

GEN Z NURSING STUDENTS' USAGE, PERCEPTION AND SATISFACTION WITH FACEBOOK FOR EDUCATIONAL PURPOSES: TOOL FOR LEARNING OR DISTRACTION

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ABSTRACT

Introduction: Gen Z has started to enter the portals of nursing classrooms. They are technology and socially-savvy consumers who grew up in the world of internet and smartphones. However, little is known about this generation, particularly among nursing students and how they use Facebook for academic purposes. The purpose of this study was to determine nursing students' usage, perception, and satisfaction with Facebook for educational purposes. **Methods:** A descriptive, cross-sectional research design was used. A total of 113 conveniently chosen nursing students in a Nursing College in the Philippines participated in the survey. Data were collected using an adopted questionnaire administered via online survey. Descriptive and inferential statistical tools were used to analyze the data. **Results:** Results indicated that majority of nursing students moderately ($M=3.58$) use Facebook for educational purposes to communicate, collaborate, and share academic or learning materials. They generally had a good perception of ($M=4.36$) and were highly satisfied ($Mean=3.95$) with using Facebook for educational purposes. The main challenge reported by 81.42% of nursing students in the use of Facebook was distraction from other Facebook contents. There was a significant positive relationship between usage and perception ($p=.000$) likewise between satisfaction and recommendation in the use of Facebook for educational purposes ($p=.000$). **Conclusions:** While Facebook showcases promising potential as a learning tool, challenges associated with its use in nursing education must be properly addressed. Careful consideration and thoughtful planning are necessary for nursing schools to maximize the advantages of Facebook as a supplemental tool for learning.

Keywords: Gen Z, nursing students, Facebook, social media, nursing education

INTRODUCTION

Gen Z also known as Generation Z, iGeneration, iGen, Homelanders, or post-Millennials (Chicca, 2019; Dimock, 2019) is the newest generation of students entering our nursing classrooms. According to the Pew Research Center, anyone born from 1997 onward is part of the Gen Z (Dimock, 2019). Other sources indicate that they are born from 1995 to present (Hampton & Keys, 2016; Lines & Metcalf, 2017; Chicca & Shellenbarger, 2018; Chicca, 2019). The youngest generation of nursing students has unique characteristics that warrant exploration. Every generation appears to have unique characteristics that impact their views, attitudes and behaviors. For instance, while Gen Y changed the landscape of work as they prefer work-life balance (Gunawan, 2016; Oducado & Lamasan, 2018), Gen Z are said to transform education and nursing classrooms (Hampton & Keys, 2016). Several scholars

pointed out that Gen Z is like no other generation (Fisher, 2018). Some teachers acknowledge the fact that the present generation requires a new approach to teaching and learning (Shmul-Cohen, 2016).

The 21st century era or Industrial Revolution (IR) 4.0 directs the significance of technology infiltration in nursing and health science education (Diño & Ong, 2019). In response to the needs of IR 4.0, Education 4.0 espouses that alignment of human and technology to enable new possibilities in the field of education (Hussin, 2018). Information and Communication Technology has opened doors for introducing contemporary and innovative pedagogical approaches to deliver instruction (Lahti et al., 2017). The advent of technology and the internet has created a borderless world making technology an important resource for teaching and learning (Espinosa, 2015).

According to Digital 2019 report, the Philippines is one of the top users of internet worldwide, and Facebook remains a popular social media platform among Filipinos (Datareportal, 2019). Nursing students are wide consumers of social media (Oducado et al., 2019). Facebook is one form of social media that is widely used by nursing students (Kakushi & Évora, 2016; Lahti et al., 2017; Tubaishat, 2018). Social media is considered a new strategy for facilitating learning (Lopez & Cleary, 2018). Social media activities can be adopted both inside and outside of the classroom (Espinosa, 2015; Ferguson et al., 2016) and can assist nursing faculty in harnessing students' communication and writing skills (Schmitt et al., 2012).

Despite its usefulness, social media still appears as a controversial learning platform in nursing education (Price et al., 2018). There is still no consensus among educators on the use of social media for pedagogical purposes (Fisher, 2018). Since many nursing faculty are older, generational differences with the use of technology will be evident (Clarke & Zagarelle, 2012; Williams, 2019). Many Gen Z students also expressed concern regarding the generational gap in technology and their education (Williams, 2019). The question as to whether Facebook is a learning tool or a distraction (Fewkes & McCabe, 2012) must be properly tackled within the context of nursing education.

