between theoretical knowledge and practical application. Work-based learning can be conceptualized from various perspectives. Scott (2020) emphasizes its role in professional development, while Jackson et al. (2022) define it as informal learning that occurs within workplace interactions. Eraut (2011) further explains that WBL is a by-product of participating in work processes, collaborating with colleagues, and engaging with patients. At its core, WBL is grounded in experiential learning theory (Ahmad et al., 2020; Indasari et al., 2024; Lorenza et al., 2024; Sholikhah et al., 2024), which asserts that individuals acquire knowledge through hands-on experience rather than passive instruction.

While WBL is often associated with informal learning, Konstantinou et al., (2021) argue that it can also include formalized programs offered by universities and professional organizations. These structured programs enable employees to pursue learning alongside their work responsibilities, promoting self-directed study, critical reflection, and the ongoing development of professional skills (Walsh et al., 2023; Oktavia et al., 2024; Quzwain et al., 2024; Widiasta et al., 2024). This perspective aligns with the idea that effective WBL encourages employees to take responsibility for their own learning, fostering a culture of continuous professional growth (Dogara et al., 2020; Merdekawati et al., 2024; Susanti et al., 2024; Taufiqurrahman, 2024). In this review, WBL is defined as informal learning occurring within workplace interactions, emphasizing experiential learning, collaboration, and self-directed professional development (Nisbet et al., 2013; Ekaputri et al., 2024; Hubaybah et al., 2024).

Prior research suggests that formal learning methods have only a marginal impact on skill development compared to work-based learning (Huub et al., 2019; Abdaoui et al., 2024; Putri et al., 2024; Sulthon et al., 2024). This finding highlights the need for organizations to identify and support various informal learning opportunities in the workplace (Eraut, 2011; Bjørk et al., 2013; Bancheva & Ivanova, 2015; Binti M, & Adeshina, 2024; Muis et al., 2024; Wirnayanti et al., 2024). Economic constraints have further compelled healthcare organizations to seek cost-effective learning solutions, positioning WBL as a sustainable alternative to traditional training programs (Garnett, 2020; Halimah et al., 2024; Melinda et al., 2024; Rachmanto & Akande, 2024; Simamora et al., 2024).

A fundamental shift in the understanding of knowledge acquisition has also influenced nursing education. Traditional learning models assume that knowledge is simply transferred from instructors to students. However, Chia-an Tsai & Kang (2019) and Billett (2023) argue that knowledge is actively constructed through individual cognitive processes, prior experiences, and cultural influences. This constructivist perspective reinforces the importance of WBL, as it allows students to engage with real-world scenarios, apply critical thinking, and integrate new knowledge into their professional practice.

Several studies have identified factors that contribute to the success of WBL in healthcare. Thurgate (2018), in a study on Assistant Practitioners undertaking WBL, found that effective mentorship and a positive learning culture were essential for successful learning experiences. Similarly, Nevalainen et al., (2018) conducted a systematic review of qualitative studies on WBL in healthcare organizations and identified four key success factors: Workplace culture, Influences learner behaviors and reinforces healthcare values; Work environment, The organization of workspace can either promote or inhibit learning opportunities; Managerial support, Leaders play a crucial role in enabling and advocating for WBL; Interpersonal relationships, Collaboration and mentorship among staff enhance learning experiences.

Additionally, Christensen et al., (2017) highlighted the advantages of WBL over classroom or simulated learning, particularly in the development of professional identity. These findings underscore the need for structured mentorship, supportive leadership, and a conducive work environment to optimize WBL outcomes in nursing education. Despite the growing body of literature on WBL, there remains a lack of research on how nursing students perceive themselves as active participants in work-based learning environments. Existing studies focus primarily on organizational factors, mentorship, and workplace culture, but little is known about how students personally experience and navigate WBL in healthcare settings. Understanding student perceptions is crucial, as it can inform improvements in educational strategies, mentorship programs, and institutional support systems.

Additionally, while WBL is recognized as a valuable tool for professional development, there is limited qualitative evidence synthesizing nursing students' perspectives on its effectiveness, challenges, and impact on their learning journeys. Addressing this gap can help bridge the disconnect between theoretical education and clinical practice, ensuring that WBL is optimized to meet the needs of future healthcare professionals.

