Best Practices of E-Learning in Nursing Education: A Systematic Literature Review

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ABSTRACT

The integration of eLearning methodologies in nursing education due to technological advancements. It highlights the challenges faced by nursing faculty in preparing students to utilize these technologies effectively. The study, conducted using a Systematic Literature Review approach, focused on scholarly articles from 2010 to 2023 that utilized eLearning methods in nursing education. Results indicate that e-learning facilitates group activities, self-evaluation, and flexible scheduling. Successful eLearning implementation necessitates teacher support, training, current content, and student-faculty engagement. The conclusion emphasizes evidence-based eLearning approaches that enhance knowledge, self-directed learning, and critical thinking in nursing students, stressing the importance of faculty training and ongoing support for the effective deployment of eLearning.

Keywords*: Systematic Literature Review (SLR), eLearning, nursing education, knowledge, self-directed learning, critical thinking

INTRODUCTION

Technology advancements have brought about a new age in education where teachers can use eLearning pedagogy to support a wide range of learning activities. The integration of eLearning technologies has become a game-changing force in education, from organizing group projects and promoting class discussions to creating powerful PowerPoint presentations (McGee, Carmean & Jafari, 2005). Nursing educators must develop their capacity to transmit knowledge, skills, and attitudes appropriate for navigating the ever-changing landscape of eLearning if they are to successfully prepare students for the effective application of these innovations in both the personal and professional spheres (Hodgins, 2010).

Teachers face unexpected obstacles when navigating the changing eLearning world, so they need to be flexible and have a positive attitude toward innovation. To develop learning environments that support and maintain meaningful learning and understanding, nursing faculty resilience becomes essential (Hodgins, 2010). Understanding how much eLearning pedagogy advances students' knowledge, encourages self-directed learning, and sharpens their critical thinking abilities is still critically lacking.

To identify best practices, it is necessary to critically review the material that has already been written about eLearning due to its wide nature. Research publications that have used eLearning approaches to enhance nursing students' knowledge, self-directed learning, and critical thinking abilities are examined in this comprehensive overview of the literature. This evaluation includes articles from peer-reviewed literature that were published between 2010 and 2023.

A study is necessary in the context of e-learning in nursing education since some regions or institutions do

not have access to high-quality e-learning resources and support. Data demonstrating differences in access to technology, insufficient e-learning platform training for instructors and students, and a dearth of online resources specifically designed for nursing curriculum could all be indicators of this issue.

By drawing attention to these difficulties, it becomes clear that a problem-based study is desperately needed to solve these problems and enhance the online learning environment for nursing students in the area or school. This type of study would provide valuable insights into developing tailored solutions that enhance access, training, and resource availability, improving the quality of e-learning in nursing education within the specific context.

This systematic literature review's main goal is to offer evidence-based eLearning pedagogy approaches that are specially designed to advance critical thinking abilities, encourage self-directed learning, and improve knowledge in the context of nursing education. Through a thorough analysis and categorization of pertinent literature, this research project aims to provide a thorough grasp of the efficient application of eLearning approaches in the field of nursing education.

METHODOLOGY

The methodology employed in this study is the Systematic Literature Review (SLR), following the work authored by Kitchenham et al. (2009). The advantages of the SLR method are that it offers insights into a research problem and enables a study to gather the available information from a wide range of sources (Kitchenham & Charters, 2007). The SLR process unfolds through three pivotal phases: planning, conducting, and reporting, as delineated by the comprehensive guidelines outlined by Kitchenham et al. (2009).

Planning the review

In the planning phase, the researcher has identified the research questions, keywords, resources to be searched, and the inclusion and exclusion criteria.

Research question

The goal of the SLR in this study is to identify the best practices of eLearning pedagogy in enhancing knowledge, promoting self-directed learning, and enhancing critical thinking skills in graduate nursing education. Thus, the following research question is addressed by this SLR:

What are the best practices of eLearning pedagogy in enhancing knowledge, self-directed learning, and critical thinking skills in nursing education?

Research keywords

Based on the research question stated above, the key phrase was "best practices of eLearning." The researcher then identified the synonyms of the keyword "eLearning" as e-learning, electronic learning, online learning, blended learning, hybrid learning, and learning management systems. Other keywords identified are: "knowledge", "self-directed learning", "critical thinking skills", and "nursing education".

