Postgraduate Students' Experience of Using a Learning Management System to Support Their Learning: A Qualitative Descriptive Study

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Abstract

Introduction: Educational institutions worldwide have implemented learning management systems (LMSs) to centralise and manage learning resources, educational services, learning activities and institutional information. LMS has mainly been used by teachers as storage and transfer of course material. To effectively utilise digital technologies in education, there is a need for more knowledge of student experiences with digital technology, such as LMSs and especially regarding how LMSs can contribute to student engagement and learning.

Objective: This study aimed to gain knowledge about postgraduate nursing students' experiences with the use of LMS in a subject in an advanced practice nursing master's programme.

Methods: A qualitative method with a descriptive design was employed. Two focus group interviews were performed with eight postgraduate nursing students from an advanced practice nursing programme at a university college in Norway. Data were analysed using qualitative content analysis.

Results: Three themes emerged from the data material: 1) A course structure that supports learning; 2) LMS tools facilitate preparation, repetition and flexibility; and 3) own responsibility for using the LMS for preparation before on-campus activities.

Conclusion: The course structure within the LMS seemed to be important to enhance postgraduate students' ability to prepare before on-campus activities. Implementation and use of LMS tools can facilitate preparation, repetition and flexibility, especially when postgraduate students study difficult topics. Postgraduate students seem to have different views regarding their own responsibility for using the LMS to prepare before on-campus activities.

Keywords

advanced practice nursing, digital learning methods, higher education, LMS, nursing education, student-centred learning

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Introduction

Information and communication technologies have become a major focus on higher education at the level of master`s degree. Learning Management Systems (LMSs) have been implemented by educational institutions worldwide to centralise and manage learning resources, educational services, learning activities and institutional information (Berking & Gallagher, 2016). LMSs are web-based systems for delivering and tracking online learning and are also used for technical and administrative purposes (Coates et al., 2005; Juan, 2021). However, a key question in higher education is how

teaching and learning approaches affect learning (Nerland & Prøitz, 2018). Digital technology in higher education should promote learning, and teachers need to consider the

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pedagogical benefit of this technology (Nsouli & Vlachopoulos, 2021). Despite previous research not demonstrating that adopting digital technology into nursing education directly impact the students' academic performance, it may allow faculty members to deliver better quality learning with advantages such as flexibility, time-efficiency and improved engagement (Webb et al., 2017). Today, most nursing students are comfortable with the technology and welcome interactive media in an educational setting (Nsouli & Vlachopoulos, 2021). Nursing students' affinity for technology could be useful in a high-tech healthcare environment that is rapidly changing (Chong et al., 2016). For instance, distant learning digital tools have increased rapidly due to the COVID-19 pandemic (Langegård et al., 2021). As this generation of nursing students greatly tends to multitask and network, they may have different learning expectations compared to previous generations. These students may focus more on flexibility, interactivity and enquire about quick feedback from teachers (Skipa and Barton; Johanson, 2012). Due to the rapid transitions of the ongoing global challenges and technological development in this century, a well-designed and proper course structure with the use of LMS has become a necessity (Langegård et al., 2021). This study aimed to gain knowledge about postgraduate nursing students' experiences with the use of LMS in a subject in an advanced practice nursing master's programme.

Review of Literature

Student-centred approaches to learning assume that students play an active role in learning processes, including knowledge construction and exploration (Hoffart et al., 2016). The core elements of active learning are student activity and engagement in the learning process (Tualaulelei et al., 2021). Active learning occurs in social and instructional environments with interaction between individuals, such as peer-students sharing tools and knowledge (Nsouli & Vlachopoulos, 2021). The constructivistic cognitive part of active learning is when the individual student is challenged to use theory in reflection and to solve problems (Chuang, 2021; Knowles et al., 2014). For adult learners, however, prior experiences provide a rich resource when constructing knowledge. Their motivation is internal rather than external, and they experience a higher need to create meaning through understanding (Knowles et al., 2014).

