

Digital Learning Materials and Their Relationship with Faculty Nursing Students' Self-Efficacy at Menoufia University

**Asmaa Mokhtar Saber Mokhtar¹, Manal Moussa Ibrahim²,
Wafaa Abd El Hamid Shokry³**

¹B.SC. of Nursing Sciences, ²Professor of Nursing Administration, Buraydah colleges of applied medical science, ³ Assistant Professor of Nursing Administration, Faculty of Nursing, Menoufia University.

Abstract: Background: Digital learning materials are playing a crucial role in our daily technological devices. They help learners and teachers to improve learning process. **Purpose:** To identify the relationship between digital learning materials and nursing students self -efficacy. **Design:** A descriptive correlational research design was conducted in this study. **Setting:** This study was used in Faculty of Nursing at Menoufia University. **Sampling:** A simple random sample was done to select a number of 479 students from grade three (261) and four (218). **Instruments:** Two instruments were used. Learner generated digital media questionnaire and online learning self-efficacy scale. **Results:** The majority of nursing students (58.4%) had high perception of digital learning materials, while less than nine percent of them had low perception of digital learning materials. High percentage of nursing students showed moderate level of self-efficacy. **Conclusion:** A highly positive statistically significant correlation was found between digital learning materials and self-efficacy. **Recommendations:** Workshops should be enhanced to provide training about using technology. Further researches at other setting should be conducted about the relation between digital learning materials and self-efficacy.

***Keywords:** Digital learning materials, nursing student and self-efficacy.*

Introduction

Online learning in the 21st century has evolved far beyond its early forms of distance education, which relied on

correspondence courses, video conferencing, and educational television programs (Barbagallo et al.,

Digital Learning Materials and Their Relationship with Faculty Nursing Students' Self-Efficacy at Menoufia University

2020). Digital Learning Materials (DLMs) have opened up new possibilities for teaching mathematics, offering benefits like place- and time-independent learning. DLMs also provide a more flexible and meaningful educational experience by seamlessly integrating regular and domain-specific medical mathematics with instructional procedural and domain-specific clips, collaboration tools, and online guidance (Zwart et al., 2020). The swift shift to online learning, driven by the COVID-19 pandemic, forced universities to adapt to new teaching formats. However, developing effective online teaching methods requires a significant investment in information technology infrastructure and the training of both students and faculty in digital pedagogy (Sousa, 2022).

Digital learning materials have the potential to revolutionize education and training, fostering innovation and creativity for both individuals and organizations. Additionally, they can shape educational policies that promote creative and innovative learning environments (Abdullah et al., 2019; Altawaty et al., 2020). These materials encompass a broad spectrum of resources, including textbooks, digital content, and other educational tools. Digital learning, a subset of digital education, encompasses practices such as blended and virtual learning, and its benefits extend beyond traditional e-learning or online learning (Bukoye, 2019).

E-tasks, developed and organized by Innove, offer teachers the means to create and deliver e-learning materials. These materials are accessible on the

digital study material portal E-Schoolbag, thanks to the collaborative efforts of e-learning material experts (Zhang & Yu, 2022). Special attention is given to students with special educational needs (SEN students), who receive tailor-made e-learning materials aligned with simplified curricula. These Digital Learning Resources (DLRs) support both students and teachers in the learning process, residing in digital repositories or libraries for easy access (Takala & Wickman, 2019). The concept of e-textbooks and open-licensed Flex books is transforming the landscape of digital learning resources. Additionally, drill and practice programs are well-known digital materials that help learners consolidate and automate their knowledge and skills (Tammets et al., 2022).

Digital learning offers several advantages, including increased student engagement through game-based strategies and flexible learning, which allows students to learn at their own pace and location (Ramos-Morcillo et al., 2020). It also facilitates collaboration by enabling video conferencing and document sharing, providing additional resources, and promoting better engagement through digital analytics (Adipat, 2021; Rajabalee & Santally, 2021). However, digital learning requires strong self-motivation and time management skills, which can be a challenge for some students who may struggle to maintain focus and motivation in the absence of traditional classroom structures (So et al., 2019).

Effective use of digital learning materials hinges on factors like digital

Digital Learning Materials and Their Relationship with Faculty Nursing Students' Self-Efficacy at Menoufia University

media support, attitudes toward technology, and knowledge construction. Digital media enhances the quality and relevance of education, encompassing various forms like online platforms, videos, podcasts, and e-books. Knowledge construction is an active process where learners build understanding through exploration and reflection, while attitudes toward technology play a pivotal role in the teaching-learning process (Sarker et al., 2019; Mohammed & Kinyó, 2020; Romero Martínez et al., 2020).