After the search terms were identified, they were compiled into a search string to be used in the search process. The Boolean search technique was used in this research. Boolean searches allow the researcher to combine words and phrases using the words "AND," and "OR." The AND operators were used to link the different search terms into a single search string. The OR operator was used to group the various forms (for example, the synonyms and alternate spellings). The resulting search string used in this SLR is as follows:

("e-learning" OR "eLearning" OR "learning management system" OR "blended learning" OR "hybrid learning") AND ("graduate" OR "graduate student" OR "graduate nursing education" OR "graduate nursing students") AND "best practices" AND ("self-directed learning" OR "self-directed learning") AND "critical thinking skills" AND ("knowledge" OR "knowledge enhancement").

Resources searched

This SLR was carried out in six databases: ProQuest Central, EBSCO Host, ERIC, Academic Search Premiere, and CINAHL. Besides, reference lists of relevant identified articles were hand-searched on Google Scholar. The search was completed on January 24, 2024. Refereed journal publications from 2010 to 2023 inclusive were identified.

Inclusion and exclusion criteria

The researcher developed two levels of inclusion and exclusion. In the first level, he excluded or included all the papers based on the following criteria:

Exclusion:

- Any studies without any of the mentioned keywords
- Any studies not in the English language
- Any studies that were not full text
- Discussion papers and short papers
- Any studies which were found to be repeated

Inclusion:

- Any studies with any of the mentioned keywords
- Studies in English
- Full-text papers
- Peer-reviewed papers

Data extraction strategy

The form of data extraction from the included studies is shown in Table 1.

TABLE 1 Form of Data Extraction

Item	Information about the item
Study ID	An ID number was allocated to each study to make it easier for us to deal with the substantial number of works
Author/s & year	Author/s' names and year of publication
Study subject/s	Institution or students
Best Practices of eLearning	Statements that were related to the best practices of eLearning pedagogy

Conducting the Review

The second phase involved the following steps: identification of research, selection of studies, assessment of study quality, data extraction, and data synthesis.

Identification of research

After identifying the search string, the researcher began searching through the online databases mentioned above. The result of the search process is presented in Table 2.

TABLE 2 Result of Search Process Through Online Databases

Online Database	Search Result
ProQuest Central	271
EBSCO host	328
CINAHL	336
ERIC	304
Academic Search Premier	58
Google Scholar	864

Study Quality Assessment

To appraise the quality of the studies, a quality assessment checklist was done with the researcher's adviser to assess the quality of the evidence presented by the selected studies. The questions used were adapted from the Centre for Evidence-Based Medicine (CEBM) stating the following: 1) Are the study aims clearly stated? 2) Is the research described adequately? 3) Does the study address a focused question? 4) Do the objectives lead to conclusions? 5) Are the findings important to the objective of the SLR? 6) Does the study add to your knowledge or understanding? 7) Do the results add to the literature?

The appraisal questions stated above were answered by either Yes, No, or Partially. Using the answer scale shown below, the researcher concluded that the higher the score of a study, the greater the degree of the study's ability to address the research question, and consequently the greater its quality.

Answer	Score
Yes	1
No	0
Partially	0.5

The scale of question for every study as shown in Table 8 below shows the percentage attained by each included study from the total score of seven (7). The table below presents the results of the quality assessment of the included studies.

As shown in Table 3, most of the studies that were included in the SLR were scored 3.5 or higher from the total score of 7 (rate of 50%). Therefore, all the articles were above 50% and were kept in the SLR process. The highest score belonged to FO-13 and FO-14, both with a score of 6.5 from the total score of 7 (93%). The lowest mark belonged to FO-13 with a score of 4 from the total score of 9 (57%). In this step, all the articles were reviewed based on the quality assessment checklist and scored based on this checklist. The total number of papers included in this step was seventeen (17).