Academic institutions have observed an association between the use of LMSs and student satisfaction (Redmond et al., 2018). Evidence indicates that the use of technology has a direct positive influence on student engagement, self-directed learning, and desirable learning outcomes (Bond et al., 2020). When designing courses educators should strive to incorporate a variety of engagement opportunities (Tualaulelei et al., 2021). Thus, LMSs could support active engagement and meaningful connections between course segments (Jordan & Duckett, 2018).

Notably, evidence indicates that LMSs have mainly been used by teachers as storage and transfer of course material (Kite et al., 2020). During the COVID-19 pandemic, distant learning became a necessity in higher education to complete ongoing student programmes worldwide (Langegård et al., 2021), and the need for more research on how to improve online learning experiences continues. There is a need for more knowledge about student experiences with LMS and how LMS may contribute to student engagement and learning (Howard et al., 2016; Tualaulelei et al., 2021). With increasing demands on student achievement, stringent subject plans, more focus on student-centred learning outcomes and digital learning methods, there is a need for more knowledge regarding postgraduate nursing students' experiences with digital technology. Applying student-centred learning methods through LMS could enhance student experiences. This study had the following research question: How do postgraduate nursing students' experience the use of LMS as a tool to support their learning?

Methods

Design

This study used a qualitative method with a descriptive design to collect and analyse data from focus group interviews with postgraduate nursing students. The design is suitable for describing the experiences (Hunter et al., 2019) of postgraduate nursing students. By using this design the researchers stay close to the data and to the surface of words and events (Sandelowski, 2000). In focus groups, the interaction among the participants could enhance data quality and generate data other than individual interviews (Krueger, 2014; Patton, 2015). Further, the social experience in focus groups could enhance the meaningfulness and validity of the findings since the participants' perspectives are often formed and sustained in social groups (Patton, 2015).

Participants

This study was conducted at a university college in Norway with postgraduate nursing students in the advanced practice nursing programme. Nineteen postgraduate nursing students enrolled in the course were invited to participate in the study. Oral and written information about the study were provided prior to recruitment. The postgraduate nursing students were recruited using purposeful sampling (Patton, 2015) since we wanted to recruit participants that could provide rich data about the use of LMS. The following inclusion criteria were used: both male and female postgraduate nursing students and both full-time and part-time postgraduate nursing students. According to Patton (2015) studying information rich participants provide insight and understanding rather than empirical generalization. Twelve students agreed to participate. However, four students withdrew

before the interviews were conducted. The final study sample comprised five students attending focus group A and three students attending focus group B.

Description of the Course Within the LMS

For this study, we used an advanced practice nursing master's programme that lasted two years full-time or three years part-time offered by the university college. The postgraduate nursing students were specialised in either illness management or intensive care nursing with various levels of clinical nursing experience prior to their studies, ranging from 2 to 25 years. They were born in the 1960s and 1970s, while others were born after 1980, which is defined as the new technological age (Howe & Strauss, 2000). Some of the students were in their establishment phase, taking care of their children and working full or part-time during their studies to cover living expenses.

The specific subject selected for this study was arranged over a 12-week period in the students' third or fifth semester, depending on whether they study full-time or part-time. During the 12-week period, the teachers used various learning methods, such as simulation training, group work and traditional lectures. The students also had eight weeks of clinical placement at a hospital ward. Based on this, we applied pedagogical, reason-based changes to the existing LMS (Canvas by Instructure) to support the students' learning. We wanted to use the LMS to promote student activity and support interactions between the students and the teachers, along with managing and retrieving course materials. The LMS was intended as a supplement to the traditional face-to-face classroom lectures. The structure of the platform included pedagogical tools to facilitate more active use of the LMS. The tools that were included are described in Table 1. Each week was presented as a module and started with a short video explaining that week's topics and introducing relevant lectures (Figure 1). The modules included tools, such as PowerPoints and podcasts, to help the students prepare for campus learning activities. Teachers also developed voluntary quizzes for weekly topics and facilitated student access to relevant links to online courses or websites. The quizzes were automatically corrected, giving the students immediate feedback.

