

Enhancing reflection on medical and surgical nursing among nursing students: A participatory action research study

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Published

2021

Journal Title

Nurse Education Today

Version

Accepted Manuscript (AM)

DOI

[10.1016/j.nedt.2021.104935](https://doi.org/10.1016/j.nedt.2021.104935)

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Background

Medical and Surgical Nursing (MSN) is a core course in baccalaureate nursing programs. The MSN course generally incorporates theoretical and clinical placement components, which are usually taught through traditional nursing education activities such as lectures, skills laboratories, and clinical experiences (Bussard, 2015). The purpose of MSN teaching and learning is to help students develop their knowledge, nursing skills, critical thinking, decision making, and clinical judgment in order to prepare them for a successful transition into the workplace (Bailey, 2017). Additionally, in order to be registered as a nurse in Taiwan, all students must pass the national licensure examination after they graduate from nursing school. Since MSN content comprises a significant proportion of the national licensure examination, the MSN course can be a significant source of pressure for nursing educators and students

The method of teaching and learning employed in this course may pose an even greater challenge for millennial and post-millennial nursing students (i.e. those born after 1997), as their perception of teaching and learning is quite different from that of previous generations (Erlam et al., 2018). For instance, the traditional lecture model is the method used most often in nursing education (Shatto et al., 2019), but contemporary undergraduates may not perceive traditional nursing education activities, such as lectures, as effective learning modalities. There is evidence to show that the traditional lecture model does not effectively promote active engagement, which is an important requirement in students' learning (Suardi & Kanji, 2018; Lumpkin et al., 2015). This is especially important in the context of the MSN course, which requires students to understand a great amount of theoretical content, develop clinical judgment skills, and prepare to engage in effective decision-making on complex medical and surgical health conditions in practice (Pence, 2016). Therefore,

more active learning methods should be incorporated into MSN curricula to engage students in class and facilitate students' critical thinking, problem solving and decision-making.

Research has shown that self-reflection is an effective active learning strategy that helps to develop students' clinical and nursing skills and capabilities (Bagheri et al., 2019). Reflective learning is a student-centered learning model that focuses on the importance of experience, both past and present, as a foundation for constructing theoretical knowledge and developing personal and professional skills (Fullana et al., 2016). Boud et al. (1985, p. 23) define reflection as "a generic term for those intellectual and affective abilities in which individuals engage to explore their experiences in order to lead to new understandings and appreciations." According to Bagheri et al. (2019), reflection focuses on deep understanding of the experience, which in turn helps learners to modify their practice or behaviors. Reflection is a key component of effective learning, as it is cyclic and involves critical assessment of learners' beliefs and attitudes for the development of self-awareness, self-monitoring and self-regulation through higher-order mental processes (Mann et al., 2009).

Reflection is also a way to bridge the gap between learners' thoughts and actions, as it enables them to determine whether they have sufficient grasp of the concepts, principles or skills to be able to transfer them to new situations and problems (Stefani et al., 2000). Hence, reflection may be particularly useful in the context of teaching and learning in MSN. The literature contains various examples of the positive effects of using reflective learning in nursing courses. For instance, it helps students to express emotions and feelings and identify problems in clinical practice placements within the MSN course (Mlinar Reljić et al., 2019). Reflection also allows students to take responsibility for their own learning (Coleman & Willis, 2015). Using reflection

as an active pedagogical tool may improve overall teaching and learning of MSN, which, in turn, enhances students' engagement, assists in curriculum design, and [informs planning](#) for course improvements.

This study aimed to develop and implement an effective learning process for students undertaking the MSN course. Its specific objectives were to 1) identify students' experiences and needs while undertaking the MSN course, and 2) use collaborative action to develop solutions to address identified needs with a focus on reflective learning.