In this digital era, students' self-efficacy and goal orientation are crucial for success. Self-efficacy, defined as belief in one's ability to complete tasks successfully, is essential in online learning, fostering initiative and perseverance (Deng et al., 2022). The relationship between self-efficacy and online learning, especially concerning computer use in instructional situations, is an area of ongoing research (Budhyani et al., 2022).

Significance of the Study

Despite the growing prevalence of digital learning materials, there remain significant challenges in their effective implementation, particularly in the field of nursing sciences. The lack of systematic approaches and theoretical models for integrating digital materials into the classroom hinders educators. Additionally, educators from non-multimedia backgrounds may lack fundamental knowledge of digital materials production workflows and principles. Nursing students, in particular, face global challenges in adapting to digital learning

environments. Every university has adopted online learning methods, making it vital to understand student motivation in the context of digital learning during the COVID-19 pandemic, a topic that has received limited attention in Egypt (Faridah et al., 2020). Therefore, the purpose of this study is to identify the relationship between digital learning materials and the self-efficacy of nursing students at Menoufia University, Faculty of Nursing.

Purpose of the Study

The purpose of this study is to identify the relationship between digital learning materials and nursing students' self-efficacy in Faculty of Nursing at Menoufia University.

Research Questions:

- 1) What is the level of perception of digital learning materials among Faculty of Nursing students?
- 2) What is the level of self-efficacy among Faculty of Nursing students?
- 3) Is there a significant relationship between the use of digital learning materials and Faculty of Nursing students' self-efficacy?

Methods

Research Design:

A descriptive correlational research design was utilized in the study.

Setting:

The study was conducted in the Faculty of Nursing, Menoufia University /Shebin Elkom city. The Faculty was established in 2000. It composed of one building with seven floors. It includes eight departments

Digital Learning Materials and Their Relationship with Faculty Nursing Students' Self-Efficacy at Menoufia University

(e.g. Medical & Surgical Nursing, Maternal Health, Neonatal Nursing, Pediatric Nursing and Community Health Nursing).

Sampling:

A simple random sampling technique was utilized to select participants from the Faculty of Nursing. A list of all students in the third and fourth academic years was prepared, and students were randomly selected from this list. A number of 261 students were selected from the third academic year and 218 students were chosen from the fourth academic year.

Sample size:

The sample size will be determined by using (Yamane, 1976) formula to assess the sample size of nursing students.

$$n = \frac{N}{1 + N \left[\frac{e}{1} \right]^2}$$

n: is the sample size.

N: is the total number of students.

e: is coefficient factor = 0.05

1: is constant value

Sample size of nursing students at Faculty of Nursing Menoufia University is third degree = $750 / (1 + 750 \times (.05)^2) = 261$ Students.

Fourth degree = $478 / (1 + 478 \times (.05)^2) = 218$ students.

Instruments:

Two instruments were employed for data collection:

Instrument one: Learner-Generated

Digital Media Likert Scale (LGDMQ):

This questionnaire contained two parts. Part 1 personal information: it includes age, gender, and academic year, Part 2 Nursing perception: it includes

assessment of the perception of nursing students toward digital learning materials. It includes 24 Likert scale items focusing on digital media support, attitude toward technology, understanding of the assignment, and knowledge construction. The LGDMQ was developed by Reyna & Meier (2018).

Scoring system:

Score of strongly disagree is 1, disagree is 2, agree is 3, strongly agree is 4. Total scoring system: low perception is (<60%), moderate perception is (60-75%), high perception is (>75%).

Instrument two: Online Learning Self-Efficacy Likert Scale (OLSES):

This scale was developed by Yavuzalp & Bahcivan (2020) it was developed to determine students' self-efficacy perceptions of online learning. The scale included 21 items. The response of students measured on a 5 points Likert scale ranged from 1-5. Completely agree (1), disagree (2), undecided (3), agree (4), completely agree (5).

Scoring System:

The level of perception of self-efficacy was categorized as low (<60%), moderate (60-75%), or high (>75%) based on the percentage score.

Validity of Instruments:

A panel of five experts in nursing administration (three professor and two assistant professor) assessed the face validity of the instruments to ensure their alignment with the study objectives and scientific content.