Data Collection

Focus group interviews were conducted in October 2017 in a study room at the university college. Each interview lasted approximately 60 min. SAS acted as moderator, while HK was assistant moderator. The moderator and assistant moderator had no relationships with the participants prior to the interviews. At the beginning of each session, the moderator explained the role of the moderator and assistant moderator, repeated the aim of the study, and underlined that there were no right or wrong answers to the questions. To facilitate and

Table 1. Tools Included in the Learning Management System.

Announcements	Non-threaded, asynchronous messages for all site participants to read. Email notifications may be sent as well.
Assignments	Allows students to upload and submit assignments and projects and instructors to comment on student`s submissions.
Messages	Allows students or teachers to send private messages to individual persons or group messages. Email notifications may be sent as well.
Pages with content sharing	File storage space. Any file type may be stored; PowerPoints, PDFs, images, other documents and URL to other websites. Email notifications may be sent as well.
Podcasts	To help students prepare before lectures.
Video instructions	Video instructions from teachers, each video lasted maximum 5 min
Quiz	Relevant quizzes with immediate feedback to the student. Was ungraded.

focus the discussion, an interview guide with open-ended questions and follow-up questions were used. The interview guide covered the following topics: experiences with the LMS, experiences with digital tools and experiences with student-centred learning methods within the LMS. We chose not to pilot the interview guide because of a limited study population. However, all the authors discussed the questions in the interview guide several times and revisions were made to facilitate clear and relevant questions. In addition, the moderator also asked clarification questions when or if necessary. The interviews were audiotaped.

Data Analysis

The interviews were transcribed verbatim by HK. The data material was analysed using qualitative content analysis (Graneheim & Lundman, 2004; Lindgren et al., 2020). The interviews were read several times to gain an understanding of the content and to identify meaning units in the material. The process of the analysis involved a back-and-forth movement between the entire data material and parts of the text. Meaning units related to the aim of the study were identified and condensed while maintaining the core (manifest content). Finally, the condensed material was interpreted and abstracted into categories and themes (latent content).

Ethical Considerations

The study was approved by the Norwegian Centre for Research Data (reference number: 55015/3). Prior to the interviews, the students received oral and written information about the study, including their right to withdraw from the
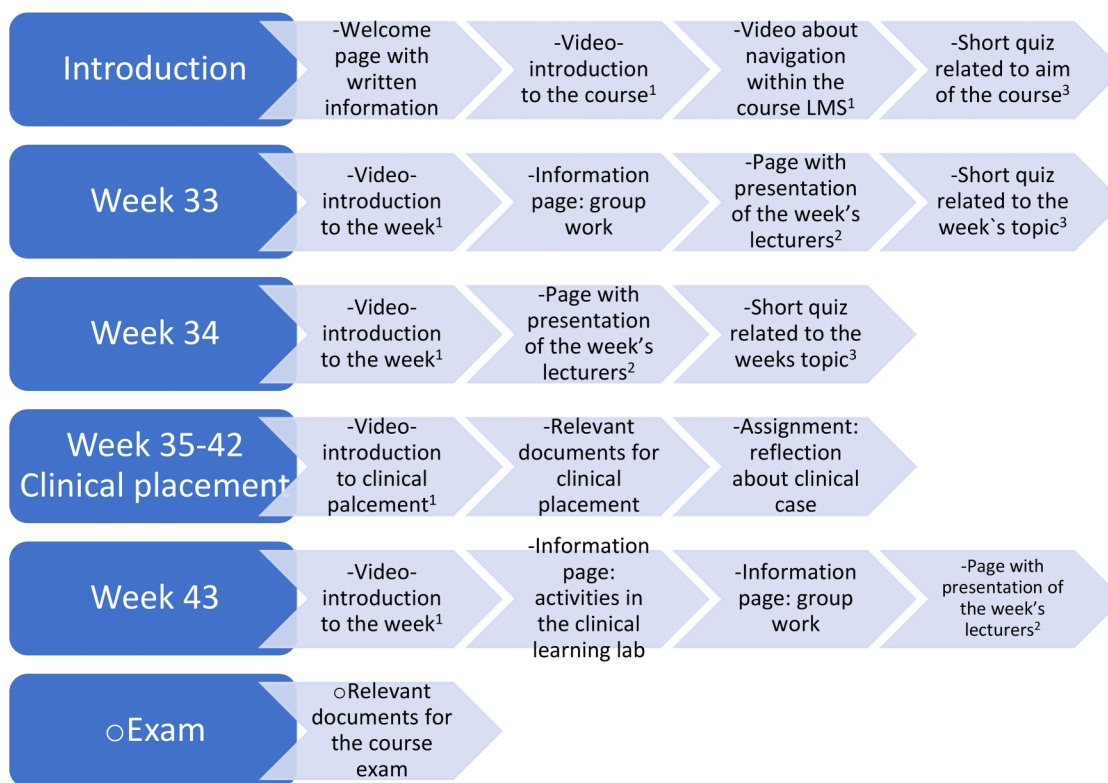
Figure 1. The structure of the course inside the LMS presented with each module and associated content.
[1]Video lasted maximum 5 minutes
[2]Page information consisted of: picture, relevant publications and information about the lecturer, available ppt-presentation the teacher's suggestion for short activities to prepare for the in-class lecture, relevant curriculum for the in-class lecture, a selected number of publications for students to explore if they wanted in-depth knowledge about the topic
[3]The quizzes were designed to be quick to complete and contained a maximum of 7 questions. Answers were corrected automatically with the option to repeat as many times as desired.