TABLE 3 Critically Appraised Included in the Study

STUDY ID	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Total Store	%
FO-1	1	0.5	1	0.5	0.5	0.5	1	5	71
FO-2	0.5	1	0.5	1	1	1	1	6	86
FO – 3	1	0.5	1	1	0.5	0.5	0.5	5	71

FO – 4	0.5	1	1	0.5	0.5	0.5	0.5	4.5	64
FO – 5	1	0.5	1	1	0.5	1	1	6	86
FO – 6	1	1	0.5	1	1	0.5	0.5	5.5	79
FO – 7	0.5	1	0.5	0.5	0.5	1	1	5	71
FO – 8	1	0.5	1	1	0.5	0.5	1	5.5	79
FO – 9	0.5	0.5	0.5	1	1	1	0.5	5	71
FO – 10	1	0.5	1	0.5	0.5	0.5	0.5	4.5	64
FO – 11	1	1	0.5	1	1	1	1	6.5	93
FO – 12	1	1	0.5	1	1	1	1	6.5	93
FO – 13	1	0.5	0.5	0.5	0.5	0.5	0.5	4	57
FO – 14	0.5	1	0.5	0.5	1	1	0.5	5	71
FO – 15	1	0.5	1	1	0.5	0.5	0.5	5	71
FO – 16	1	1	0.5	1	0.5	1	0.5	5.5	79
FO – 17	0.5	1	0.5	0.5	1	0.5	0.5	4.5	64

Study Selection

Based on the inclusion and exclusion criteria, the researcher selected the primary studies. He excluded papers based on the inclusion/exclusion criteria. After conducting a head search or title screening, abstract reading, and full-text reading, the researcher gathered 17 primary selected studies. Figure 1 shows the process of selecting the final studies and is shown in Table 4.

Data Extraction Strategy

In the data extraction step, the data units were extracted from the 17 related studies. In this step, the researcher focused on the best practices of eLearning pedagogy. He recorded the factors related to the best practices of eLearning according to the form as described. Finally, the researcher identified 95 results or statements that were related to the best practices of eLearning pedagogy as presented in Table 5.
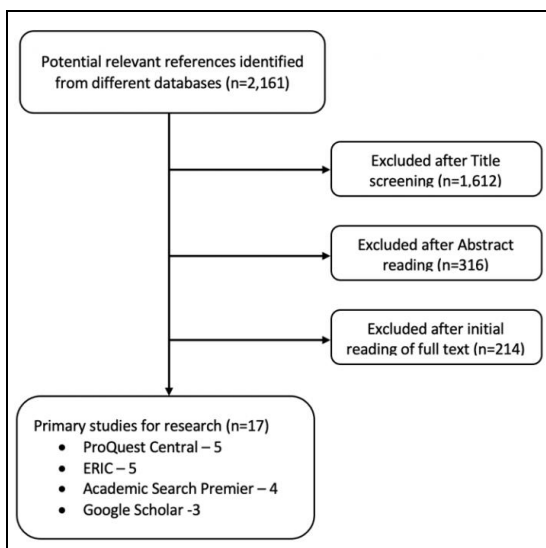

Fig. 1 Selection process for primary studies

Data synthesis and results

The researcher extracted 91 results or statements related to best practices of eLearning pedagogy. To have a

list of unique statements, these must be filtered by removing the duplication explicitly and implicitly based on their similarities and differences via data synthesis. In this step, the researcher performed data coding. Data coding inquiry is most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data (Saldaña, 2013). The researcher categorizes the data and describes the details of these categories. Also, in this step, the researcher considers the data in small detail while developing the categories. Table 6 presents the code and its descriptions for the best practices of eLearning pedagogy which were extracted from the 17 studies in this Systematic Literature Review.

RESULTS AND DISCUSSION

Based on the studies reviewed in this paper, there are 16 items identified as best practices in eLearning pedagogy. The results of each item are displayed in detail below:

