



Nursing student perception of eBooks

Michelle Nelson¹, Laura Williams¹, Kristy Oden¹, Camille Beals²

¹ Professor, Department of Nursing, Anderson College of Nursing and Health Professions, University of North Alabama, Florence, Alabama, United States

² Assistant Professor, Department of Nursing, The University of Mississippi Medical Center, Oxford, MS, USA

Abstract

Background: This study explores nursing students' perceptions of integrating eBooks into a post-licensure nursing curriculum.

Method: A quantitative, descriptive survey was conducted with 130 nursing students, predominantly white (88%) and female (88%). Participants were enrolled in Community Health Nursing (26%), Leadership and Management in Nursing (39%), or both (35%).

Results: The study revealed mixed perceptions of eBooks. About 50% found eBooks more accessible, and 70% considered them more current. However, 55% preferred print books for ease of use, and 68% for ease of reading.

Conclusion: While eBooks are valued for accessibility and currency, print books are preferred for usability and reading comfort. These findings suggest that educators should balance digital and print resources in curricula to meet students' diverse learning needs and improve educational outcomes.

Keywords: eBooks, student perception, post-licensure nursing

Introduction

Nursing education programs have historically been offered in the traditional, face-to-face format. However, there has been a shift over the last several years in the delivery modality for nursing education programs from face-to-face to online (Gloekler & Lucas, 2021) [7]. This is particularly true for post-licensure nursing programs (Linton *et al.*, 2019) [11].

eBooks in nursing curricula have been slowly introduced throughout nursing education programs (Sung & Wu, 2018) [20]. However, scant evidence regarding nursing students' perceptions of using eBooks is available. This study examines nursing students' perception of integrating eBooks into a post-licensure nursing curriculum.

Materials and methods

Literature review

Learning styles

Learning style refers to how learners process and retain information (Gill *et al.*, 2021) [6]. Students' attitudes toward e-learning, which includes eBook usage, can be influenced by their learning styles (Ozkara & Ibili, 2021) [17]. Studies examining student learning styles vary in their results, with the most common learning styles including kinesthetic (Bangcola, 2016; Zhu *et al.*, 2018) [4, 23], auditory (Alipour *et al.*, 2013; Mehdipour *et al.*, 2018) [2, 12], and reading/writing (Arbabisarjou *et al.*, 2016; Mozaffari *et al.*, 2020) [3, 15]. E-books contain interactive multimedia elements that appeal to multiple learning styles.

Nursing students, with their diverse learning styles and varying exposure to technology, stand to benefit significantly from eBooks. Gonzales *et al.* (2017) [8] described this student population as concrete thinkers oriented toward facts with a preference for visualizations. With their images, graphics, videos, self-tests, embedded definitions, and keyword searches, E-books cater to these preferences and provide opportunities to enhance learning.

e-Books

E-books, introduced in the 1990s, offer a paperless alternative to reading books and other materials. Their design features increase user accessibility, including student control of the pace of learning with videos and portability, allowing for convenient access. E-books can be accessed from anywhere, including offline, and many e-books can be stored on a single device. This accessibility is further enhanced by e-books being immediately accessed, except in cases where only one person at a time can access an e-book from the library.

Students and faculty agree on the benefits and barriers to use, including expected learning curves with proficiency, the need to develop proficiency with e-books, and that technology training is a top priority (Gueval *et al.*, 2015; Rubenstein & Schubert, 2017) [9, 19]. Alhammad and Ku (2019) [1] found that students' preference for e-books shifted to printed books if they were preparing for an exam. Though students value compelling visuals and interactive elements, they are more comfortable with print books. Verkuyl *et al.* (2021) [22] found that students requested specific elements to increase the ease of reading eBooks, such as next-page buttons, indicators of place within a chapter, and the ability to have topic searches with lists of pages on one page.

