

The advantages of implementing Dedicated education units in clinical nursing education

Aminah Alanazi

(School of Health Sciences/ University of Nottingham, United Kingdom)

Abstract:

Background: Nursing students need to experience effective clinical placements so that they can put into practice the skills they have learnt in the classroom to improve their skills and develop into experienced nurses. Thus, clinical practice is a fundamental and essential aspect of nursing education. It has been claimed that the DEU enables students to learn directly from professional nurses. In addition, students have the advantage of having experts as clinical preceptors who ensure they perform duties correctly and who assess their abilities during the placement.

Methods: A scoping review was conducted using the Arksey and O'Malley framework. The data was drawn by searching five databases the databases included in the search: Academic Search Premier, MIDLINE, CHNHAL, ERIC and British Education Index.

parameters were compared between the groups.

Results: 364 primary studies published between 2000 to 2022 were identified. After the studies reviewed for eligibility criteria only 13 studies included in the data synthesis. Reviewed studies provide evidence of the advantages of DEUs in clinical nursing education included; enhancing students' learning opportunities and practical experiences, enhance knowledge and competence, increasing students' self-efficacy, facilitating the transition from a nursing student to a Registered Nurse, and improve the overall achievement of nursing students.

Conclusion: Intrathecal Bupivacaine with Buprenorphine 60µg caused prolonged duration of postoperative analgesia when compared to intrathecal Bupivacaine with Nalbuphine 2mg.

Key Word: Dedicated Education units; EDU; Nursing student; clinical nursing education; Nursing Students.

Date of Submission: 01-03-2022

Date of Acceptance: 12-03-2022

I. Introduction

Clinical education is the cornerstone of any nursing programme. Although clinical nursing needs have changed significantly over the past few decades, clinical nursing education has not developed in line with these (Tanner, 2006). Using innovative models to improve the quality of nursing education is important to prepare future nurses for the current healthcare environment. It has been claimed that the DEU is an innovative model in the education of nurses which depends on a collaborative academic–practice partnership. DEUs are thus implemented in clinics and hospitals as a part of peer teaching that radically improves students' experience in clinical work (Alanazi, 2021). DEUs may contribute to improving the quality of nursing care by increasing the quality of nursing education. In addition, one of the major goals of the DEU is enhancing the collaboration between academic provision and practical service, which results in greater learning outcomes after undertaking the theoretical and practical aspects in the field. Most faculties currently use this strategy not only to market their students but also to advocate for better education. Additionally, the DEU enables students to learn directly from professional nurses and clinical officers. Students have the advantage of having experts as clinical preceptors who ensure they perform duties correctly and who assess their abilities during the placement. The smaller group numbers means that the professional nurses can become familiar with each student's goals and objectives in each clinical area during the period of practice so that they can focus on teaching the necessary skills. This scenario differs considerably from the traditional clinical education model in which staff nurses are expected to look after a large number of students with different learning objectives (Edgecombe, Wotton, Gonda, & Mason, 1999). Implementing such as DEUs requires the establishment of partnerships between academic bodies and health care agencies to generate optimistic and progressive clinical education settings (Brownlow, 2013). Therefore, the purpose of this scoping review to explore the advantages of implementing dedicated education units (DEUs) in clinical nursing education. It provides evidence of the usefulness of DEUs and provides a comprehensive overview of how they could affect and improve nursing practice.

II. Method

A scoping review was conducted using Arksey and O'Malley (2005) framework and followed the steps shown in Table number 1. Davis, Drey, and Gould (2009) described the use of the scoping review as a helpful tool for exploring the evidence and providing a comprehensive overview of a topic. It is important because it defines the objectives, methods and documentation and clarifies the literature review process (Peters et al., 2015).

Table no 1: Scoping review framework Arksey and O'Malley (2005)

Stage	Description
1	Identifying the research question
2	Identifying relevant studies
3	Study selection
4	Charting the data
5	Collating, summarizing, and reporting the results
6	Consultation (optional)

Identifying the research question: It is necessary to determine the focus of the research by formulating a research question, in order to more accurately determine the scope of the research, the following question was guided:

What are the advantages of implementing Dedicated education units in clinical nursing education?