Digital Learning Materials and Their Relationship with Faculty Nursing Students' Self-Efficacy at Menoufia University

Reliability of Instruments:

The reliability of the instruments was assessed using Cronbach's alpha. The LGDMQ demonstrated a high internal consistency with a Cronbach's alpha of 0.970, while the OLSES also exhibited a strong reliability with a Cronbach's alpha of 0.962.

Ethical Consideration:

Approval of the Faculty of Nursing Research and Ethical committee was obtained on 4/ 2022 its number was 17331. A written informed consent was obtained from each participant. They were informed that their participation in the study was voluntary and they had the right to withdraw at any time. Confidentiality and anonymity were maintained to protect participant's data.

Pilot study:

The pilot study was conducted on 10 % of the sample (n=48) to validate the instruments and identify the potential obstacles during data collection. No modifications were made.

Data Collection Procedures:

Data collection took place over three months, from February 2023 to April 2023. The questionnaires were distributed to students via telegram and WhatsApp groups related to their academic year, and completed questionnaires were entered into a password-protected electronic database.

Statistical Analysis:

The collected data were subjected to comprehensive statistical analysis using SPSS version 22. Descriptive statistics, including means and standard deviations, were employed to summarize and present the quantitative

data regarding nursing students' perceptions of digital learning materials and their self-efficacy. Frequency distribution tables were utilized to depict the categorical data. To address the research questions and examine the relationship between digital learning materials and self-efficacy, chi-square (χ^2) tests were used. A statistical significance was set at $p < 0.05$. A highly statistical significance difference was considered if $P < .01$. A very highly statistical significance difference was considered if $P < .001$.

Results

Table 1 demonstrated percentage distribution of studied students according to their personal characteristics. The table showed that more than half (52.4%) of the students aged 22 years with the mean age of 21.87 ± 0.806 . As regard to gender: less than three quarters (72.2%) of them were females. More than half (54.5%) of them were from the third grade.

Figure 1: Demonstrated distribution of studied students according to their levels of perception of digital learning materials it showed that 32.8% of students had the high level of digital learning materials. More than half of students had moderate perception (58.4%). On the other hand, the lowest percentages of students (8.8%) had low level of digital learning materials.

Figure 1: Demonstrated distribution of studied students according to their levels of perception of digital learning materials it showed that 32.8% of students had the high level of digital learning materials. More than half of students had moderate perception

Digital Learning Materials and Their Relationship with Faculty Nursing Students' Self-Efficacy at Menoufia University

(58.4%). On the other hand, the lowest percentages of students (8.8%) had low level of digital learning materials.

Table (2):-revealed a highly positive statistical significance correlation was found between total score of self-efficacy and total score of students perception of digital learning materials ($r=.701, p>0.00$).

Table 3:- demonstrated that there was a very highly statistically associative relation between total Digital learning materials and total self-efficacy. It revealed that there was a highly statistically significant positive associative relation between digital learning materials and total self-efficacy ($p>.000$).

Table (1): Distribution of studied students regarding their personal characteristics (n=479).

Personal characteristics	No.	%
Age		
- >20 Years	14	2.9
- 21	131	27.3
- 22	251	52.4
- 23	67	14.0
- 24	16	3.4
Mean ±SD	21.87±0.806	
Gender		
- female	346	72.2
- Male	133	27.8
Grade level of student		
- Third grade	261	54.5
- Fourth grade	218	45.5

Digital Learning Materials and Their Relationship with Faculty Nursing Students' Self-Efficacy at Menoufia University

Figure (1): Distribution of studied students according to their levels of perception of digital learning materials (n=479).

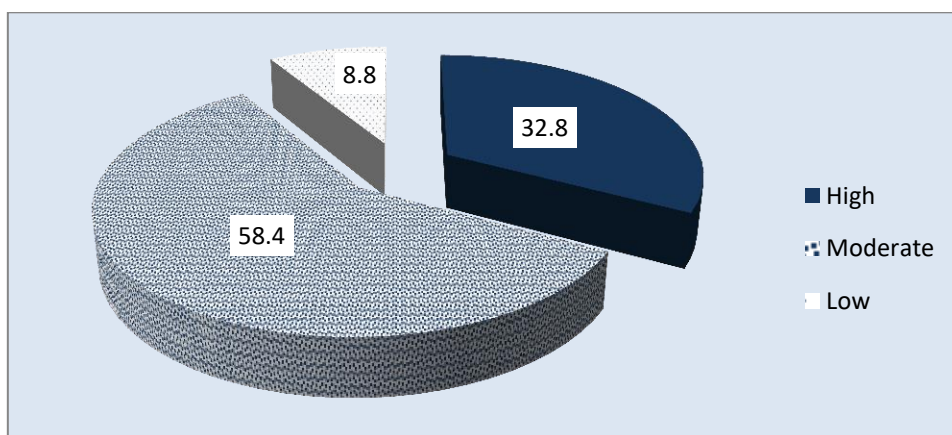


Figure (2): Distribution of studied students according to their Online learning Self efficacy (n=479).