Tang and Barnett-Ellis (2017) [21] found that many students are unaware of or do not accept the innovative benefits of scholarly e-books, have different academic experiences, and have varying fluency with discovery and technology. Student perception of e-book usability drawbacks is related to loading speeds and learning habits/preferences for printed materials (Hsieh *et al.*, 2022; Morris & Lambe, 2017) [10, 14]. Alhammad and Ku (2019) [1] encouraged stakeholders to consider students' perceptions of e-books and include their requests, such as increased access to additional resources through the text and more self-testing.

Some studies show that students find e-books beneficial, but there is no strong preference for e-books over paper books (Benoit, 2018; Gloekler & Lucas, 2021; Morris & Lambe, 2017) [5, 7, 14]. Others show that students prefer the advantages of e-books (Alhammad & Ku, 2019) [1]. Moore and Montejo (2021) [13] and Verkuyl *et al.* (2021) [22] assert that e-books are well-designed and engaging.

Methodology

Sample

Eligible participants in this study included students enrolled in an online undergraduate nursing course that utilized an eBook. Data collection occurred from October 2020 – November 2022 in an RN-BSN post-licensure track in the Southeastern United States. RN-BSN students were either enrolled in Community Health Nursing or Leadership and Management in Nursing, both of which utilized an eBook as the text for the course. A total of 241 undergraduate nursing students were invited to participate. An overall survey response rate of 54% was achieved (N = 130). Table 1 lists sample characteristics.

Table 1: Sample Characteristics

Demographic	Percent (%)	Total (n)
Age		
18-24	4.6	6
25-34	28.5	37
35-44	40.8	53
45-54	21.5	28
55 or older	4.6	6
Gender		
Female	88.2	112
Male	11.8	15
Race/Ethnicity		
American Indian or Alaska Native	0.78	1
Black or African American	11	14
White	88.3	113
Highest Degree Completed		
Associate’s	75.4	98
Bachelor’s	19.2	25
Master’s	4.6	6
Other	0.8	1
Current Course		
Community Health Nursing	26	30
Leadership and Management in Nursing	39	45
Both Courses	35	40

Design

Quantitative, descriptive research was utilized to determine nursing students' perception of eBooks. Before conducting the research and after Institutional Review Board approval, researchers discussed the study with individual course leaders of courses that utilized an eBook. Once approval to assist in the research was obtained, course leaders were provided a standardized email to send out to all enrolled students in the undergraduate online Community Health Nursing and Leadership and Management in nursing courses. The email initially explained the research study to the enrolled students and contained an electronic informed consent and a link to a confidential survey. If students consented to participate, the survey provided consisted of 10 questions that could take up to five minutes to complete. The survey asked students for demographic data, and students were asked to indicate their preference (print versus eBook) in six quality indicators: accessibility, current (up to

date), ease of use, ease of reading, contribution to academic success/grades, and whether the eBook allowed the student to meet course outcomes (Alhammad & Ku, 2019; Gloekler & Lucas, 2021; Moore & Montejo, 2021; Tang and Barnett-Ellis, 2017; Verkuyl *et al.*, 2021) [1, 7, 13, 21, 22]. Responses were voluntary and anonymous.

Results

One hundred thirty students (N=130) completed the survey. The sample was predominantly white (88%; n=113) and female (88%; n=12). Sixty percent of students had previously used an eBook before their current course. Twenty-six percent (n=30) of students were enrolled in Community Health Nursing, 39% in Leadership and Management in Nursing (n=45), and 35% of students were enrolled in both courses (n=40). Almost half of the study participants viewed eBooks books as more accessible (n=65). Seventy percent (n=91) perceived the eBook as more current, while students preferred print books for ease of use (55%; n=71) and ease of reading (68%; n = 88). Fifty-five percent (n=77) preferred print books to ensure academic success. However, 88% (n=110) felt they could meet course outcomes using an eBook.

Data were stratified by age group: Students 18-34 years old composed 33% of the sample (n=43), students 35-44 comprised 41% (n=53), and students ages 45 and over-represented 26% (n=34) of the sample. Pearson chi-square tests were conducted to determine if relationships existed between age groups and preferences for eBooks or print books in all six quality indicators. There were no significant differences in book preference across age groups.