Methods

Design

Participatory action research was selected for this study as it involves participants and researchers working collaboratively to make effective changes in a specific context (Norton, 2018). Participatory action research is a practical approach that is known for its ability to generate actions to solve practical problems by empowering participants to engage in the process of developing and implementing changes to address an identified issue (Strudwick & Day, 2015). [Reason and Bradbury \(2001, p.1\)](#) define participatory action research as “a practice for the systematic development of knowing and seeking knowledge, but based in a rather different form from traditional academic research”. Participatory action research may involve group discussions to identify problems and suggest solutions, and all participants actively engage in the process (Jacobs, 2016). Members of the group make decisions, monitor, and review the study's progress via regular meetings. In the current study, both researchers and participants engaged collectively in identifying common, concrete issues. Action is achieved through a four-stage cycle consisting of [diagnosing, planning action, taking action and evaluating action](#) (Coghlan & Brannick, 2005). This cyclic process is

referred to as the “spiral of action research cycles” (Coghlan & Brannick, p. 24). The participatory action research approach is well aligned with the focus of the present study on reflective learning. It promotes a culture of participation, interaction, and collaboration in building an active and positive learning environment that transforms knowledge into practice through the processes of action and reflection, relevant to the context of teaching and learning in the MSN course.

Ethical Considerations

Ethical approval for this study was obtained through the Institutional Review Board (IRB) (201800114B0). All participants received a participant information sheet and had the opportunity to ask questions prior to giving written consent to participate. Participants were assured that participation was voluntary and that they could withdraw from the study at any time without penalty or effect on their study. Power differentials were carefully considered and steps were taken to avoid any perception of coercion; for instance, individual interviews were conducted after students’ results had been released. All data were kept confidential and stored according to the institutional security requirements that met the IRB standard.

Participants

A purposeful sampling method was used to recruit participants (Campbell et al., 2020). The inclusion criteria were: second year Bachelor of Nursing students who had undertaken the MSN course. Students who were undertaking the MSN course for a second or third time were excluded. Information, including the purposes of and rationale for the study and what participation would involve, was emailed in an invitation to 158 students. In total, 30 nursing students responded and agreed to participate. The participants were divided into three groups, with 10 members per group. The peer-led group sessions discussed study issues and need for improvements

in the MSN course. An experienced qualitative researcher who was not involved in MSN co-teaching acted as a mentor (facilitator) for each of the group sessions. All participants completed the study without any drop-outs. Additionally, 14 participants were individually interviewed by the PI at the end of semester to collect in-depth data about various aspects of the study.

Action plan: Reflection as an active learning project

The study was conducted from February to June 2019. The group sessions were conducted monthly for four months in a tutorial room at the university. Each session lasted 2 hours, during which academic facilitators gave a 50-minute presentation on the key concepts of MSN, followed by 60-70 minutes of peer-led group discussions about participants' perceptions and reflections on learning in MSN. Participants were involved in all four stages of the participatory action research cycle.

Stage 1 – Diagnosing. In the diagnosing stage of participatory action research, it is essential to include key stakeholders and study participants. In the present context, these were academic staff who were involved in teaching the MSN course, and students who were undertaking the MSN course. Both academics and students recognized the need to change the current way of teaching and learning in the MSN course. The MSN course coordinator and co-teachers identified and initiated changes via regular course meetings and agreed on using reflective learning as an active and effective teaching and learning strategy. Students endorsed this recognition and provided recommendations for the study action plan.

Stage 2 – Planning action. The goal of stage 2 was to develop an appropriate MSN learning plan that aligned with students' needs and preferences. Students discussed the appropriate learning strategy for MSN based on recommendations from previous research and made a commitment to implement the proposed actions.

A preliminary study action plan was developed, which could be modified depending on students' feedback from MSN learning.

Stage 3 – Taking action. Stage 3 involved implementation and students' reflection on the actions taken. Stage 3 was conducted over three months and three group sessions were held. Several actions were taken at this stage: (1) a reflective workshop was organized to encourage participants to reflect on the process of learning in the MSN course, and on their responsibilities as learners; (2) group discussion sessions were conducted for participants to voice their views on improvements to the MSN course, and verbally reflect on their competencies as a result of studying MSN; (3) one senior student per group shared and assisted the current MSN students in practicing MSN techniques; and (4) learning sheets were developed to assist students to become active learners through reflection. **In this stage, students' reflective process was guided by Gibbs' (1988) Reflective Cycle, which involves description, feelings, evaluation, analysis, conclusions, and action plan.** These actions were taken and modified according to the students' perceived needs in relation to the process of MSN learning. During Stage 3, students requested that we provide them with videotapes **to help them practice their techniques** and increase their confidence.