study at any time during the research process. The students gave their written informed consent to participate. Due to the small number of students attending this course, descriptions of the study sample were not given to safeguard the anonymity and confidentiality of the participants (Oliver, 2003).

Results

Three main themes emerged from the data material: 1) A course structure that supports learning; 2) LMS tools facilitate preparation, repetition and flexibility; and 3) own responsibility for using the LMS for preparation before on-campus activities. The themes and categories are shown in Table 2.

A Course Structure That Supports Learning

When the participants discussed their experiences with the current LMS course, they spoke a lot about their previous experiences with the LMS courses in their advanced practice nursing programme. All the participants expressed great frustrations regarding the course structure within the LMS. They described their efforts struggling to navigate, get overview

and difficulties trying to find documents and important information, which was spread in several places. Participants described this struggle as '*looking for the needle in the haystack*'. Teachers labelling documents in alphabetic order were perceived as a barrier to finding relevant documents and understanding the progression throughout the course. Participant 1 stated: '*It's more like search then you will find, but how much do you bother to search before you [give up]?*' Moreover, others highlighted that it was challenging to become familiar with the LMS and its functionalities, since the previous courses had different structures within the LMS.

Participants stated that the structure in the current LMS course facilitated navigation and overview, and that they used less time and effort to find information and documents. These participants perceived a clearer purpose behind the course structure. However, others felt that it was rather because they were in their last semester and have had more experience with the technology, and finally had become familiar with the LMS that made it easier to navigate and get an overview within the current LMS course. Participants valued the structure with weekly modules, which enhanced their perception of progression through the

Table 2. Overview of Themes and Categories.

Themes	Categories
A course structure that supports learning	Struggle to navigate, get overview and to find important information A structure that facilitates overview and navigation Cognitive overload due to multiple message alerts
LMS tools facilitate preparation, repetition and flexibility	Quizzes made it more fun to learn and facilitated reflection Podcasts enhance flexibility and repetition The utility of instructional videos was perceived differently
Own responsibility for using the LMS for preparation before on-campus activities	Preparation before on-campus lectures enhance learning Preparation before clinical skill lab due to fear of embarrassment Preparation before on-campus lectures should not be too time-consuming or demand too much effort

LMS course and made it easier to find documents. Some highlighted that inclusion of a front page with an introduction video and links to sub-modules facilitated overview and structure. The participants felt that gathering all relevant information for each topic, including curriculum in one document in each module, had helped them to prepare before on-campus lectures and activities in the clinical skill lab: '*Last time we were in the clinical skill lab, it was easy to prepare. We got a message alert, it [the information] was clearly organised and with curriculum for each topic. I think it was easy to relate to. This was one of the times I was best prepared*' (Participant 5).