Table 2 lists the results of the quality indicator questions.

Table 2: Results of quality indicator questions

Question	Print	e-Book
Please indicate your preference for each of the criteria listed below		
Accessibility	48%	52%
Current (up-to-date)	30.0%	70%
Ease of use	55%	45%
Ease of reading	68%	34%
Academic success/grades	55%	45%
Able to meet course outcomes using an eBook	Yes – 88%	No – 11%

Discussion

This study sought to understand students’ preferences and perceptions regarding eBooks compared to traditional print books in an academic setting. The survey, completed by 130 students, revealed several key insights into current attitudes towards digital and print reading materials.

The sample was predominantly white (89%) and female (88%), reflecting a specific demographic’s perspective within the academic environment. Notably, a significant percentage of participants (60%) had prior experience with eBooks, which may have influenced their perceptions of accessibility and currency. Indeed, half of the participants viewed eBooks as more accessible, and a substantial majority (70%) perceived them as more current than print books. These findings are consistent with Alhammad and Ku (2019) [1], Moore and Montejo (2021) [13], and Tang and Barnett-Ellis (2017) [21], who found that students favor eBooks for their instant availability and frequent digital content updates.

Despite the perceived advantages of eBooks, a preference for print books emerged in areas related to usability and learning outcomes. Most students favored print books for their ease of use (55%) and reading (68%). Furthermore, 59% of students preferred print books to ensure academic success. This preference could be linked to the tactile experience and the lack of distractions when using print books, which some studies suggest may aid in better comprehension and retention of information. Nahotko and Deja (2024) ^[16] indicated that technical aspects, such as the functionality of reading applications, are critical to the usability of eBooks.

Interestingly, a high percentage (88%) of students felt confident that they could meet course outcomes using an eBook, indicating a level of comfort with digital materials in achieving academic goals. This finding is consistent with Tang and Barnett-Ellis (2017) ^[21], who found that eBook use positively affected student learning outcomes. This growing student confidence in eBooks may reflect a growing trend of digital literacy and technology acceptance in nursing education. Redhana *et al.* (2024) ^[18] conducted a study to produce a digital instructional book to enhance the learning outcomes of high school students. The results showed that the eBook effectively improved students' learning outcomes.

The data stratification by age group revealed that students' preferences and perceptions did not significantly differ across age groups, suggesting that attitudes towards eBooks and print books are consistent among different age demographics within the student population.

Limitations

This study has several limitations that should be considered. The sample's lack of diversity in terms of race and gender may limit the generalizability of the findings. Additionally, the survey's reliance on self-reported data could introduce bias, as students' perceptions may not accurately reflect their actual behaviors. Furthermore, 60% of our sample had previous experience with eBooks, which could influence their assessment of the key indicators examined in this study.

Future research

Future research should aim to include a more diverse sample to understand better the broader student population's attitudes towards eBooks and print books. Additionally, longitudinal studies could provide insights into how preferences and perceptions change over time, particularly as digital technologies continue to evolve.

Conclusion

This study's findings highlight students' nuanced preferences regarding eBooks and print books, with implications for educators and policymakers in developing academic resources. As the landscape of educational materials continues to shift towards digital formats, it is crucial to consider students' preferences to ensure that both eBooks and print books are effectively integrated into the learning environment.

References

1. Alhammad R, Ku H-Y. Graduate students' perspectives on using e-books for academic learning. *Educational Media International*,2019;56(1):75-91.