This review aims to systematically synthesize qualitative evidence on nursing students' perceptions of work-based learning in healthcare organizations. By analyzing student experiences, challenges, and expectations, the study seeks to provide evidence-based recommendations for improving WBL implementation. Unlike other qualitative synthesis methods, this review does not aim to reinterpret data but rather to consolidate existing knowledge, identify gaps, and suggest directions for future research (JBI, 2014). Understanding nursing students' perspectives on WBL is essential for refining educational approaches, enhancing mentorship structures, and fostering workplace environments that support experiential learning. This study contributes to the ongoing discourse on bridging theory and practice in nursing education, ensuring that future nurses are well-equipped to navigate the complexities of modern healthcare.

RESEARCH METHOD

This study follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines (Page et al., 2021) to systematically evaluate the literature on nursing students' perceptions of work-based learning programs. A qualitative approach was employed to capture the depth and complexity of students' experiences in these programs. The review's search strategy was guided by a clearly defined study aim and inclusion criteria (Aromataris & Riitano, 2014; Stern et al., 2014), structured using the PICo framework (Population, Phenomena of Interest, Context) (Stern et al., 2014). The inclusion criteria were defined as follows: Population (P): Nursing students, Phenomenon of Interest (I): Work-based learning experiences, Context (Co): Healthcare organizations.

Only qualitative studies were considered, as the research focused on exploring students' learning experiences. Eligible studies were those published in English in peer-reviewed scientific journals. A three-phase search strategy was employed, following best practices outlined by JBI (2014): Preliminary Search & Term Testing, Various search terms and strategies were tested to determine how work-based learning in healthcare organizations has been explored in previous research (Aromataris & Riitano, 2014). A preliminary search was conducted in the JBI Database of Systematic Reviews and Implementation Reports to confirm the absence of prior systematic reviews on the same phenomenon. Database & Manual Search, A comprehensive search was conducted in major academic databases, including Medline, Embase, CINAHL, and JSTOR. Additional relevant studies were identified by manually screening the reference lists of retrieved studies. Studies were initially selected based on titles and abstracts. Full-Text Screening & Selection, Full-text articles of potentially relevant studies were retrieved and assessed for inclusion (Robertson-Malt, 2014). The key search terms were derived from the PICo framework, and a detailed description of the search process is provided in Figure 1.

The methodological quality of the included studies was assessed using the PRISMA checklist and the JBI-QARI critical appraisal tool (JBI, 2014). Two independent reviewers assessed each study for methodological validity before inclusion (Porritt et al., 2014). The JBI-QARI tool includes ten evaluation criteria; studies were excluded if they failed to meet five or more of these criteria. Any discrepancies between reviewers were resolved through discussion and consensus (JBI, 2014).

Data collection and synthesis followed a structured three-phase process: Data Extraction, Findings from the included studies were systematically extracted, focusing on key themes and metaphors generated through thematic analysis; Ethnographic studies were categorized based on observational data extracted from original studies. Reliability Assessment, The reliability of findings was ensured by linking each extracted finding to direct evidence from the original study (e.g., interview excerpts, field notes) (Lockwood et al., 2015); Findings were classified according to the JBI-QARI reliability framework: U = Unequivocal (clear and well-supported findings), C = Credible (findings supported by some evidence), Us = Unsupported (findings lacking sufficient evidence); Only findings categorized as unequivocal (U) or credible (C) were considered in the final synthesis (JBI, 2014; Lockwood et al., 2015). Data Analysis & Thematic Categorization, The authors collaboratively analyzed qualitative data extracted from the included studies; A thematic analysis approach was applied, grouping data into broader categories that represented recurring patterns across the studies; Through discussion, common themes were identified to provide a structured understanding of nursing students' perceptions of work-based learning experiences. By applying this rigorous systematic review methodology, this study ensures a high level of reliability, validity, and transparency in evaluating the literature on work-based learning in nursing education.

RESULTS AND DISCUSSION

The literature search results identified 311 publications through forward and backward searches of relevant papers from the databases used. A complete screening was carried out on 68 articles. It was determined that 56 articles failed to meet the eligibility criteria at the full-text screening stage. At the end of the stage, only seven articles were finally eligible for further analysis. Data were analysed thematically. The search results follow the PRISMA 2020 flowchart (Figure 1).