Identifying relevant studies: The scope review question contributes to the development of specific inclusion criteria for the scope review, enhances the success of the literature search, and gives a clear structure for the development of the scope review summary. To achieve this, the review question must include a PCC component (Peters et al., 2015).

Population: Student Nurses

Concept: Dedicated education units

Context: DEUs that were created upon collaboration of nursing academia and healthcare agencies with no limitation on country.

The search strategy: The search strategies followed three steps, as recommended by JBI frameworks.

First Step: The initial search was conducted in two databases, MEDLINE and CINAHL. Text words in the title, the scientific abstract and index terms were reviewed to determine the keywords for the next step.

Second step: After the main keywords and search terms were identified, they were used in all the databases included in the search: Academic Search Premier, MIDLINE, CHNHAL, ERIC and the British Education Index. These databases contain peer-reviewed journals related to the study and cover most nursing education sources (Lee, Watson, & Watson, 2019). Because of the heavy use of some search terms, such as nursing students and academic units, the time range for research was restricted from 2000 to 2022. The English language was also specified. The Boolean operation 'or' between each PCC component was used, then the search result for each PCC component was linked to 'and', which gave a more accurate result.

Third step: Study references were searched to find papers relevant to the research topic

Study selection: Once the studies were selected, their applicability was assessed via inclusion and exclusion criteria. Table number 2 shows the eligibility criteria for this review.

Table no 2: Eligibility criteria of this review

Criteria	Inclusion criteria	Exclusion criteria
Population and sample	The inclusion criterion was amended to solely consider nursing students who experience DEUs and clinical practice. Additionally, to evade inclusion bias and avoid selection bias Limitations on ages and levels of study were not considered.	Nursing students, part time nurses, and any specific cohort of nurses who do not work in Hospitals
Concept	Clinical education through Dedicated Education Units in the clinical area	Any other models of clinical nursing education
Context	DEUs that were created upon collaboration of nursing academia and healthcare agencies with no limitation on country and with the avoidance of bias.	Any other type of clinical nursing education not based on collaboration of nursing academia and healthcare agencies.
Types of sources	Primary qualitative and quantitative research studies published in English language from 2020 to 2022.	Non-empirical studies, grey literature publication types include reports (annual, research, technical, project, etc.)

III. Result

A scope review was conducted to synthesize the primary studies on the advantages of implementing Dedicated education units model in clinical nursing education. After an extensive literature search in many databases; Academic Search Premier, MIDLINE, CHNHAL, ERIC and British Education Index. 364 primary studies were identified. After duplicates were removed, a total of 256 studies were retrieved. However, following critical examination of titles and abstracts, 202 of these studies were removed due to their irrelevance to the topic of study. Of the 54 full text articles reviewed for eligibility, a further 31 were excluded for inappropriate subject matter. A full text quality analysis was performed on the remaining 23 studies. Ultimately, only 13 studies could be included in this scoping review. Figure number 1 documents this process using a flow diagram. An extensive list of the included studies and their characteristics is outlined in the following section Table number 3.