TABLE 4 Selected Studies

Study ID	Author/s & Year	Source	Publication Name	Research Title
FO-1	(Lynch, Skutnik, Thompson, Stephens, & Tays, 2015)	Academic Search Premiere	Routledge, Francis & Taylor Group, Open Learning	Design lessons about participatory self-directed online learning in a graduate-level instructional technology course
FO-2	(Holzweiss, Joyner, Fuller, Henderson, & Young, 2014)	Academic Search Premiere	Routledge, Francis & Taylor Group, Distance Education	Online graduate students' perceptions of best learning experiences
FO-3	(Lu & Chen, 2011)	Academic Search Premiere	Routledge, Francis & Taylor Group, Journal of Teaching in Travel & Tourism	The Potential for Active Online Learning in Taiwanese Tourism Degree Programs Based on Online Educational Experiences of Graduate Students
FO-4	(Chyr, Shen, Chiang, Lin & Tsai, 2017)	Academic Search Premier	Journal of Educational Technology & Society	Exploring the Effects of Online Academic Help-Seeking and Flipped Learning on Improving Students' Learning.
FO-5	(Mello, 2016)	ERIC	Research in Learning Technology	Fostering postgraduate student engagement: online resources supporting self-directed learning in a diverse cohort.
FO-6	(Wichadee, 2014)	ERIC	Journal of Educators Online	Students' Learning Behavior, Motivation, and Critical Thinking in Learning Management Systems
FO-7	(Sirakaya & Özdemir, 2018)	ERIC	Malaysian Online Journal of Educational Technology	The Effect of a Flipped Classroom Model on Academic Achievement, Self-Directed Learning Readiness, Motivation and Retention
FO-8	(Korkmaz & Karakus, 2009)	ERIC	Turkish Online Journal of Educational Technology	The Impact of Blended Learning Model on Student Attitudes towards Geography Course and Their Critical Thinking Dispositions and Levels
FO-9	(Firat, Sakar, & Yurdakul, 2016)	ERIC	Turkish Online Journal of Distance Education	Web interface design principles for adults' self-directed learning.

FO-10	(Engelhard, 2013)	ProQuest Central	UMI Dissertation Publishing	Advancing Clinical Instructor Best Practices: A Venture into Online Learning
FO-11	(Montane, 2016)	ProQuest Central	ProQuest Dissertations Publishing	Faculty Knowledge and Use of Best Practices in Online Continuing Education
FO-12	(Hamilton, 2016)	ProQuest Central	ProQuest Dissertations Publishing	Preparing Faculty to Teach Online: Promoting Success in the Online Classroom
FO-13	(Portugal, 2013)	ProQuest Central	ProQuest Dissertations Publishing	The Lived Experiences of Faculty in an Online Teaching Environment
FO-14	(Edmonds, 2010)	ProQuest Central	ProQuest Dissertations Publishing	Understanding the Perspectives of Online Graduate Students: Implications for Educational Leaders
FO-15	(Vivekananda-nthamoorthy, Naganathan, & Rajkumar, 2014)	Google Scholar	RSIS (Research and Scientific Innovation Society) Publications	Critical Success Factors for Enhancing the Effectiveness of E-learning Framework
FO-16	(Islam, 2013)	Google Scholar	Elsevier	Investigating e-learning System Usage Outcomes in the University Context
FO-17	(Al Jufri, 2017)	Google Scholar	Leena & Luna International	The Practice of E-Learning-Based Learning Management

1. *Presence of a support system.*

Seven studies (FO-1, FO-6, FO-13, FO-15, FO-16, FO-17) show that students are more engaged in eLearning pedagogy if there is the presence of a support system anytime and anywhere nature. The study indicated that online academic help-seeking allows students to seek academic help online by themselves. Students who are convinced that online information is an essential resource related to course content are willing to seek online academic help (Lee, Chiu, Liang & Tsai, 2014). Moreover, it was found that even in an eLearning environment, students' online learning behavior can be effective with adoption of support system.

An institutional commitment through regular monitoring and evaluation of teaching methodologies across different learners. Faculty members and eLearning users need constant support from technicians, resource people, and administrators.

2. *Using assignments to engage students in eLearning.*

Studies (FO-2, FO-8, FO-14, FO-15) show that students using eLearning are more engaged in their courses when they have assignments requiring active thinking and problem solving. These assignments could be journal assignments, online learning tasks, or group projects. While critical thinking assignments are likely to appear in all classrooms, it may be more important for graduate-level classrooms to have a predominance of such activities to help them reach higher orders of thinking (Gansemer-Topf et al., 2006). Assignments that focus on the conduction of research and authoring papers also emerged as an online instructional method that enhanced learning through critical thinking. Participants explained that by working throurgh the research process and organizing their thoughts, they were better able to understand how theory should be applied to a variety of professional situations.