Participants felt that the teachers facilitated preparation before lectures by showing the students what they needed to learn by making information and PowerPoints available on the LMS prior to on-campus lectures. This provided the participants with the possibility to prepare before lecture by reading and '*starting a thought process in advance*'. However, others described that during this subject, they still mostly used the LMS to find the deadlines for assignments.

The participants expressed that how information was issued was important to support their learning and described a cognitive overload due to multiple message alerts from the LMS, in addition to messages from the university administration and the library. This was perceived as one reason why they missed important information. Most participants described a struggle between limiting the number of alerts by editing the LMS settings and a fear of missing important information. This was illustrated by participant 4: '*E-mails on Saturday night, I don't need an email about every single thing. I understand that I can turn this function off.*

But you are afraid to turn it off in case you miss important information'. The participants suggested that teachers should utilise the calendar function of the LMS for an overview of the semester, as well as the need to distinguish more clearly between important and less important information when using message alerts and label the message alerts more clearly.

LMS Tools Facilitate Preparation, Repetition and Flexibility

The participants stated that quizzes within the LMS course made it more fun to learn and easier to prepare before on-campus lectures. These quizzes gave the participants an idea about the content of the on-campus lectures and an opportunity to think through what they knew about the topics and read the curriculum before the lectures. One participant pointed out that they had two courses simultaneously and that the quizzes had helped her prepare by giving direction for the content of the on-campus lectures in the current course. According to the participants, short quizzes with yes and no answers facilitated reflection. They underlined that no graded quizzes motivated them to prepare, gave them an opportunity to evaluate their knowledge level and identify their own knowledge gaps prior to on-campus lectures. Participant 2 illustrated this: '*A quiz where you are not evaluated, completely without grading – it's just fun while testing your knowledge*' (Participant 2). Another participant described: '*The positive thing with those quizzes was that you were challenged on looking through the information that was there to see if you had understood. It was quite useful. Got some kind of control that [I] had answered many [of the questions] correctly*' (Participant 5).

Participants described their days as stressful since they had to take care of their studies and their families. Podcasts allowed participants to be more flexible with their studies since they could listen to podcasts when convenient for them. Podcasts were considered a useful learning activity providing '*variation rather than just reading a book or notes from a lecture*'. Podcasts were valued by the participants since they could be paused or repeated several times, especially when there was something they did not understand from the on-campus lectures, and to prepare for the exam. Some emphasised that podcasts should be used for 'difficult topics'. Participant 8 illustrated this: '*I walked around and listened to the podcast. I heard it over and over and tried to understand the topic, it became easier*'. (Participant 8).

Instructional videos were perceived differently among the participants. It was nice that the teachers presented themselves before the course. Some found these videos useful, while others found them to be elementary and without utility or value. Nevertheless, participants said that these videos might be useful for some of their peers:

'It was really very good to look at. Yes. But now, I know how to navigate through the platform. I think like I'd figured it out myself. But it lasted for two minutes or something, and it is alright when it's so short' (Participant 1).

However, one participant stated: '… I do not think I even bothered to look; the video was so elementary' (Participant 2).

Own Responsibility for Using the LMS for Preparation Before On-Campus Activities

In both of the focus groups, the participants discussed their own responsibility for using the course material made available on the LMS to prepare before on-campus learning activities.

In one of the focus groups, the participants especially discussed their own responsibility to prepare before on-campus lectures, becoming familiar with, and to use the course material on the LMS: *'In a way, it's only up to ourselves. Even though a PowerPoint is available on the LMS, you may choose not to look through it'* (Participant 7). These participants emphasised that there were more discussions and learning during on-campus lectures when their peers met prepared. Even though they expressed that *'occasionally, it would be more exciting if more peers had been involved in the topics'* during on-campus lectures. They highlighted that it is not the teacher's responsibility to check the LMS to see who has prepared or not since that would be like *'being in junior high school'*. Further, one of these participants felt that LMS tools and the course material were more beneficial for students who struggled than those who kept a steady study progression. She stated that stronger students have another learning approach having overview over curriculum, literature and lectures, while the digital material could help those who read less to quickly prepare before lectures.