Figure no1: PRISMA 2009 Flow Diagram

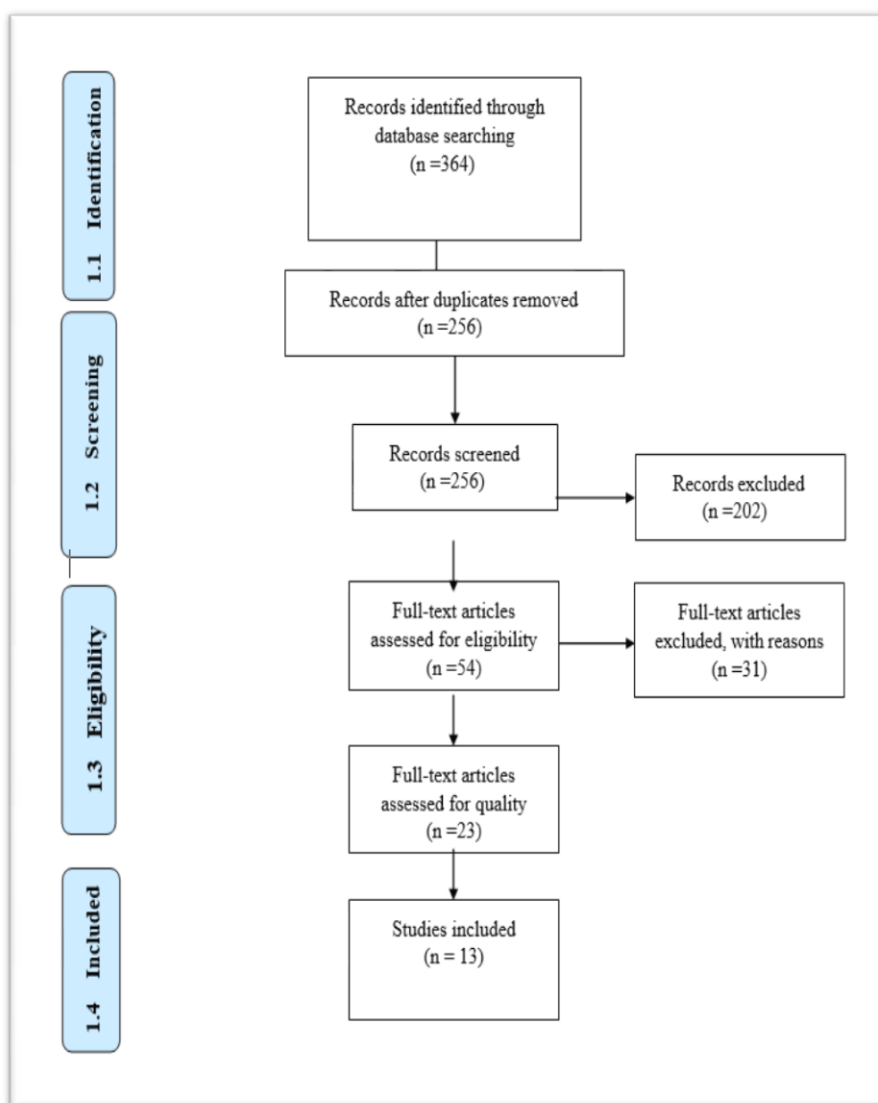


Table no 3 included studies

Author(s)	Title	Source	Year	Study types
Williams, Al Hmamat, AlMekkawi, Melhem, and Mohamed (2021)	Implementing dedicated nursing clinical education unit: Nursing students' and preceptors' perspectives	<i>Journal of Professional Nursing, 37(3), 673-681</i>	2021	Mixed methods study
Flott, Schoening, McCafferty, Beiermann, and	The Influence of the Dedicated Education Unit Clinical Model on	<i>Nursing education perspectives, 42(1), 41-43</i>	2021	A retrospective, comparative design

Hercinger (2021)	Standardized Test Scores			
Dimino, Louie, Banks, and Mahon (2020)	Exploring the Impact of a Dedicated Education Unit on New Graduate Nurses' Transition to Practice	<i>Journal for nurses in professional development, 36(3), 121-128</i>	2020	Mixed methods study
Bittner, Campbell, and Gunning (2020)	Impact of a Dedicated Education Unit Experience on Critical Thinking Development in Nursing Students	<i>Nurse Educator</i>	2020	Descriptive study
Rusch, McCafferty, Schoening, Hercinger, and Manz (2018)	Impact of the dedicated education unit teaching model on the perceived competencies and professional attributes of nursing students	<i>Nurse education in practice, 33, 90-93</i>	2018	Descriptive study
George, Locasto, Pyo, and Cline (2017)	Effect of the dedicated education unit on nursing student self-efficacy: A quasi-experimental research study	<i>Nurse education in practice, 23, 48-53</i>	2017	Quasi-experimental exploratory study
Smyer, Gatlin, Tan, Tejada, and Feng (2015)	Academic Outcome Measures of a Dedicated Education Unit Over Time: Help or Hinder	<i>Nurse Educator, 40(6), 294-297</i>	2015	Quasi-experimental
Nishioka, Coe, Hanita, and Moscato (2014)	Dedicated Education Unit: Student Perspectives	<i>Nursing Education Perspectives, 35(5), 301-307</i>	2014	Mixed methods study
Galuska (2015)	Dedicated Education Units: Partnerships for Building Leadership Competency	<i>Journal of Nursing Education, 54(7), 385-388</i>	2015	Mixed-methods study
Mulready-Shick, Kafel, Banister, and Mylott (2009)	Enhancing quality and safety competency development at the unit level: an initial evaluation of student learning and clinical teaching on dedicated education units	<i>Journal of Nursing Education, 48(12), 716-719</i>	2009	Evaluative study
Mulready-Shick, Flanagan, Banister, Mylott, and Curtin (2013)	Evaluating dedicated education units for clinical education quality	<i>Journal of Nursing Education, 52(11), 606-614</i>	2013	Randomized Controlled Trial
Ranse and Grealish (2007)	Nursing students' perceptions of learning in the clinical setting of the Dedicated Education Unit	<i>Journal of Advanced Nursing, 58(2), 171-179</i>	2007	Exploratory study
Claeys et al. (2015)	The difference in learning culture and learning performance between a traditional clinical placement, a dedicated education unit and work-based learning	<i>Nurse Education Today, 35(9), e70-e77</i>	2015	Quasi-experimental