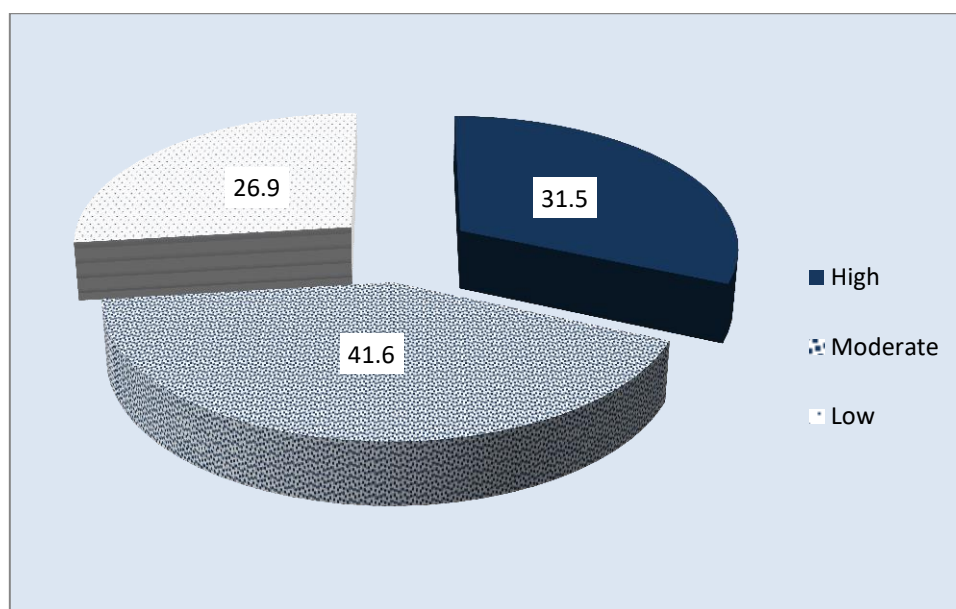


Table (2): Correlation between total online learning self-efficacy and total perception of digital learning materials between studied nursing students.

total Digital learning materials	total Online learning Self efficacy	
	r	p-value
1. Total Digital media support.	0.597	0.000
2. Total Attitude towards technology.	0.693	0.000
3. Total Understanding of the assignment.	0.554	0.000
4. Total Knowledge construction.	0.696	0.000
Total	0.701	0.000

Digital Learning Materials and Their Relationship with Faculty Nursing Students' Self-Efficacy at Menoufia University

Table (3): Associative relation between students level of perception of digital learning materials and their level of self-efficacy.

total Digital learning materials	Total self efficacy						X ²	P-value
	Low (n=129)		Moderate (n=199)		High (n=151)			
	No.	%	No.	%	No.	%		
Low (n=42).	33	25.6	9	4.5	0	0.0	289.02	.000
Moderate (n=280).	78	60.4	174	87.5	28	18.5		
High (n=157).	18	14.0	16	8.0	123	81.5		

Discussion

The use of digital environments in nursing education offers new opportunities for nursing students' medical mathematics learning. Digital learning materials (DLMs) offer educational opportunities that cannot be obtained through regular face-to-face forms of learning and instruction. DLMs can increase the effectiveness of instruction and offer a more diversified learning experience without the constraints of time and space (Männistö et al., 2021).

In relation to student's perception of digital learning materials, the findings of the current study revealed that although one third of students had high level of perception of digital learning materials, more than half of students had moderate perception level of digital learning materials. On the other hand, less than half of students had low level of perception of digital learning materials. This study was consistent with Lovric et al., (2020) in their study entitled "Studying during the COVID-19 pandemic: A qualitative inductive content analysis of nursing students' perceptions and experiences" they

found that more than half of the students moderately perceived the digital learning materials and found that they were efficient and effective alternative method. Correspondingly, Laili, & Nashir, (2021) who carried out a study to assess "Higher education students' perception on online learning during Covid-19 pandemic" stated that the highest percentage of the studied students had moderate perception regarding digital learning materials.