In the other focus group, the participants described that they prepared more before learning activities in the clinical skill lab than on-campus lectures. The material available on the LMS provided information on how to prepare in advance and contained a useful plan for the learning activities in the skill lab. Although, the participants expressed that they knew that there was great potential for learning if they made a mistake during activities in the clinical skill lab, they were concerned about embarrassment and that their peers would laugh if they made a mistake. Moreover, they described that in the clinical skill lab, they had to participate, as it would be visible to everybody if they met unprepared. *'Probably because of the fear, I know that I have to do something tomorrow, [I] cannot just sit on the backrow [like at on-campus lectures]'* (Participant 4).

Discussing what teachers could do to help them meet more prepared at on-campus lectures, these participants described insufficient time to study and that it was challenging to keep up with the expected study progression. The participants underlined that activities before on-campus lectures should not be too time-consuming or demand too much effort to prepare, such as relevant YouTube videos, short quizzes or short introduction videos on the topics at the LMS. Participant 2 illustrated this: … *'it has to be a five-minute video of something that can be watch in bed. For instance, it is quite stressful to submit something written'*. The participants agreed that they would not prepare if the activities demanded too much work, unless such activities were mandatory.

Discussion

Our research question concerned how postgraduate nursing students experienced the use of LMS as a tool to support their learning.

The course structure enhanced the participant's perception of progression through the LMS course and facilitated preparation before on-campus activities. LMS tools facilitated preparation, repetition and flexibility. The participants had different views regarding their own responsibility to use the LMS to prepare before on-campus activities.

The participants expressed that the structure in the current LMS course enhanced navigation and enabled them to find important information and gain an overview. According to the participants, it was easier to get an overview of the course material when teachers clearly identified important content. They found it easier to navigate throughout the LMS when they understood the purpose behind the course structure, leading to less frustration and increasing cognitive presence. In line with our findings, Knowles et al. (2014) highlighted mature students need to learn by understanding the meaning of what they should learn.

Furthermore, Schnetter et al. (2014) showed that students may have little patience for LMS courses that are difficult to navigate, which underlines the importance of easy navigation and clear articulation of course mechanisms. A study found that university students valued the LMS as the 'one place' to interact successfully with the university requirements. These students rated organising and managing the logistics of studying, such as managing timetables, fulfilling deadlines and course requirements, as benefits related to the use of LMS (Henderson et al., 2017). According to the participants, it was easier to get an overview of the course material when teachers clearly identified important content. Despite receiving too many alerts, the participants stated that they were reluctant to turn them off because of the fear of missing important messages. Consequently, postgraduate students may become reluctant to use LMS due to uncertainty or confusion about how elements of LMS work. However, the importance of navigation and overview could also be challenged by the teachers' own knowledge about the elements of the LMS and what important part role it may be to

teaching, in addition to lack of technical skills (Kite et al., 2020). Though postgraduate students need to accept responsibility for their own level of achievement, teachers need to provide a clear description of the LMS course that postgraduate students would perceive as meaningful.

Our findings suggest that the course structure in the current LMS course enhanced the postgraduate students' perception of constructive alignment (Biggs & Tang, 2011). An LMS course should have a coherent structure and be organised in a way that guides the students through the learning activities in a certain progression following the learning outcomes, the assessment tasks, clinical placement, the extent of the subject and the students' prior knowledge and learning abilities. Following constructive alignment (Biggs & Tang, 2011), the structure and content of an LMS course should not only focus on what the teachers are to teach on the LMS or on-campus but also on what and how postgraduate students are to learn. This may enhance students' ability to structure their self-studies with a steady study progression. In a constructively aligned course, students may be more likely to apply deep learning approaches (Wang et al., 2013).