Summary: The findings of this scoping review provide evidence of the advantages of DEUs in clinical nursing education and summarizes their positive impacts in clinical nursing education. There are no contradictory findings between this scoping review and the studies identified during the search process. The research question is to find out what the advantages of implementing DEUs in nursing clinical education. The 13 studies, which included in this review both qualitative and quantitative approaches, found that DEUs have many advantages in clinical nursing education and provide high quality clinical learning experiences, support students' academic development, offer a highly appropriate clinical placement model, clearly facilitate the teaching and learning of high quality, safe competencies, support learning in the workplace, facilitate the transition of new graduate nurses, and enhance students' leadership competencies.

IV. Discussion

To discuss the findings, many factors must be considered, such as the differences in the DEU implementation process, differences in methods of evaluation, methods of collecting and analysing the data, and the instruments and interventions in each of the eight studies. Additionally, the difference in goals between the academic and service (hospitals) partners can also affect DEU outcomes. Murray, MacIntyre, and Teel (2011) state that in order to succeed, both partners need to have a shared vision and goal. The DEU is a supportive clinical nursing model that offers solutions to most classroom activities. The model helps students to work in shifts with qualified nurses at the clinic, which improves their understanding and critical analysis of nursing practices. Foremost, the environment is conducive such that even the beginners grasp information in an easier manner. Students learn to operate the equipment used in the nursing faculty and this helps to consolidate regular class knowledge, which in essence is not separate from practice (Claeys et al., 2015). The DEU allows students to visit clinics in order to spend time learning the practical side of nursing; this can also be seen as a strategy to reduce the monotony of the classroom. It also gives learners a deeper experience of the academic material as it relates to practical experience, this finding was also reported by (Alanazi, 2021). The environment

of the DEU focusses on teaching and learning from specialists in the field, which differs from the normal traditional model. Therefore, through DEUs, educational and clinic providers can collaborate to provide better clinical knowledge to students by establishing a collaborative and supportive environment (Smith, Carpenter, & Fitzpatrick, 2015).

Additionally, the findings indicate that DEUs create a divide between students who attend them and those who do not. The former demonstrate a better understanding of the nursing field regardless of their grasp of information in class. For instance, normal class theory might seem mysterious to students, especially if the institution lacks the equipment essential for procedure practice in simulation labs. Exposure to DEUs in the clinic will support learning outcomes and active involvement. Moreover, students are able to manage the wider syllabus in the health sciences field because most of the units are interrelated in the practical perspective (Ranse & Grealish, 2007). This means that they can borrow ideas from one subject and apply them to other areas. In this way students can manage to narrow down their study options, which facilitates better academic grades.

Students emerge from training in DEUs equipped with the necessary field practice (Johnsen, 2012). From the studies it is apparent that the clinical rotation used in the traditional model is not a particularly successful method, as the professional nurses were not able to handle any fewer than six students at a time. This meant that students could not practice clinical procedures in the correct manner because they could not operate as a team. They could only visit a hospital setting for a few days to learn the basics of actual nursing practice. In contrast, the DEUs provide a complete academic syllabus for a full semester. In the DEU students work individually or in pairs, and this strategy ensures that by the end of the course each student has learnt every aspect of nursing directly from professionals (Galuska, 2015). Such technical knowledge is vital both for academic success and future career.