From the research investigator point of view, this may be related to the improper explanation of digital learning material presented may not be understood by all students and it is still new experience for students. Also, the students were not used to practice this kind of conversation in pairs or in groups as they are used to in real-life because they can see their friends directly only through screen when zoom meeting was conducted, no face to face like in real class. Some students are not enthusiastic to follow digital learning materials because of boring only seeing the mobile phone/laptop screen (Simamora, 2020).

Digital Learning Materials and Their Relationship with Faculty Nursing Students' Self-Efficacy at Menoufia University

On the opposite line, this study contradicted with Koirala et al., (2020) in their study was entitled "Perception towards online classes during COVID-19 among nursing students of a medical college of Kaski District, Nepal" reported that more than half of students had negative perception towards online classes. Also, Saputra et al., (2021) who conducted a study about "Student Perceptions of Online Learning during the COVID-19 Pandemic in Indonesia" stated that most of students had low perception regarding online learning. Our studied students reported that online learning was ineffective, unpleasant, limited self-actualization in education.

In relation to student's perception of total online learning self-efficacy, the findings of the current study revealed that although one third of students had high level of perception of online learning self-efficacy, less than half of students had moderate perception level of online learning self-efficacy. On the other hand, less than one third had low level perception of online learning self-efficacy.

From the research investigator point of view, one plausible explanation for the moderate level in students' self-efficacy is that the learning environment with DLMs demanded too much from these nursing students, since it was their first online education experience and they were not familiar with the instructional activities in the DLMs training. In this concern, learning environments that allow for collaboration and autonomy enhance self-efficacy. That might be the case in classroom settings, but in this study the

online DLMs training showed the opposite effect (Fronozo et al., 2020). This result was consistent with Roney et al., (2017) who conducted a study entitled "Technology use and technological self-efficacy among undergraduate nursing faculty" and stated that the studied students had moderate self-efficacy in using technology.

In the same line, this study results agreed with a study carried out by Wei & Chou, (2020) entitled "Online learning performance and satisfaction: do perceptions and readiness matter?" and reported that the studied participants had moderate self-efficacy in online learning.

Likewise, the study result agreed with a study performed by Rohmani & Andriani, (2021) entitled "Correlation between academic self-efficacy and burnout originating from distance learning among nursing students in Indonesia during the coronavirus disease 2019 pandemic" stated that most nursing students had a moderate level of academic self-efficacy and mentioned that students with low or moderate academic self-efficacy are less likely to be able to explore their abilities and make decisions for them.

On the other hand, this study contradicted with Tiwari & Srivastava, (2021) in their study about "Self-efficacy of online learning among nursing students during COVID-19 pandemic" were found that majority of the nursing students had poor overall online learning self-efficacy scores, which highlights the need for urgent identification of possible predictors..

These discrepancies may be due to students are familiar with the

Digital Learning Materials and Their Relationship with Faculty Nursing Students' Self-Efficacy at Menoufia University

technology itself, including that used for learning. They might think that the materials their lecturers provide are enough. Other possible explanations are the students' age and their academic year that may have an impact on their level of learning self-efficacy. The current study indicated that there was a highly positive significance correlation between total score of self-efficacy and total perception score regarding digital learning materials. In this concern, Self-efficacy can be enhanced by creating a learning environment that allows for collaboration and autonomy (Kundu, 2020).

This result was consistent with that of Wei & Chou, (2020) who reported that significant positive correlation was found between students' computer/Internet learning self-efficacy and online learning perceptions and course satisfaction. Also, this result was supported by Zwart et al., (2020) who stated that there was a significant positive correlation between the students' self-efficacy and perceived digital learning materials.

Concerning the relation between total digital learning materials and total self-efficacy, the present study result declared that there was a significant relation between digital learning materials and total self-efficacy. This can be explained as the students with a higher level of perceived Internet self-efficacy had a higher final exam score and were more confident to finish the online courses than students with a low level of perceived self-efficacy, that reflect on the students' perception

regarding digital learning materials (Bączek et al., 2021).

Grønlien et al., (2021) who studied "A blended learning teaching strategy strengthens the nursing students' performance and self-reported learning outcome achievement in an anatomy, physiology and biochemistry course" and mentioned that students' perceptions are very important for learning self-efficacy so that learning that takes place can be improved in quality. Students' negative perceptions can lead to poor learning outcomes and decreased learning self-efficacy.

Correspondingly, Prifti, (2022) who performed a study about "Self-efficacy and student satisfaction in the context of blended learning courses" and stated that learning self-efficacy positively impacts students' satisfaction with their education. This relationship is shown to be strong and significant, thus implying that an improvement of learning self-efficacy (or technological self-efficacy) has the potential to improve students' perception regarding a blended learning course.