Even though teachers could regard mature students in postgraduate programmes as adult learners capable of self-direction and independent learner behaviour, mature students also show dependence on the teacher, such as the need for detailed instructions (Spies et al., 2015). In the current LMS course, the course structure seemed to have provided guidance and support. This resembled a form of 'scaffolding' (Wood et al., 1976) that seemed to have enabled students to solve tasks, such as finding relevant information and enhancing their ability to prepare before on-campus learning activities rather than using their time and effort to navigate and feeling frustrated. The 'scaffolding' also seemed to have enhanced the participants' understanding of the pedagogical reasoning behind the current LMS course and their perception of study progression through this course.

LMS tools, such as quizzes, seemed to have supported our participants' learning by making it more fun to learn and helping them to prepare before on-campus lectures. However, students may believe that it is not sufficient that digital tools are fun and innovative to be perceived as useful (Bingen et al., 2020). In our study, the quizzes provided direction for what the participants would learn on-campus and thereby started a reflective process in advance. The use of quizzes can be linked closer to the concept of scaffolding (Wood et al., 1976) – when using feedback behind the wrong quiz answers, teachers can give hints to the postgraduate students on how they should understand theory differently – and by doing so helping postgraduate students on their progression rather than giving the right answer. Research confirms that assessment approaches designed for LMS environments need to be engaging to involve students (Zanjani et al., 2016). Immediate feedback is important for the students' learning processes (Hattie et al., 2007), while no graded tests could be important in motivating students to participate in quizzes (Svinicki & McKeachie, 2014). Online quizzes could therefore be a positive incentive for postgraduate students and their peers when used in advanced as preparation for certain topics, and may contribute to more valuable discussions during on-campus lectures (Cook & Babon, 2017).

The participants had to balance taking care of their studies and their families, which was perceived as stressful. Financial concerns, family commitments and childcare issues are problems that may affect mature students' study (Montgomery et al., 2009). When full-time students work, they have less time for studying (Carney et al., 2005), which can lead to reduced course effort and lower grades (Svanum & Bigatti, 2006). Our participants stated that LMS tools, such as podcasts, provided flexibility, repetition and support, especially when they studied difficult topics. Podcasts could support individualised learning processes and facilitate deeper learning with better opportunities for student reflection (Todorovski et al., 2015), and the flexibility to study anytime and anywhere could allow students to fit online studies around family commitments and work (Smyth et al., 2012).

The current LMS course was designed to facilitate students' activity and engagement when studying off campus rather than interactions and cooperation among the students. This could be a limitation to our learning design. Active learning occurs in social and instructional environments with interaction between individuals, such as peer-students sharing tools and knowledge (Damşa et al., 2015). Research findings suggest that students may experience loneliness studying off-campus (Bingen et al., 2019). The postgraduate students involved in our study were working and taking care of their families, which may also result in a less need for social interaction as adult students become more self-centred and more focused on their own tasks and assignments. Nevertheless, our learning design should be revised to include more interactions among the postgraduate students. Interestingly, with the ongoing COVID-19 pandemic, psychological wellbeing during higher education has been of concern regarding online learning. Dodd et al. (2021) show that postgraduate students report significantly higher psychological wellbeing compared to undergraduate students. However, students reported interaction with other students and teachers online as difficult and a negative study-related impact. As online learning in higher education will continue in the future (Dodd et al., 2021), more research on how to improve online learning experiences in postgraduate students is necessary. Furthermore, Zanjani et al. (2016) found that both students and teachers perceived that the more the tasks on the LMS encouraged interaction and collaboration between the students, the more they found it useful and got more involved. For instance, interactive reflection groups, video programmes and online discussions could be included as digital tools in the LMS to facilitate more collaboration and interaction between the students and the teachers on the LMS.