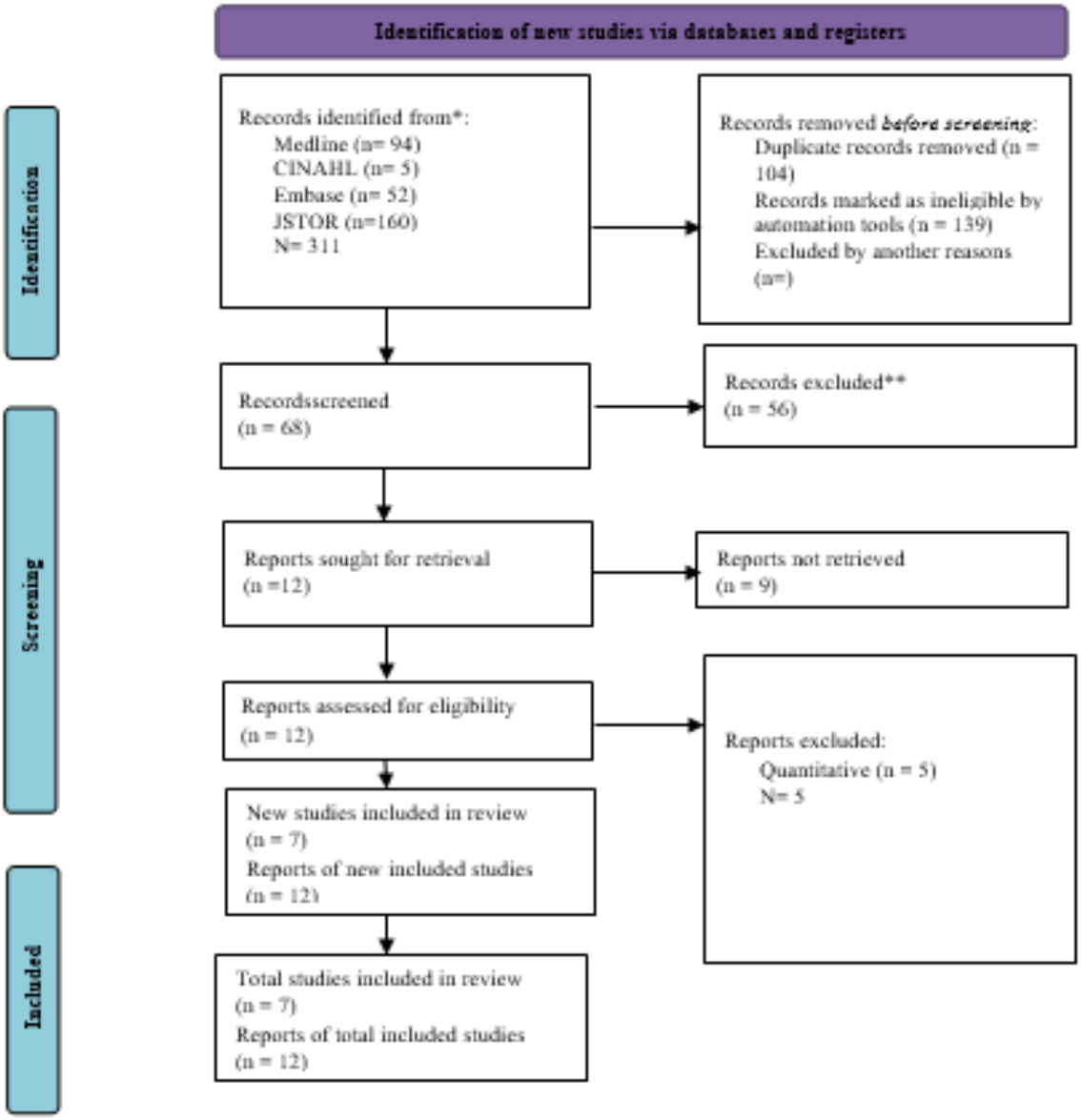

Figure 1. A Literature search in a PRISMA Flowchart

Table 1. Characteristic of included studies

Author	Purpose	Participants	Data collection and data analysis	Main findings
Attenborough et al., 2020	Toestablishthe experienceof work-based learners studying a courseleadingto a qualificationina newrole in healthcareandto establishchangesover	17 work-based learners	Clinical setting of London University. Interview face-to-face and by phone calls recorded and	- As health care assistants (HCAs), opportunities for 'on the job' learning, as staff generally expected that performing their