According to relation between studied students' personal characteristics and total digital learning materials, the present study reported that there was statistically significant relation between the students' age and gender and total self-efficacy, but there statistically significant difference in grade level.

These results supported with the study conducted by Bhagat et al. (2019) titled with the impact of personality on students' perceptions towards online learning and reported that students' age had positive correlation with using digital learning materials. While,

Digital Learning Materials and Their Relationship with Faculty Nursing Students' Self-Efficacy at Menoufia University

inconsistent with the study by Çebi et al. (2023) titled in Do individual characteristics affect online learning behaviors? An analysis of learners sequential patterns and stated that there was no relation between students' gender and their dependent on digital learning.

As regard relation between personal characteristics and total self-efficacy of the studied students, the present study highlighted that there was statistically significant relation between the students' total self-efficacy and their age and gender, but there was no statistically significant relation with their grade level. This finding was congruent with a study conducted by Shen et al., (2013), entitled "Unpacking online learning experiences: Online learning self-efficacy and learning satisfaction" and showed that gender of the studied students was found to predict online learning self-efficacy.

This result was contradicted with a study carried out by Yavuzalp & Bahcivan, (2020) to investigate "The online learning self-efficacy scale: Its adaptation into Turkish and interpretation according to various variables", and the results reported that no statistically significant difference was found between the studied students' self-efficacy regarding either gender. Also, Aldhahi's et al., (2021) study about "Predictors of Electronic Learning Self-Efficacy: A Cross-Sectional Study in Saudi Arabian Universities", which reported gender was not a predictor of technology self-efficacy.

Conclusion

The current study findings concluded that approximately one third of students had high levels of perception of digital learning materials and self-efficacy, approximately half of them had moderate levels of perception of digital learning materials as well as self-efficacy and less than one third of them had low levels of online learning self – efficacy and perception of digital learning materials. Finally, there was a very highly statistical significant positive correlation between total digital learning materials and total self – efficacy.

Recommendations

Nursing curricula should be evaluated and updated to be suitable for platforms utilizations. Workshops should be organized for students to learn more about digital learning materials. Regular assessments and solicit feedback should be regularly conducted to evaluate students self-efficacy and their digitalization abilities. Another comparative study should be conducted at another setting to assess the relationship between students' perceptions of digital learning materials and their self- efficacy in order to generalize the research results.

References

- Abdullah, F. M., Mohammed, A. A., Maatuk, A. M., & Elberkawi, E. K. (2019, December). Application of electronic management system in governmental institutions: An empirical study on the Libyan civil registration. In

Digital Learning Materials and Their Relationship with Faculty Nursing Students' Self-Efficacy at Menoufia University

- Proceedings of the Second International Conference on Data Science, E-Learning and Information Systems (pp. 1-5).
- Adipat, S. (2021, September). Why web-conferencing matters: Rescuing education in the time of COVID-19 pandemic crisis. In *Frontiers in Education* (Vol. 6, p. 752522). Frontiers Media SA.
- Aldhahi, M.I., Baattaiah, B.A., & Alqahtani, A.S. (2021). Predictors of Electronic Learning SelfEfficacy: A Cross-Sectional Study in Saudi Arabian Universities. *Frontiers in Education*, 6, 614333. <https://doi.org/10.3389/feduc.2021.614333>
- Altawaty, J. A., Benismail, A., & Maatuk, A. M. (2020, September). Experts Opinion on the IT Skills Training Needs Among Healthcare Workers. In *Proceedings of the 6th International Conference on Engineering & MIS 2020* (pp. 1-80).
- Bączek, M., Zagańczyk-Bączek, M., Szpringer, M., Jaroszyński, A., & Wożakowska- Kapłon, B. (2021). Students' perception of online learning during the COVID-19 pandemic: a survey study of Polish medical students. *Medicine*, 100 (7).
- Barbagallo, M.S., Porter, J.E. & Lamunu, M., 2020. Evaluation of a Blended Online and Digital Learning Mode of Anatomy and Physiology for Undergraduate Nursing Students. *CIN: Computers, Informatics, Nursing*, 38(12), pp.633-637.
- Bhagat, K. K., Wu, L. Y., & Chang, C. Y. (2019). The impact of personality on students' perceptions towards online learning. *Australasian Journal of Educational Technology*, 35(4).
- Budhyani, I. D. A. M., Candiasa, M., Sutajaya, M., & Nitiasih, P. K. (2022). The Effectiveness of Blended Learning with Combined Synchronized and Unsynchronized Settings on Self-Efficacy and Learning Achievement. *International Journal of Evaluation and Research in Education*, 11(1), 321-332.
- Bukoye, R. O. (2019). Utilization of instruction materials as tools for effective academic performance of students: Implications for counselling. *Multidisciplinary Digital Publishing Institute Proceedings*, 2(21), 1395.
- Çebi, A., Araújo, R. D., & Brusilovsky, P. (2023). Do individual characteristics affect online learning behaviors? An analysis of learners sequential patterns. *Journal of Research on Technology in Education*, 55(4), 663-683.
- Deng, W., Lei, W., Guo, X., Li, X., Ge, W., & Hu, W. (2022). Effects of regulatory focus on online learning engagement of high school students: The mediating role of self-efficacy and academic emotions. *Journal*