3. *Online discussion forums*

Eleven studies (FO-2, FO-3, FO-8, FO-9, FO-11, FO-13, FO-15, FO-16, FO-17, FO-18) indicated that

online discussion forums like the use of synchronous communication creates collaborative learning environments. Online discussion forums have been demonstrated to be more thoughtful and self-governing than discussions occurring in face-to-face environments. They can also be longer and more academically focused. Online discussions may have additional benefits for graduate students because students have an opportunity to interact with peers who are becoming their professional colleagues. Graduate students who exchange career-focused information with their peers, read and critique each other's project or messages increase their acculturation into the professional field and increase their ability to acquire knowledge.

In this SLR, it was found-out that students who participate in eLearning courses, can work collaboratively by dialogue and communication tools such as e-mail, discussion boards, and chat rooms. Students did not feel pressure in expressing their individual opinions on the discussion boards and chat room and this freedom from pressure in communication is one of the reasons their motivation increased.

This SLR also shows how synchronous online communication can create collaborative learning environments for the students. It was revealed that a synchronous online environment creates interactions relating to emotional regulation and coordination, which increases student participation. Further, online learning environments with asynchronous methodology provide quality educational experiences that make instructors and students engage in academic activities and communications. This SLR found that synchronous communication encourages knowledge building.

4. *Use of eLearning tool*

Several studies (FO-2, FO-3, FO-7, FO-9, FO-11, FO-14, FO-15, FO-16, FO-18) proved that the use eLearning tools such as e-mail, videoconferencing, watching videos created by instructors and peers, multimedia, and social software increases student's motivation of participating in eLearning activities. Other factors that increase student's motivation are the following: students are allowed to access to lecture slides via the virtual campus, podcasts had a positive impact on their understanding of lectures, use of an avatar to reach out to different students so they have someone talking to them. Instructor-generated resources were the most beneficial to their learning includes PowerPoint and videos.

Studies show that students learn best when instructors utilize a variety of technological or eLearning tools to help keep the course interesting. Findings from this SLR support the diverse use of technology in instruction to help engage learners.

5. *Timely feedback from faculty*

There are seven studies (FO-2, FO-3, FO-7, FO-11, FO-14, FO-15, FO-17) indicated that responsiveness of teachers to student's performance, interests, challenges, and learning opportunities reported positive views. eLearning instructors should be active responders and provide feedback and evaluation to students with a sense of urgency.

Participants from the study stated that while they appreciated timely and regular feedback, they also wanted a thoughtful evaluation of how they could improve. In addition, when the feedback contained positive encouragement, it motivated participants to continue learning. As one participant noted, positive feedback "assured me of my knowledge in the subject studied" while another explained "positive encouragement to make decisions at work and with my education helped me to attain higher goals and balance in my life." The responses indicate that the quality of feedback also mattered. Students needed assurance that they were interpreting material correctly and had a clear understanding of the information being covered in a course.

Another study shows that graduate students believed that the most crucial factor that influenced their

performance achievement was with learner-to-learner interaction and learner-to-instructor interaction. They believed that the clarity of online course objectives and responsiveness of teachers to student interests, challenges, and learning opportunities contributed most to their success and satisfaction in their courses.

6. *Flexibility and convenience*

Six studies (FO-7, FO-8, FO-10, FO-15, FO-16) indicated that the participants welcomed the flexibility of the blended approach, meaning they could work through module material when they wanted to, rather than when instructed to do so by the tutor. The blended approach also afforded the opportunity for individual preferences to be met. The blend of lectures and tutorials as well as online forums offered a range of methods by which to learn and be able to ask questions comfortably. Graduate students would include having flexibility in their courses, such as with assignment deadlines, learning outcomes, work presentation styles, and time element.

Learner flexibility and convenience is also of growing importance as more graduate students with outside commitments (such as work and family) seek additional education. Many learners want the convenience offered by a distributed environment, and, at the same time, do not want to sacrifice social interaction.

7. *Integrating social network sites*

It is indicated by the study (FO-6) that many students may not log in to their course website every day; however, they usually log-in and browse social network sites or chat via mobile applications every day. The study suggests that the integration of social networking sites could provide comprehensive implications and motivations for educators to design their future online or blended courses and help their students to involve themselves in eLearning activities.