Author	Purpose	Participants	Data collection and data analysis	Main findings
	time experienced by thestudents as the role became established		Transcription from an audio recording. Data sets wereanalysed thematically.	HCA duties would take precedence over any opportunities to learn. - Supervisors were much less available than TNA would have liked - TNAsreported a lack of support when the supervisor was unavailable - There were plentiful reports of staff ignorance about the TNA role. - There was a lack of clarity among staff about which clinical tasks TNAs should or should not be allowed to do - TNAswere well-placed to judge the fit between their studies and the needs of patients in their wards.
Hulkari&Mahlamaki-Kultanen, 2007	To investigate the evidence for using web discussion in the assessment of work-based learning in practical nurse education.	269 students work=based learners	Web discussion. Analysed the web discussion data for research purposes with the NVivo 1.3 qualitative. Structured evaluation reports	- First-year students' learning experiences, including insecurity about their competence and the analysis of negative experiences, the mistakes made, and the things hindering learning - Students suggested that the lack of proper, many-sided tasks and tutoring made learning difficult. They felt that the workplace tutors were responsible for their learning. - Reflection on the workplace practices: The most typical topics were the atmosphere of the

Author	Purpose	Participants	Data collection and data analysis	Main findings
				work community, the amount and relevance of tasks, feedback, guidance and familiarisation.
Muftiyanto et al., 2021, Indonesia	To determine the conditions of learning in vocational education Diploma III and the influence of the Group Investigation based Work-Based Learning model on vocational education	Vocational Students	Observing learning, then completing it with the In-depth interview,	- Applying the Work-Based Learning and Group Investigation models is very relevant in implementing nursing vocational education and positively influences student competency abilities
Nikolou-walker &Meaklim, 2007, UK	To assess the effectiveness of the course unit from two limited data sources available	Final year health studies undergraduates	The formative evaluation. Short mid-term evaluation forms in week 7 (37 returns) and summative feedback questionnaires in week 12 (20 returns)	- Exploring issues around ethnic minority health needs and ethnic minority employment issues in the local health arena was reported by students to be an added incentive. - Sixteen out of the 20 student respondents to the summative feedback questionnaires said they were able to relate theory to practice during the placement - the time allocated for the placement was just right - the placement proved to be a confidence-enhancing experience.
Trigwell& Reid, 1998, Australia	To highlight the student perceptions of work-based forms of learning.	Students in work placement	Interview, recording	- Students believe that they learn to use equipment which is not available at university, - Students are involved in entire research project/program development rather than piecemeal technical skill development,

Author	Purpose	Participants	Data collection and data analysis	Main findings
				- Students get the chance to be involved in complex problem-solving.
Virpi et al., 2023, Finland	To describe practical nursing students', mentors' and educators' perceptions of student learning and assessment of learning progress during work-based learning	Eight practical nursing students	The interviews were conducted as six focus group interviews and five pair interviews. The research data were analysed by inductive content analysis.	- Students' life experiences and possible previous work experience affect learning in the workplace and learning assessment. - Student attitude was essential to successful work-based learning. - A feeling of purpose in learning and the student taking action were essential aspects of successful learning and assessing progress during work-based learning. - The mentor's vocational competence is an essential aspect of successful learning. - The mentor's motivation in student mentoring and assessment of learning as essential aspects of successful learning.
Watts &Waraker, 2008, UK	To identify the issues of identity and conflict in a distance learning work-based nurse	12 mature nursing students	- r ecorded in a detailed teaching log docume nting students' feelings	- Students saw themselves as workers, wives/partners, mothers, sisters, friends, and in some community roles such as school governor, youth club leader, church officer and drama group member. None of them characterised themselves as a student. - Never enough time. - Applying theoretical

Author	Purpose	Participants	Data collection and data analysis	Main findings
				learning to their daily work as healthcare assistants appeared to be an internalised activity with sharing ideas culturally confined to the tutorial setting. - The findings also point to the value of informal interest and support from experienced and qualified practitioners for learner colleagues in the workplace.

There was a report that working timein the field limited opportunities for “on the job” learning, as staff generally expected that performing students' Health Care Assistant (HCA) duties would take precedence over any opportunities to learn.These conditions also impactstudents' lack oflearning other new procedures (Attenborough et al., 2020).Concerning time, students complain about the lack of time for educators to visit the workplace (Virpi et al., 2023). Meanwhile, for mature nursing students, the accumulation of work activities at the hospital, their obligations as students, and having to carry out their role as housewives overwhelm them due to lack of rest time (Watts & Waraker, 2008). There was a straightforward maturing process visible over the studies; while the students, in the beginning, were concentrating on the physical environment of their learning, they developed the ability to reflect on their learning process after some work-based learning periods. Their ways of learning also developed towards a more cooperative direction and of learning about and understanding the complete system where everything depends on and is connected with everything else (Hulkari & Mahlamaki-Kultanen, 2007; Islaihah, 2024; Puspitasari, 2024; Somantri, 2024).