Implementation of the DEU model has had a positive impact on supporting the roles of nursing teachers in discovering and enhancing students' learning opportunities and practical experiences (Williams et al., 2021). Hence, there is agreement that DEU inspires positive perceptions of learning. Students enrolling in the DEU gain an adequate understanding of the learning perceptions, the intensity of the career and quality in a clinical setting (Williams et al., 2021).

The DEU model helps to integrate correct interventions and collaborative techniques required in the professional nursing environment. This understanding is not apparent in students who participated in the traditional clinical teaching model. Williams et al. (2021) note that students in the DEUs scored significantly higher, 26 out of 33, in specific competency and occupational traits, indicating that the DEU model has advantages over traditional clinical teaching and will enhance knowledge and competence and develop professional traits (Rusch et al., 2018). Students with DEU experience were compared using standardised test scores with those who completed the matching rotation in a regular format. Significant differences were found, and some scores were higher for students in the DEU (Flott et al., 2021).

Strong self-efficacy is an essential outcome of nursing education and is associated with an easier transition for nursing students from the study stage to the nursing profession. George et al. (2017) indicated that the increase in self-efficacy of DEU students was more significant than the increase in self-efficacy of traditional-style students. In addition, Bittner et al. (2020) result supports the DEU model's effectiveness in enhancing critical thinking. The DEU group showed a significant increase in average critical thinking scores by category (prioritisation, problem recognition, clinical decision-making, clinical implementation, and reflection) (Bittner et al., 2020). These results are consistent with a study by Vnenchak et al. (2019).

While adequate preparation of new graduate nurses (NGNs) for up-to-date practice remains a challenge, Dimino et al. (2020) referred to the DEU as a positive clinical learning environment where future nurses are supported while developing the competencies, thus facilitating the transition from student to nursing professional.

To achieve the best effects of the DEU and the ongoing collaboration between the health care facility and the nursing education program, faculty members must address many aspects that may affect student learning (Williams et al., 2021). Academic institutions and practices are urged to collaborate to align curricula and address the difficulties new graduate nurses (NGNs) encounter as they transition from student to practising professional. The collaborative efforts of academic leaders and nursing professionals can serve as a powerful catalyst for optimising the preparation of NGNs for practice using the DEU model in clinical nursing education (Dimino et al., 2020).

V. Conclusion

This scoping review revealed many advantages in applying the DEU model to nursing and health care provider students. The advantages found in the studies are included in the data synthesis. Reviewed studies provide evidence of the benefits of DEUs in clinical nursing education, including enhancing students' learning

opportunities and practical experiences, improving knowledge and competence, increasing students' self-efficacy, facilitating the transition from a nursing student to a Registered Nurse, and improving the overall achievement of nursing students. The success of implemented DEUs requires partnerships between nursing academies and health care agents.