2. Alipour ZJ, Navvabi N, Jahanshahi M. Evaluation of nursing students' learning styles based on VARK learning pattern in Ramsar school of nursing & midwifery, *Biannual Journal of Medical Education Development Center, Babol University of Medical Sciences*,2013;1(2):37-45.
3. Arbabisarjou A, Zare S, Shahrakipour M, Ghoreishinia G. E survey of the relationship between the learning style and academic performance in students of Medical Sciences, *Health Sciences*,2016;5(7S):338-342.
4. Bangcola AA. Learning styles as predictor of academic performance in the Nursing Department of an Asian University and colleges, *International Journal of Learning, Teaching and Educational Research*, 2016, 15(4).
5. Benoit A. Textbook affordability and student acceptance of eTextbooks: An institutional case-study, *The Canadian Journal for the Scholarship of Teaching and Learning*, 2018, 9(2).
6. Gill P, Kumar Y, Sarin J. Determination of learning styles among nursing students. *Indian Journal of Forensic Medicine & Toxicology*,2021;15(4):2151-2154.
7. Gloekler LA, Lucas D. Nursing students' preferences in test-taking, e-books, and learning styles: A longitudinal study. *International Journal of Nursing Education*, 2021;13(1):152-159.
8. Gonzales LK, Glaser D, Howland L, Clark MJ, Hutchins S, Macauley K, *et al.* Assessing learning styles of graduate entry nursing students as a classroom research activity: A quantitative research study. *Nurse Education Today*,2017;48:55-61.
9. Gueval J, Tarnow K, Kumm S. Implementing e-books: Faculty and student experiences. *Teaching and Learning in Nursing*,2015;10:181-185.
10. Hsieh C-T, Liu Y, Wang Y-H. Effect of digital learning with an interactive ebook on electrocardiogram interpretation among clinical nurses: A repeated-measures analysis. *CIN: Computers, Informatics, Nursing*,2022;40(6):396-401.
11. Linton M, Knecht L, Dabney B, Koonmen J. Student-centered curricular revisions to facilitate transition from associate degree in nursing to bachelor of science in nursing education. *Teaching and Learning in Nursing*,2019;14(4):279-282.
12. Mehdipour M, Mortazavi H, Yazdani J, Namdari M, Moradi M. Learning styles of dental students at shahid beheshti university of medical sciences using VARK questionnaire, *Iranian Journal of Medical Education*,2018;18:176-182.
13. Moore J, Montejó L. Using multitouch e-books in nursing education,2021;(5):330. DOI: 10.1097/NNE.0000000000001036
14. Morris NP, Lambe J. Multimedia interactive ebooks in laboratory bioscience education. *Higher Education Pedagogies*,2017;2(1):28-42.
15. Mozaffari HR, Janatolmakan M, Sharifi R, Ghandinejad F, Andayeshgar B, Khatony A. E relationship between the VARK learning styles and academic achievement in Dental Students, *Advances in Medical Education and Practice*,2020;11:15-19.
16. Nahotko M, Deja M. E-book acceptance by first-year undergraduate students: A longitudinal examination and implications for library researchers. *The Journal of Academic Librarianship*,2024;50(2):102847.

17. Ozkara B, Ibili E. Analysis of students' e-learning styles and their attitudes and self-efficacy perceptions towards distance education. *International Journal of Technology in Education and Science (IJTES)*,2021;5(4):550-570.
<https://doi.org/10.46328/ijtes.20>
18. Redhana IW, Sudria IB, Suardana N. A digital instructional book: A tool for improving students' learning outcomes on the reduction and oxidation reactions. *Science Education International*,2024;35(1):61-70.
19. Rubenstein CD, Schubert CF. Student and faculty perceptions of iPad integration in a prelicensure program. *Nurse Educator*,2017;42(2):85-90.
20. Sung TW, Wu TT. Learning with eBooks and project-based strategy in a community health nursing course. *CIN: Computers, Informatics, Nursing*,2018;36(3):140-146.
21. Tang Y, Barnett-Ellis P. Nursing students' learning experience with e-books. *The Journal of Academic Librarianship*,2017;43:67-71.
22. Verkuyl M, Atack L, Lapum JL, Hughes M, St-Amant O, Petrie P. User engagement using an etextbook: A descriptive study. *CIN: Computers, Informatics, Nursing*,2021;39(11):668-674.
23. Zhu HR, Zeng H, Zhang H. *et al.* E preferred learning styles utilizing VARK among nursing students with bachelor degrees and associate degrees in China, *Acta Paulista de Enfermagem*,2018;31(2):162-169.