8. *Learners can keep track of their own improvement.*

Several studies (FO-1, FO-7, FO-11, FO-12, FO-15, FO-17) showed that many students agreed with the statement that eLearning helped them with self-assessment indicating a positive use of eLearning for tracking their own improvement. This statement of students' behavior relates to the preconceived notion that students may behave outside the expected norms and behavior either set or assumed by the instructors. A majority of the participants from these researches cited the processes of evaluating their improvement like engagement of students in self-directed and participatory learning activities, online exams helped in self-assessment, test feedback provided the students with an opportunity for self-assessment, components of eLearning platform that could be regulated by learners on their own, monitoring the student's navigation behavior, the time spent on individual modules and how the student advanced from unit to unit, allowing students to evaluate teaching style and the learning imparted to the class during and after the semester, and importance of Self- Monitoring tasks like sticking to plan, keep track of progress toward achieving goals.

9. *Accessible from varied equipment*

In this study (FO-11), the expert opinions showed that there were studies that the characteristics that eLearning should possess in accessibility to various forms of technology like tablets, smartphone, or laptops to ensure utilization of eLearning platform. Accordingly, an eLearning design, which is accessible anytime and anywhere, should be user sensitive, ensure ease of access, be compatible with all handheld gadgets, provide social web support, make use of learning analytics, and be motivating.

10. *Organized online activities*

Organizing online activities followed by a clear explanation and guidelines about doing the tasks is the

theme arise from these studies (FO-8, FO-1, FO-2, FO-3, FO-9, FO-10, FO-11, FO-12, FO-13, FO-18). One important finding from these studies shows that the students' motivation was correlated with their online learning behavior. The more motivation students had, the more they participated in the eLearning activities. So, in organizing any online activities, it is necessary to inform students of what benefits they will earn, followed by a clear explanation and guidelines about doing the tasks. It can be assumed that in this study students saw the advantages of working through eLearning activities, so they were continually active and motivated to learn.

Another study cited the students' enjoyment of their online courses by revealing their perceptions about their learning motivation and satisfaction. Most interviewed students expressed concerns about the instructors' course objectives and willingness to help them participate and contribute to online discussions. Therefore, if learners do not engage with peers, instructors, and learning activities, they tend to show far less motivation. Stated in one of the studies is that a student's increased interest depends on the use of online resources and diverse types of interaction with fellow students, instructor, and course materials. They also stated that if a student is highly interested in the course objectives he or she is studying, the student's motivation also increases. In keeping with this, discussion boards were considered a place for delivering ideas in which students generate and analyze problems. But students emphasized that when they found themselves at a loss as to what to do while using online discussion resources, instructors were expected to offer direction and assistance to reinforce better understanding and more involvement.

11. *Use of academic evaluation rubrics*

On these studies (FO-14, FO-15), the use of academic evaluation rubrics ensures students' participation in various eLearning activities. In a discussion portion of one of the studies, the types of feedback received, multiple student participants referred to the use of rubrics. Five participants provided detailed descriptions of rubrics when asked to describe the types of feedback they received. Students reported that rubrics helped to clarify assignments and emphasized the concepts that were most important. Students also felt that rubrics improved the score they received on an assignment.

In another study, the use of Rubrics for discussion questions, assignments, and teamwork are essential in the online classroom. Examples of discussion forum rubrics include the following: (a) post is insightful, thorough, and interesting, (b) post demonstrates thorough understanding of the reading assignment and is substantiated by two or more examples from the textbook and/or appropriate website, and (c) actively engaged in the discussion forums with at least two other students' posts in a manner that demonstrates substantive analysis and/or evaluation.

12. *Training on the use of eLearning platform*

Six studies (FO-12, FO-13, FO-14, FO-15, FO-16, FO-18), emphasized the importance of providing appropriate training and other capability building activities to enhance competency in the use of technology, computer software, and eLearning platform. Support and training for educators and learners is an essential component to transition successfully into the eLearning environment. Findings from several literatures indicated that the effectiveness of teaching online is varied and complex. An eLearning company made explicit references to the faculty and student's ability to be adequately trained, qualified, and supported.

Research findings, during the trial and the validation test of management model, show that e-learning experienced some difficulties, this can be overcome with the cooperation of various parties. In the development stage of learning strategies, the roles of leaders and lecturers are very dominant to control student. Thus, it is necessary to provide training and refresher on the development of the teaching plan to the institution and students so that the learning process is integrated and controlled.