A good atmosphere is essential for successful work-based learning and assessment. Students can expect to be treated positively in a workplace with a good atmosphere. Preparations for the students' work-based learning period influence both students' experiences and learning outcomes.The students are expected to be treated equally in the workplace regardless of their background. Student implies that the workplace is terrible if no employees notice you when you start work- based there, and you get to be alone. Nobody says anything. They just wondered if some studentscame to the workplace again. The student immediately gets the feeling that the workplace is not good (Nahar, 2023; Nwune et al, 2023; Virpi et al., 2023; Habiburrohman et al., 2024; Sunia, 2024)

The senior students, or in the Third year, had more competence to learn from work; they asked for advice from the whole staff in the work community. The students seemed conscious of why tasks havebeen done like they were, e.g. they could integrate theory and practice. The third-year students could compare different work procedures of different workplaces critically and as a group (Hulkari&Mahlamaki-Kultanen, 2007).it is necessary to develop a model for vocational education to improve learning outcomes, affecting the quality of learning outcomes and graduates' quality (Muftiyanto et al., 2021; Aryadi et al., 2022; Repriani et al., 2022; Nada et al., 2023; Ulfa et al., 2023). Students’ perceptions of what they gain from work placements have been described. Students believe that they learn to use equipment not available at university, that they are involved in entire research project/program development rather than piecemeal technical skill development, and get the chance to be involved in complex problem-solving. On a personal level, they learn interpersonal skills, written communication skills, time management, develop increased confidence and better knowledge of career opportunities (Trigwell& Reid, 1998).

This review systematically summarizes qualitative evidence on nursing students' perceptions of work-based learning programs. The findings reveal contradictions and tensions between the learning needs of students and the realities of nursing practice. Work-based learning is influenced by two competing priorities: (1) the organization's demand for efficiency and productivity and (2) the students' need for professional growth and skill development. These competing interests create a structural challenge in balancing quality education with workforce demands.

Additionally, the findings reinforce that nursing education retains strong apprentice-style learning traditions, emphasizing formulaic skill acquisition (King et al., 2020). While this approach ensures students develop task-based proficiency, it may limit critical thinking, adaptability, and decision-making skills—all essential for modern nursing practice. The review also highlights that mentorship plays a critical role in guiding students through work-based learning, but challenges such as time constraints, high mentor workload, and inconsistencies in student status remain significant barriers. Healthcare environments significantly shape student learning experiences, with clinical settings providing hands-on exposure that links theory to practice (Henderson et al., 2012). Despite this benefit, the review confirms that students often experience discrepancies between educational training and actual clinical practice (Arkan et al., 2018). This misalignment creates challenges in students' confidence and competence development. Moreover, the lack of alignment between vocational training exercises and real-world clinical expectations further hinders skill transfer. Nursing students express a desire for more structured practical experiences that closely resemble the duties of professional nursing staff.

One of the most significant issues raised by students is their supernumerary status—the regulatory requirement that student nurses must not be counted as part of the workforce (Nevalainen et al., 2018; Attenborough et al., 2020). While this status aims to protect learning time, its practical implementation varies significantly across institutions. In contrast, nursing associate students do not have protected supernumerary status but are instead given "protected learning time", which is ambiguously defined and inconsistently enforced. This discrepancy contributes to unequal learning opportunities, where some students may receive adequate training while others are prematurely burdened with workforce responsibilities.

The findings highlight that mentorship significantly impacts the quality of work-based learning (Ruuskanen et al., 2018). Effective mentorship supports students in developing clinical reasoning, self-evaluation skills, and reflective practice. However, the review identifies several challenges: High mentor workloads, as they must balance clinical responsibilities with student supervision (Butler et al., 2011; Cassidy et al., 2012). Limited access to structured mentoring education, despite its proven benefits in enhancing assessment skills (Tuomikoski et al., 2020b). Variation in mentoring quality, as some mentors receive training while others do not, leading to inconsistent student experiences. Many nursing students feel overworked and under-supported during their work-based learning. A major issue arises when students take on responsibilities beyond their competency level due to staff shortages. In particular, students acting as Health Care Assistants (HCAs) report being tasked with duties that extend beyond their training, reducing their ability to focus on skill development. This creates a paradox where students are expected to "learn" but are instead treated as workforce substitutes. Another key concern is the desire for equal treatment within healthcare teams. Students often feel excluded from professional nursing staff due to their student status, yet they are simultaneously expected to function at the same level as professional nurses. This inconsistency fosters frustration and limits their opportunity to explore new learning experiences.