Stage 4 – Evaluating action. In Stage 4, both researchers and participants reflected on the learning journey through the actions taken at each stage. The researchers evaluated and reflected on the appraisals and revisions of the action process **based on their role in the study. This included identifying** the educational intention, learning needs and other issues that emerged from analysis of individual interviews, group sessions and field notes. Students' reflections on MSN learning were recorded during the group sessions. Individual interviews were also conducted at the end of semester when the MSN course finished. Any educational intentions or

learning needs that had not been met, such as a disappointing score on a quiz or midterm examination, or any uncertainty about one of the MSN techniques, were discussed in the group sessions. These students' reflections would be used to construct the plan for the next cycle.

Data Collection

Several qualitative data collection methods were employed, including a workshop introducing Gibbs' Reflective Cycle (Gibbs, 1988), group discussion sessions, field notes, and individual semi-structured interviews. The individual interviews were conducted at the end of the MSN course using an interview guide (copy attached). This was designed to provide both consistency and flexibility in data collection, to maintain focus on the topic, and to avoid any bias toward the researcher's specific areas of interest. Each interview lasted approximately 40-60 minutes, which was considered sufficient to gain a comprehensive understanding of the students' views. Group sessions and individual interviews were audiotaped and transcribed verbatim. Both the PI and the co-researchers who facilitated the students' group discussion sessions recorded field notes throughout the study.

Data Analysis

Qualitative content analysis (QCA) was used to analyze all transcripts, including individual interviews, group interviews, and field notes. The process of data analysis included manifest and latent analysis (Bengtsson, 2016) and involved four stages: de-contextualization, re-contextualization, categorization, and compilation. During the de-contextualization stage, the PI and co-researcher individually read transcripts line by line to develop an overall view of the data and assigned codes. In the re-contextualization stage, all members of the research team engaged in discussions to group all of the homogeneous codes under subcategories, which were assigned *in vivo*

labels. The distinguishing features of each category were identified. Finally, a realistic conclusion was drawn from the data analysis at the compilation stage.

Trustworthiness

Seven choice points for quality in action research (Columbia et al., 2019) guided the assessment of the study's quality and ensured the trustworthiness of the study process. These seven choice points were derived from Bradbury and Columbia (2001). The seven choice-points were demonstrated in this article as follows: (1) the aims and objectives of this participatory action research were articulated; (2) the results reflected the values and concerns of participants involved in the study, and both participants and researchers interacted in multiple ways of knowing-for-action, as described in the action plan; (3) the study contributed to knowledge of participatory action research as participating students reported that self-directed learning empowered them to become active learners; (4) four stages of the action plan were clearly articulated and illustrated, and the voices of participants were heard via the conduct of semi-structured interviews and group sessions; (5) the study demonstrated responsiveness and actionability in relation to participants' study needs; (6) both researchers and participating students used reflexivity to develop a new approach to learning in MSN that increased learning effectiveness through collaboration and communication; (7) the insights in this report are meaningful to a wider academic environment, and action strategies utilized in this study can be applied to other nursing students in learning MSN.

Results

Twenty-eight female students and two male students aged 19 to 20 completed the study. All participants were in the second semester of the MSN course. Four themes emerged from analysis of the data: undertaking a course involving a large amount of

multidisciplinary knowledge; experiencing a fast-paced course; recognizing their own unique way of learning; and being an active learner (Figure 1). [In the verbatim extracts from interviews reported below, participants are identified by a letter.](#)

Undertaking a course with a large amount of multidisciplinary knowledge

Need for knowledge integration. Participants reported that they found it hard to build upon what they had learned in first year courses, such as bioscience, and integrate this learning into the MSN course. One participant stated:

I would like to tell the freshmen to study hard on bioscience courses, which will facilitate their study of the MSN course in the second year. Otherwise, MSN learning would turn into a negative learning cycle (G).

As an advanced course, MSN required students to build on and relate their previously accumulated theoretical knowledge of biosciences. Participants realized that MSN was grounded in previous courses in fundamental nursing (FN), Physical assessment, and Biosciences. Participants suggested that a better approach to Biosciences in the MSN would be to review all their previous learning in this subject.

I feel a bit like I am being forced to study Biosciences for a better understanding of learning MSN. Otherwise it is impossible to achieve mastery through a comprehensive study of the MSN (E).