The focus groups expressed different views regarding their responsibility for using the LMS for preparation before on-campus activities. This could be related to different use of self-regulation skills. Zimmerman (2002) claimed that self-regulated learners '*are proactive in their efforts to learn because they are aware of their strengths and limitations and because they are guided by personally set goals and task-related strategies*'. In one of the focus groups, the participants elaborated on their responsibility of meeting prepared for on-campus activities and seemed to apply a deep-learner approach (Biggs & Tang, 2011), while participants in the other group prepared more for learning activities in the clinical skill lab than lectures on-campus, and seemed to apply a surface-learner approach (Biggs & Tang, 2011). Due to our learning design, the students were given flexibility and freedom of learning at their own pace, which could have endangered or rendered some of the students into poor self-regulation behaviour (Rasheed et al., 2020). In line with our findings, a systematic review (Rasheed et al., 2020) found that students experienced self-regulation challenges related to limited preparation before on-campus lectures and poor time management skills in online studies.

The focus group's different views regarding their responsibility using the LMS for preparation before on-campus activities could also be related to motivation often classified as either intrinsic or extrinsic (Rose, 2011). The participants in the focus group that highlighted their responsibility seemed to have been intrinsically motivated. Intrinsically motivated students may regard learning as an opportunity to satisfy their curiosity and their desire for knowledge. In the other group, the students seemed to have been extrinsically motivated. These students may strive to satisfy others as they believe it will result in an external reward (Rose, 2011). In the latter group, the participants seemed to prepare before the clinical skill lab due to concern about doing something wrong that could cause embarrassment. Studies have suggested different reasons for student's motivation that should be considered, particularly in a digital setting. For instance, regarding social isolation or less social interaction with other students, there is an increased need to maintain students' motivation and feeling disciplined with the course requirements while being off-campus (Dixson, 2010). Assignments that stimulate interactions between the students and the teachers along with blended learning may improve students with low motivation and increase active student learning positively (Gagnon et al., 2013; Jowsey et al., 2020).

Strengths and Limitations

Educational research can be challenging because of differences in power relationships between students and their teachers, which can also influence data generation during interviews. To encourage an open and honest dialogue during the interviews, two authors who were not involved in the course collected the data. Additionally, the participants were informed that the interviews would be conducted by two researchers (SAS, HK) who did not lecture or grade assignments and that only these researchers would have access to the audio recordings.

Data analysis was an iterative process. All authors read the transcripts, four of the authors analysed the data (SAS, MOO, MTS, VLC), while the other authors reviewed the analysis and asked critical questions to enhance different perspectives and competing interpretations. All authors agreed upon the final themes. Transferability was enhanced by describing the setting, data collection and analysis.

Three of the authors (MOO, CM, VLC) were involved in the design and teaching of the course, which may have influenced their preconceptions concerning analysis and interpretation. Therefore, to facilitate reflexivity and transparency, all authors participated in discussions concerning the development of the interview guide, data analysis and interpretation.

The postgraduate students were recruited from a single university college. Their experiences with one type of LMS may differ from students from other university colleges. Since we could not describe the sample characteristics, the transferability of the results may be limited. However, we described the general characteristics of the students who participated in this study. Moreover, the small group size may have affected the discussions; therefore, we may not have captured the breadth of experiences and nuances of students' experiences with the use of an LMS to support their learning. However, smaller numbers in focus groups could lead to each participant being heard (Wibeck et al., 2007).

Implications for Practice

This study provides useful information for teachers who design courses within the LMS for postgraduate students in advanced nursing programs. Teachers should support student learning by ensuring that courses within the LMS have a meaningful structure and are in line with constructive alignment, as this seems to facilitate greater student activity, responsibility and preparedness. Postgraduate students could have different views regarding their responsibility using the LMS to prepare before on-campus activities. Consequently, teachers should provide postgraduate students with clear expectations regarding their use of the LMS throughout the advanced nursing programme. This could be especially important for postgraduate students who apply a surface learner approach. To support learning, teachers could facilitate student interaction and cooperation with peers by including video programmes for synchronous communication as LMS tools.

Conclusion

The course structure within the LMS enhanced postgraduate students' perception of constructive alignment and enhanced

their ability to prepare before on-campus activities. Implementation and use of LMS tools can facilitate preparation, repetition and flexibility, which could be especially important when postgraduate students study difficult topics. Postgraduate students seem to have different views regarding their responsibility using the LMS to prepare before on-campus activities and apply different learning strategies.

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