This review offers a unique contribution by systematically analyzing the dual tensions between educational objectives and workforce demands in nursing work-based learning. The study provides novel insights into: The persistent dominance of traditional apprenticeship models, despite efforts to modernize nursing education. The impact of inconsistencies in student status (supernumerary vs. non-supernumerary) on learning experiences. The critical role of mentor training and its direct correlation with student competency development. By synthesizing qualitative findings, this study highlights gaps in regulatory policies, workplace expectations, and mentorship quality, offering a fresh perspective on how nursing education can be improved.

The findings have significant implications for nursing education, healthcare policy, and clinical training programs: For Nursing Education: Curriculum alignment with real-world practice is essential to bridge the gap between theory and actual clinical tasks. Clearer guidelines on protected learning time should be established to ensure equitable access to training. Increased emphasis on mentorship training

to enhance student support. For Healthcare Institutions: Work-based learning programs should balance organizational efficiency with student development, ensuring students are not treated solely as workforce reinforcements. Mentors should be given adequate time and incentives to provide quality training. For Nursing Regulators: Supernumerary status policies should be reassessed to provide greater clarity and fairness across different nursing roles. Minimum mentorship standards should be enforced to ensure consistency in student support. This review focused only on medical and nursing students in clinical settings. Expanding the scope to include other healthcare professions (e.g., physiotherapy, midwifery) could provide a broader understanding of work-based learning challenges. Only English-language studies were included, potentially excluding relevant research in other languages or unpublished local studies. The reviewed studies primarily capture short-term perceptions of nursing students. A longitudinal approach would be valuable in assessing how these experiences shape their long-term professional development.

Regulatory bodies should establish clear and uniform definitions for protected learning time, ensuring students across different institutions receive equitable learning opportunities. Institutions should provide mandatory mentorship training programs to improve support for students. A structured mentorship framework should be developed to ensure students receive consistent guidance. Reducing Student Workload Exploitation, Healthcare institutions must implement clearer boundaries on student responsibilities, ensuring they focus on learning rather than being used as supplementary workforce. Aligning Theory with Practical Training, Nursing curricula should integrate more realistic, simulation-based training to better prepare students for real-world clinical challenges. Further Research on Work-Based Learning Challenges, Future research should explore cross-disciplinary comparisons between different healthcare professions to identify universal and discipline-specific barriers.

CONCLUSION

Understanding nursing students' experiences and perceptions of work-based learning, along with the underlying factors influencing these experiences, provides valuable insights for addressing learning challenges within the demands of educational institutions. Work-based learning plays a crucial role in professional education by equipping nursing students with essential skills and practical competencies. Establishing a supportive learning culture within healthcare settings is fundamental to ensuring that nursing students develop the necessary professional competencies for their future careers. This study highlights the need for academic institutions and healthcare facility management to recognize and enhance the value of work-based learning. By fostering an environment that integrates hands-on experiences with structured learning, institutions can bridge the gap between theoretical knowledge and real-world application, ultimately improving nursing education outcomes.

These findings emphasize the importance of collaboration between educational institutions and healthcare providers to optimize work-based learning. A structured and supportive clinical learning environment can enhance students' confidence, critical thinking skills, and professional adaptability. Future research should explore strategies for improving mentorship quality, addressing workplace challenges that hinder effective learning, and incorporating innovative teaching methodologies within clinical settings. Additionally, studies could investigate how digital tools and simulation-based learning can complement work-based learning to provide a more comprehensive educational experience. Strengthening these aspects will contribute to the development of competent, adaptable, and well-prepared nursing professionals.

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AUTHOR CONTRIBUTIONS

Author 1-2 creates articles and creates instruments and is responsible for research, author 3-4 Analyzes research data that has been collected, assists in research data analysis, instrument validation and input research data.

CONFLICTS OF INTEREST

The author(s) declare no conflict of interest.

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