Digital Learning Materials and Their Relationship with Faculty Nursing Students' Self-Efficacy at Menoufia University

- of Computer Assisted Learning, 38(3), 707-718.
- Faridah, I., Sari, F.R., Wahyuningsih, T., Oganda, F.P. and Rahardja, U., 2020, October. Effect Digital Learning on Student Motivation during Covid-19. In 2020 8th International Conference on Cyber and IT Service Management (CITSM) (pp. 1-5). IEEE.
- Frondozo, C. E., King, R. B., Nalipay, M. J. N., & Mordeno, I. G. (2020). Mindsets matter for teachers, too: Growth mindset about teaching ability predicts teachers' enjoyment and engagement. *Current Psychology*, 1-4.
- Grønlien, H. K., Christoffersen, T. E., Ringstad, Ø., Andreassen, M., & Lugo, R. G. (2021). A blended learning teaching strategy strengthens the nursing students' performance and self-reported learning outcome achievement in an anatomy, physiology and biochemistry course—A quasi-experimental study. *Nurse Education in Practice*, 52, 103046.
- Koirala, D., Silwal, M., Gurung, S., Bhattarai, M., & KC, V. K. (2020). Perception towards online classes during COVID-19 among nursing students of a medical college of Kaski District, Nepal. *Journal of Biomedical Research & Environmental Sciences*, 1(6), 249-255.
- Kundu, A. (2020). Toward a framework for strengthening participants' self-efficacy in online education. *Asian Association of Open Universities Journal*, 15(3), 351-370.
- Laili, R. N., & Nashir, M. (2021). Higher education students' perception on online learning during Covid-19 pandemic. *Edukatif: Jurnal Ilmu Pendidikan*, 3(3), 689-697.
- Lovric, R., Farcic, N., Miksic, S., & Vcev, A. (2020). Studying during the COVID-19 pandemic: A qualitative inductive content analysis of nursing students' perceptions and experiences. *Education Sciences*, 10(7), 188–206. doi:10.3390/educsci10070188.
- Männistö, M., Mikkonen, K., Kuivila, H. M., Virtanen, M., Kyngäs, H., & Kääriäinen, M. (2020). Digital collaborative learning in nursing education: a systematic review. *Scandinavian journal of caring sciences*, 34(2), 280-292.
- Mohammed, S. H., & Kinyó, L. (2020). The role of constructivism in the enhancement of social studies education. *Journal of critical reviews*, 7(7), 249-256.
- Prifti, R. (2022). Self-efficacy and student satisfaction in the context of blended learning courses. *Open Learning: The Journal of Open, Distance and e- Learning*, 37(2), 111-125.
- Rajabalee, Y. B., & Santally, M. I. (2021). Learner satisfaction, engagement and performances in an online module: Implications for institutional e-learning policy. *Education and*

Digital Learning Materials and Their Relationship with Faculty Nursing Students' Self-Efficacy at Menoufia University