Also, in this SLR, training was seen as especially important to sustain quality courses as institutions turned more to non-permanent part-time instructional staff for online teaching. Some authors suggested developing a culture of professional development as it is the "greatest shot at institutional and cultural transformation" and advised the institution to promote the improvement of student learning as it would positively affect faculty development of eLearning courses.

13. *Expertise of instructors*

In these studies, (FO-2, FO-13, FO-15) expertise of instructors who are knowledgeable and skilled in teaching, content, and aligned with the constructivist principles are crucial and proficient in software technology to provide effective feedback. In a study, participants recognized the expertise of instructors and the high-performance expectations they communicated to students as important contributors to learning. It should be noted that all participants cited instructor expertise and expectations as a beneficial learning experience. It is possible that having more experience with online courses or being deeper into the academic discipline can help students discern how instructor characteristics impact the online learning process and may influence students' perceptions of faculty commitment to learning.

The eLearning methodology is essential when adapted to create an optimal learning experience for both students and teachers. Knowledgeable educators skilled in teaching, content, and aligned with the constructivist principles are crucial. However, before any improvement can take place, it needs to be firmly based on what faculty already know and practice, because knowledge of a particular subject matter and teaching experience do not automatically ensure success in the online environment. Faculty must understand the various technologies available and their capabilities to make the content comprehensible to all students while adhering to constructivist principles.

14. *Visibility of instructor in the discussion board*

The study (FO-15) describes the visibility of instructor in daily discussion board. Participants' experiences about implementing policies and procedures, classroom expectations, and monitoring and evaluating students' participation in online classroom activities. Most of the participants indicated the instructor's visibility in the discussion board to provide learning guidance.

15. *Individualized comment*

Two studies (FO-15, FO-18) emphasized an individualized approach to learning with intense focus on learning content. In these studies, it described that the level of comfort in the work environment is evident in the deep concern faculties have demonstrated to their students. Within the online learning environment, the instructors have higher commitment in providing individualized teaching and mentoring, particularly to students who have learning difficulties and difficulties in technology use. Unlike traditional classrooms, the online instructors are committed to ensure that presentation materials are effective for self-learning. The inherent difficulty of self-learning has been considered by the online instructors as shown in their commitment to respond to students' e-mails immediately. The urgency of responding to e-mails was considered an important strategy in sustaining the interest of students in learning the required online tasks. In many cases, instructors respond to students outside typical face-to-face class schedules to clarify learning points that are difficult to understand in the online environment.

16. *Provide incentives and acknowledgement for faculty*

This study (FO-16) emphasized the provision of incentives and acknowledgement for faculty who frequently utilize eLearning platform. It was deemed important for educational leaders to develop policies

for online learning programs, though difficult due to the complexity of technology and higher education organizations. The author suggested aligning the missions of institutions with academic units to work together more effectively. It could also include faculty contractual needs such as material ownership, evaluation methods, incentives, and workload issues along with student development and tuition levels. Additionally, the study author recommended implementing faculty performance contracts that addressed funding and monitoring systems to ensure quality online education.

Additionally, the author found that providing extra compensation, such as financial incentives and course release time, helped elicit the commitment of faculty to develop and teach online courses in higher education. He found that faculty members were both intrinsically and extrinsically motivated to develop and teach online courses. Intrinsically, they favored the convenience, comfort, and future potential of online learning; whereas extrinsically they were motivated by external pressures from the institution to get involved.

Further, the field of nursing education will be impacted by the present research findings on eLearning best practices. Through the identification of evidence-based eLearning methodologies, this study offers significant insights for educators, institutions, and policymakers in the nursing education sector by improving knowledge, critical thinking, and self-directed learning in nursing students. These findings have ramifications for faculty development, student learning outcomes, improved instructional methods, quality control, and technology advancement adaptability.

Overall, the research's implications highlight how revolutionary eLearning can be in nursing education and offer stakeholders practical advice on how to improve student results, improve teaching methods, and keep up with the rapidly changing field of educational technology.