Challenges in studying the MSN course. Participants experienced the progression to the advanced MSN course as a challenge [because of the amount of work involved](#). Understanding the MSN content required students to review several courses at the same time (as noted in 4.1.1). This led to a heavy workload, as these participants explained:

The context of MSN is more complex in terms of theoretical knowledge. MSN has about 4 times greater learning difficulty and class load compared with FN (L).

Almost all my study time was devoted to MSN because the lecture time was too tight. If I did not spend so much time on MSN, my academic progress and results would not be alright (G).

Experiencing a fast-paced course

Content-heavy and intense classes. Participants described the pressure they experienced in trying to understand the lectures and the required readings as they were content heavy, and the lecturer seemed to rush through the material. They thought that the lecturer's focus was on ensuring all the content was covered for the purposes of assessment. For example:

The time allocated for MSN learning did not allow us to absorb the knowledge. I would force myself to study because there was a quiz every week. If you (the student) did not prepare for the quiz, it is impossible to review all of the chapters when the midterm and final exams come (F).

The first unit finished, and the second unit started in a quick pattern. We all felt the tension from the fast pace of the lessons. It often happened that, after reading the back part, the front part was forgotten. Some things from textbooks cannot be easily remembered (D).

Reluctance to approach teaching staff. Participants reported being reluctant to seek assistance from the teaching staff as they perceived them as authority figures with the power to determine students' learning outcomes. For instance:

The teacher is a good learning resource, but it is still worrisome. I felt anxious about the teacher's authority and would rather not know the answer. Respect toward teachers and people older than you is needed (K).

Recognizing their own unique ways of learning

Recognizing one's own effective learning style. The participants were able to identify their own learning styles. One participant said:

The difficulty in learning MSN is working out how you deal with it, what is a proper approach for your own learning and to be able to achieve a comprehensive understanding of that course (B).

Some participants recognized that memorizing the content was the most commonly used learning style, but it could not help to retain knowledge and transform it into practice. As one participant commented:

I forgot all I studied after the quiz. Soon, there is not much difference between studying hard or not. I only have a superficial knowledge before the quiz. Once the exam items change a little bit, I fail in the answer (I).

Participants also reflected on how the MSN course could be more effectively managed to align with their own unique learning style. For example:

I need a logical process of how a disease and its care interventions are related. A structural process of context advances our learning. However, devoting more time and learning step-by-step are the only way to manage MSN well (H).

Using assessment as an effective learning tool. Participants identified the quiz as an effective learning method that reflected their study efforts. They used the quiz to determine their study schedule and priorities, and to identify knowledge gaps.

The quiz enhanced self-exploration of the way of self-learning. It was also a way to motivate me to make a time for study (M).

In order to ensure sufficient MSN study, a quiz was necessary every week. The quiz provided some direction in terms of what the important part was. Even if you did not have the motivation to study, the quiz was there to force you MSN management (E).

Being an active learner

Taking responsibility for one's own study. "Taking responsibility for one's own study" was the first step toward "being an active learner". Participants demonstrated their motivation to develop deep understanding and become active learners. For instance:

I hope I can get a better score than a pass. So, I have continually worked as hard as I can. When my knowledge has been challenged or when people say something I do not know, that is an indication for me to study more (P).

Valuing students' achievements. Through reflection, participants recognized the value of their achievements in this course and felt rewarded by knowing they had been active learners

Learning MSN makes me felt smarter than ever because I can use that knowledge to solve problems ... This is a sense of achievement to get into the nursing field. Looking back to the learning of other courses, they are a lot easier (O).

Discussion

Two challenges and two adaptive strategies for revising the process of MSN learning emerged from the data (Figure 1). Participants increased their ability to identify their learning needs and actively reflect on the construction of their MSN learning.

Increasing the sense of discovery

The experience of critically reflecting on the nature of the challenges they faced in the course and identifying their learning strengths turned the learning process into a positive experience. The process of revision has been shown to actively motivate and enhance students' reflective learning. Failure to modify one's attitude towards learning has negative consequences such as anxiety or withdrawal from study. These

adverse learning outcomes reduce students' interest in nursing and discourage their professional development. The study findings are supported by those from previous research (Mohi-ud-Din et al., 2019; Williamson and Paulsen-Becejac, 2018) which indicated that active peer-led learning in the classroom can generate successful module learning outcomes. The use of group discussions in action research to help students to identify their learning challenges and develop adaptive strategies bridges the gap between knowing and implementing. In a group setting, students can learn from others and contribute their own learning experience.