References

- [1]. Alanazi, A. (2021). The impacts of Dedicated Education Units (DEUs) on the Clinical Nursing Education: A systematic review. *IOSR Journal of Nursing and Health Science (IOSR-JNHS)* 10(5), 07-18.
- [2]. Arksey, H., & O'Malley, L. (2005). Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology*, 8(1), 19-32.
- [3]. Bittner, N. P., Campbell, E., & Gunning, T. (2020). Impact of a Dedicated Education Unit Experience on Critical Thinking Development in Nursing Students. *Nurse Educator*.
- [4]. Brownlow, J. F. (2013). Perceptions of a dedicated education unit in the Mississippi Delta: The University of Southern Mississippi.
- [5]. Claeys, M., Deplaecie, M., Vanderplancke, T., Delbaere, I., Myny, D., Beeckman, D., & Verhaeghe, S. (2015). The difference in learning culture and learning performance between a traditional clinical placement, a dedicated education unit and work-based learning. *Nurse education today*, 35(9), e70-e77.
- [6]. Davis, K., Drey, N., & Gould, D. (2009). What are scoping studies? A review of the nursing literature. *International journal of nursing studies*, 46(10), 1386-1400.
- [7]. Dimino, K., Louie, K., Banks, J., & Mahon, E. (2020). Exploring the Impact of a Dedicated Education Unit on New Graduate Nurses' Transition to Practice. *Journal for nurses in professional development*, 36(3), 121-128.
- [8]. Edgecombe, K., Wotton, K., Gonda, J., & Mason, P. (1999). Dedicated education units: 1 A new concept for clinical teaching and learning. *Contemporary Nurse*, 8(4), 166-171.
- [9]. Flott, E. A., Schoening, A. M., McCafferty, K., Beiermann, T., & Hercinger, M. (2021). The Influence of the Dedicated Education Unit Clinical Model on Standardized Test Scores. *Nursing education perspectives*, 42(1), 41-43.
- [10]. Galuska, L. A. (2015). Dedicated education units: Partnerships for building leadership competency. *Journal of Nursing Education*, 54(7), 385-388.
- [11]. George, L. E., Locasto, L. W., Pyo, K. A., & Cline, T. W. (2017). Effect of the dedicated education unit on nursing student self-efficacy: A quasi-experimental research study. *Nurse education in practice*, 23, 48-53.
- [12]. Johnsen, R. L. (2012). A Student's Perspective of Learning on a Dedicated Education Unit.
- [13]. Lee, D., Watson, S. L., & Watson, W. R. (2019). Systematic literature review on self-regulated learning in massive open online courses. *Australasian Journal of Educational Technology*, 35(1).
- [14]. Mulready-Shick, J., Flanagan, K. M., Banister, G. E., Mylott, L., & Curtin, L. J. (2013). Evaluating dedicated education units for clinical education quality. *Journal of Nursing Education*, 52(11), 606-614.
- [15]. Mulready-Shick, J., Kafel, K. W., Banister, G., & Mylott, L. (2009). Enhancing quality and safety competency development at the unit level: An initial evaluation of student learning and clinical teaching on dedicated education units. *Journal of Nursing Education*, 48(12), 716-719.
- [16]. Murray, T. A., MacIntyre, R. C., & Teel, C. S. (2011). An Analysis of Partnership Performance: The St. Johns Mercy Medical Center-Saint Louis University School of Nursing Dedicated Education Unit Project. *Journal of Professional Nursing*, 27(6), e58-e63.
- [17]. Nishioka, V. M., Coe, M. T., Hanita, M., & Moscato, S. R. (2014). Dedicated education unit: Student perspectives. *Nursing education perspectives*, 35(5), 301-307.
- [18]. Peters, M. D., Godfrey, C. M., Khalil, H., McInerney, P., Parker, D., & Soares, C. B. (2015). Guidance for conducting systematic scoping reviews. *JBIEvidence Implementation*, 13(3), 141-146.
- [19]. Ranse, K., & Grealish, L. (2007). Nursing students' perceptions of learning in the clinical setting of the Dedicated Education Unit. *Journal of Advanced nursing*, 58(2), 171-179.
- [20]. Rusch, L. M., McCafferty, K., Schoening, A. M., Hercinger, M., & Manz, J. (2018). Impact of the dedicated education unit teaching model on the perceived competencies and professional attributes of nursing students. *Nurse education in practice*, 33, 90-93.
- [21]. Smith, M. J., Carpenter, R. D., & Fitzpatrick, J. J. (2015). *Encyclopedia of nursing education*: Springer Publishing Company.
- [22]. Smyer, T., Gatlin, T., Tan, R., Tejada, M., & Feng, D. (2015). Academic Outcome Measures of a Dedicated Education Unit Over Time: Help or Hinder? *Nurse Educator*, 40(6), 294-297.
- [23]. Tanner, C. A. (2006). The next transformation: clinical education. *The Journal of nursing education*, 45(4), 99-100.
- [24]. Vnenchak, K., Sperling, M. L., Kelley, K., Petersen, B., Silverstein, W., Petzoldt, O., . . . Kowalski, M. O. (2019). Dedicated education unit improving critical thinking and anxiety: a longitudinal study. *Journal for nurses in professional development*, 35(6), 317-323.
- [25]. Williams, G., Al Hmamat, N., AlMekkawi, M., Melhem, O., & Mohamed, Z. (2021). Implementing dedicated nursing clinical education unit: Nursing students' and preceptors' perspectives. *Journal of Professional Nursing*, 37(3), 673-681.

Aminah Alanazi. "The advantages of implementing Dedicated education units in clinical nursing education". *IOSR Journal of Nursing and Health Science (IOSR-JNHS)*, 11(02), 2022, pp. 60-65.