The researcher acknowledges certain limitations resulting from the methodology that was selected. There are inherent limits to the Systematic Literature Review approach that must be considered, despite providing insightful analysis and a thorough overview of the body of extant research. The following are a few of the restrictions:

The study's focus on academic publications from 2010 to 2023 might have eliminated pertinent studies that were released prior to 2010. This short timescale may influence how thorough the results are and may cause important studies to be overlooked that could advance our understanding of eLearning methods in nursing education.

A publishing bias may be introduced by depending too much on databases such as Google Scholar, ProQuest Central, EBSCO Host, ERIC, Academic Search Premiere, and CINAHL. The review's comprehensiveness may be impacted if higher indexed journals or databases are excluded, as this could lead to the overlooking of significant studies that are not indexed in the chosen databases.

TABLE 6 Codes and Its Description

Code	Description	Study ID
Presence of support system	Presence of support system anytime and anywhere nature including regular monitoring and evaluation of teaching methodologies across different learners	FO-1, FO-6, FO-13, FO-15, FO-16, FO-17
Using assignments to engage students in eLearning	Using online assignment enhances active thinking and problem solving like Journal assignments and provision of online learning tasks and group projects.	FO-2, FO-8, FO-14, FO-15

Online discussion forums	Use of synchronous communication or effective discussion management creates collaborative learning environments like reading and critiquing each other's project or messages.	FO-2, FO-3, FO-8, FO-9, FO-11, FO-13, FO-15, FO-16, FO-17
Use of eLearning tool	Watching videos or podcasts created by instructors and peers. eLearning tools include videoconferencing, e-mail, chat rooms, podcast, video, audio, graphic supports, avatar, multimedia, and social software.	FO-2, FO-3, FO-7, FO-9, FO-11, FO-14, FO-15, FO-16, FO-18,
Timely feedback from faculty	Faculty should provide timely feedback or responsiveness of teachers to student interests, challenges, and learning opportunities.	FO-2, FO-3, FO-7, FO-11, FO-14, FO-15, FO-17,
Flexibility and convenience	Flexibility of the blended approach, flexibility of time, and allowing students additional time for reflective thinking and processing information.	FO-7, FO-8, FO-10, FO-15, FO-16,
Integrating social network sites	Integrating social network sites to log-in	FO-6
Learners can keep track of their own improvement	Engagement of students in self- directed and participatory learning activities and self-assessment	FO-1, FO-7, FO-11, FO-12, FO-15, FO-17
Accessible from varied equipment (tablet, pc, smartphone, etc.)	Accessible from varied tools or equipment (tablet, pc, smartphone, etc.)	FO-11,
Organized online activities	Organizing online activities followed by a clear explanation and guidelines about doing the tasks	FO-8, FO-1, FO-2, FO-3, FO-9, FO-10, FO-11, FO-12, FO-13, FO-18
Use of academic evaluation rubrics	Use of academic evaluation rubrics to ensure students' participation	FO-14, FO-15,
Training on the use of eLearning platform	Provision of training and other capability building activities to enhance competency in the use of technology and computer software to all concerned personnel and students	FO-12, FO-13, FO-14, FO-15, FO-16, FO-18
Expertise of instructors	Knowledgeable and proficiency educators skilled in teaching, and content of eLearning.	FO-2, FO-13, FO-15,
Visibility of instructor in the discussion board	Visibility of instructor in daily discussion board	FO-15

CONCLUSION

This study identified the best practices of eLearning pedagogy. The SLR method was used to investigate the relevant practices. The researcher gathered 2,161 papers from online databases. Based on the exclusion and inclusion criteria, he included 17 studies. From the 17 studies, the researcher extracted 91 items or statements related to best practices of eLearning pedagogy. Sixteen items or statements of best practices were identified and stand out for consideration about how eLearning pedagogy can be implemented in nursing education. The 16 identified best practices in eLearning are the following: presence of support system; using assignments to engage students in eLearning; online discussion forums; use of eLearning tool; timely feedback from faculty; flexibility and convenience; integrating social network sites; learners are able to keep track of their own improvement; accessible from varied equipment; organized online activities; use of academic evaluation rubrics; training on the use of eLearning platform; expertise of instructors; visibility

of instructor in the discussion board; individualized comment; and provision incentives and acknowledgement for faculty.

The identified best practices will help institutions of nursing education programs when assessing the readiness to adopt eLearning.

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