The participants in this study were initially uncertain about the learning challenges involved in the course. They were unable to clearly identify them and were not motivated to look for change strategies on their own. The group sessions provided an opportunity for participants to self-identify study challenges with peers. They also strengthened participants' commitment to their learning and developed a positive study attitude. The participants became more confident as they realized they were not alone in experiencing difficulties and that their problems could be resolved. This result highlights the need for MSN teachers to facilitate teaching strategies that employ reflective learning and collaboration (Zhang & Cui, 2018).

Encouraging reflective learning

The participants had limited professional knowledge and experience because they were second year Bachelor of Nursing students. They had difficulty understanding the relevance of biosciences to their subsequent study of courses such as MSN. As juniors in the nursing profession, they had limited ability to integrate knowledge (McVicar et al., 2015), recognize their learning style (Mahmoud et al., 2019), take responsibility for their own learning (Yardimci, et al., 2017), identify an appropriate learning approach and become active in learning (Bristol et al., 2018). In the study group, the

participants were guided and supported by peers and teachers. This peer-led learning encouraged mutual engagement leading to personal growth and professional development (Nelwatia et al., 2018). Participants' reflective learning from and about each other led to more productive interactions. Peer-led learning was essential to the purpose of action research. In this study, the co-PI who worked with them did not have the authority to grade their MSN marks, but facilitated learning by helping them to identify their educational goals and an appropriate learning approach in a friendly environment. In group sessions, participants encouraged each other to explore their learning weaknesses and strengths. They became active in their learning, and modified their learning approach with confidence to reach their potential in the MSN course.

Actively constructing reflective learning

The participants experienced anxiety about their learning as a result of the complexity and fast pace of MSN. Active reflective learning gave them the opportunity to take control of their own learning processes (Marton, 2018). The incorporation of active reflective learning into a classroom setting has been found to be a powerful learning modality. It supports the instructional process by enabling students to engage with and reinforce their learning in meaningful ways (Sinnayah et al., 2019). The participants in this study succeeded in becoming active and reflective learners because they recognized the need for change and took responsibility for their own learning. Previous research has shown that such active reflective learning motivates student engagement and leads to improved academic results (Harris and Welch Bacon, 2019). Marton's (2018) results supported a recommendation that learners should actively participate in the learning process.

In this study, the participants were initially ashamed about revealing their educational goals and asking for assistance from teachers. It is a cultural norm for

Taiwanese students to be silent learners. According to Medaille and Usinger (2019) these silent learners are often engaged in the process of learning. However, a study by Chalmers et al. (2018) found that face-to-face interaction between students and teachers had a positive effect on learning and provided the opportunity for students to understand the teacher's interpretation. The participants in this study clearly valued the interactive nature of peer-based learning through the participatory process. Learning with peers in a group not only encouraged participants to learn actively but also enhanced their learning accountability. Small group-based learning has been shown to be more effective than traditional large group lectures (Sinnayah et al., 2019).

The study provided an opportunity for participants to develop a comprehensive understanding of MSN. They valued the opportunity to meet for interactive engagement, enhance their understanding and critical thinking, and develop skills through group discussion (Bhagat & Huang, 2018; Nicol et al., 2017). Group discussions offered a safe space for participants to reveal their strengths and weaknesses and reflect on their learning from different perspectives. They also enabled participants to become active learners and achievers.

Limitations of the study

The study had an important limitation that affected the transferability of its results. The vast majority of participants were female. Only two male students contributed their views on the MSN course. Male nursing students' perspectives on study may differ from those of females, especially in a traditionally female-dominated profession such as nursing. It would be valuable to gain more information from male students.

Conclusions

The use of participatory action research in this study assisted students to identify their learning challenges, recognize the need to revise their attitudes and approaches to learning, develop successful processes for studying MSN, and reflectively develop the characteristics of an active learner and achiever. The student participants are still adapting their spiral process of study. Their experience to date has motivated them to identify learning challenges and change their learning strategy. The study could usefully be continued in another cycle for the same group of participants in a different course to further evaluate the effectiveness of action research in this learning context. Although this study involved a specific context and a small group of students, the results have wider implications for the effectiveness of group-based learning strategies by demonstrating the effectiveness of reflective learning in enhancing students' motivation and helping them to become more active in managing their ongoing learning.

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