- Information Technologies, 26(3), 2623-2656.
- Ramos-Morcillo, A. J., Leal-Costa, C., Moral-García, J. E., & Ruzafa-Martínez, M. (2020). Experiences of nursing students during the abrupt change from face-to-face to e-learning education during the first month of confinement due to COVID-19 in Spain. *International journal of environmental research and public health*, 17(15), 5519.
- Reyna, J. (2021). Digital media assignments in undergraduate science education: an evidence-based approach. *Research in Learning Technology*, 29.
- Reyna, J. & Meier, P., (2018). Using the learner-generated digital media (LGDM) framework in tertiary science education: a pilot study. *Education Sciences*, 8(3), p.106.
- Rohmani, N., & Andriani, R. (2021). Correlation between academic self-efficacy and burnout originating from distance learning among nursing students in Indonesia during the coronavirus disease 2019 pandemic. *Journal of educational evaluation for health professions*, 18.
- Romero Martínez, S. J., Ordóñez Camacho, X. G., Guillén-Gamez, F. D., & Bravo Agapito, J. (2020). Attitudes Toward Technology Among Distance Education Students: Validation of an Explanatory Model. *Online Learning*, 24(2), 59
- Roney, L. N., Westrick, S. J., Acri, M. C., Aronson, B. S., & Rebesch, L. M. (2017). Technology use and technological self-efficacy among undergraduate nursing faculty. *Nursing Education Perspectives*, 38(3), 113-118.
- Saputra, W. N. E., Wahyudi, A., Supriyanto, A., Muyana, S., Rohmadheny, P. S., Ariyanto, R. D., & Kurniawan, S. J. (2021). Student Perceptions of Online Learning during the COVID-19 Pandemic in Indonesia: A Study of Phenomenology. *European Journal of Educational Research*, 10(3), 1515- 1528.
- Sarker, M. N. I., Wu, M., Cao, Q., Alam, G. M., & Li, D. (2019). Leveraging digital technology for better learning and education: A systematic literature review. *International Journal of Information and Education Technology*, 9(7), 453-461.
- Shen, D., Cho, M. H., Tsai, C. L., & Marra, R. (2013). Unpacking online learning experiences: Online learning self-efficacy and learning satisfaction. *The Internet and Higher Education*, 19, 10-17.
- Simamora. (2020). The Challenges of Online Learning during the COVID-19 Pandemic: An Essay Analysis of Performing Arts Education Students. *SiLeT (Studies in Learning and Teaching)*, 1(2), 86–103.
- So, W. W. M., Chen, Y., & Wan, Z. H. (2019). Multimedia e-learning and self-regulated science

Digital Learning Materials and Their Relationship with Faculty Nursing Students' Self-Efficacy at Menoufia University

- learning: A study of primary school learners' experiences and perceptions. *Journal of Science Education and Technology*, 28(5), 508-522.
- Soland, J., & Sandilos, L. E. (2021). English language learners, self-efficacy, and the achievement gap: Understanding the relationship between academic and social-emotional growth. *Journal of Education for Students Placed at Risk (JESPAR)*, 26(1), 20-44.
- Sousa, M. J., Marôco, A. L., Gonçalves, S. P., & Machado, A. D. B. (2022). Digital learning is an educational format towards sustainable education. *Sustainability*, 14(3), 1140 .
- Takala, M., & Wickman, K. (2019). Collaborative case-based virtual learning in higher education: Consultation case in special education. *Journal of Digital Learning in Teacher Education*, 35(4), 236-248.
- Tammets, K., Sarmiento-Márquez, E. M., Khulbe, M., Laanpere, M., & Ley, T. (2022). Integrating digital learning resources in classroom teaching: Effects on teaching practices and student perceptions. In *European Conference on Technology Enhanced Learning* (pp. 379-392). Springer, Cham.
- Thapa, P., Bhandari, S. L., & Pathak, S. (2021). Nursing students' attitude on the practice of e-learning: A cross-sectional survey amid COVID-19 in Nepal. *PloS one*, 16(6), e0253651.
- Tiwari, S. K., & Srivastava, S. P. (2021). Self-efficacy of online learning among nursing students during COVID-19 pandemic. *International Journal of Community Medicine and Public Health*, 8(9), 4439-4445.
- Wei, H. C., & Chou, C. (2020). Online learning performance and satisfaction: do perceptions and readiness matter?. *Distance Education*, 41(1), 48-69.
- Yamane, T. (1976): *Statistics an introductory Analysis*. 2d Edition, Harper and Row, New York. (Citation Time(s):2).
- Yavuzalp, N., & Bahcivan, E. (2020). The online learning self-efficacy scale: Its adaptation into Turkish and interpretation according to various variables. *Turkish Online Journal of Distance Education*, 21(1), 31-44.
- Zhang, L., & Yu, X. (2022). Intelligent retrieval method of mobile learning resources in the intelligent higher education system. *International Journal of System Assurance Engineering and Management*, 13(6), 3079-3091.
- Zwart, D.P., Van Luit, J.E., Noroozi, O. & Goei, S.L., 2017. The effects of digital learning material on students' mathematics learning in vocational education. *Cogent Education*, 4(1), p.1313581.