To keep up with the era of technology and the fast-paced society, nurse educators may need to update their traditional pedagogical methods (Lahti et al., 2017). Traditional approaches in nursing education may not be optimal to meet the needs of this generation (Chicca & Shellenbarger, 2018). In reviews of literature, studies found that nursing students are affirmative about social media use in nursing education (Kakushi & Évora, 2016; Ross & Myers, 2017). Facebook is argued to be a comfortable platform for Gen Z, and such a familiar environment is a prospective avenue to engage students in virtual instruction (Fisher, 2018). Nurse educators may need to assimilate technology into their instructional methodologies to match the present-day type of students (Tubaishat, 2018).

Guided by the social view of learning, nurse educators have chances of applying the concepts of social learning theory and social constructionism toward learning in a social media platform (Deaton, 2015). Social constructivists view learning as a social and interactive process of knowledge construction, and use of technology as a social tool can enhance learning (Lahiri & Moseley, 2015). Facebook provides a venue for social interaction that happens in a virtual or online environment. Thus, as long as there are meaningful interactions between learners that lead to knowledge construction; learning can take place anywhere (Espinosa, 2015). It is argued that the application of Albert Bandura's (1977) social cognitive learning theory provides opportunities to promote student success since concepts of attention, memory, and motivation are supported by social media use (Deaton, 2015). Moreover, according to Bandura's (1977) theory, people can learn by watching other people perform the behavior. Gen Z nursing students may learn by way of watching instructional videos (e.g. performing a specific clinical procedure) shared on Facebook.

While some scholars have investigated the use of Facebook for educational purposes among college and university students internationally (e.g. Junco, 2012; Prescott et al., 2013; Nguyen, 2017) and locally (e.g. Capilitan, 2019), using social media in nursing education is still in its infancy and is understudied (Price et al., 2018; Tubaishat, 2018). It was also noted that usage of Facebook for teaching might not be fitting in all disciplines (Niu, 2017). The application of different research designs, lack of baseline data (Chen, 2018) and cultural differences make it difficult to make generalizations about students' perception of the educational usage of Facebook. The purpose of this study was to determine nursing students' usage, perception, and satisfaction with Facebook for educational purposes.

METHODS

Study Design

A descriptive, cross-sectional design was used in this study.

Participants

A total of 113 conveniently chosen second-year nursing students in a Nursing College in the Philippines participated in the survey. The mean age of the participants was 19. Majority (68.1%) were females and 31.9% were males.

Data Collection

An adopted questionnaire by Nguyen (2017) was used to gather data for the study. The author granted permission to use the tool. The online survey tool was divided into eight(8) sections. Two global items were added by the researcher to assess satisfaction and likelihood of recommending Facebook for future use in education. The participants were asked to respond in a 5 point Likert scale format. The following interpretation of mean was used: 1.00-2.33 = low/negative; 2.34-3.66 = moderate/ambivalent; and 3.67-5.00 = high/positive. Higher scores indicate higher usage, positive perception, higher satisfaction, and likelihood of recommendation. The original questionnaire contained open-ended items. However, no other new categories were given by the students for the actual usage of Facebook part of the questionnaire. Hence, to safeguard the reliability, Cronbach’s alpha was computed. The 12-item actual usage of Facebook for educational purposes had a Cronbach’s alpha of

.828 while the 8-item perception on the use of Facebook for educational purposes had a Cronbach’s alpha of .906.

To ensure clarity of items and avoid technical problems in the actual administration of the questionnaire, the questionnaire was pilot tested among ten (10) nursing students.

Data for this study were collected through an online survey tool (Google forms). The link of the survey was shared with the participants through Facebook.

Data Analysis

Frequency count, percentage, and mean were used to describe the data. Since non-random sampling was employed, Spearman’s rho was performed to test the relationship between variables. Statistical analysis was aided by SPSS version 23. Alpha level of significance was set at .05.

Ethical considerations

To guarantee ethical conduct of the study, participants were informed at the beginning of the survey of the purpose of the study and were ensured that their participation is voluntary. All data collected remained confidential and anonymous. Students were also assured that participation in the study would not affect their grades.

RESULTS

Table 1. General Facebook usage

General Usage	f	%
Device used to access Facebook		
Desktop	20	17.7
Laptop	84	74.3
Tablet	17	15
Smartphone	112	99.1
Frequency of using Facebook		
Almost daily	105	92.9
Almost weekly	5	4.4
Few times a month	3	2.7
Availability stable internet connection to use Facebook		
No	22	19.5
Yes	91	80.5

Table 1 shows that almost all (99.1%) of Gen Z nursing students use their smartphones to access Facebook. Nearly all (92.9%) use

Facebook almost daily, and mostly (80.5%) had a stable internet connection to access Facebook.

Table 2. Usage of Facebook for educational purposes

Usage of Facebook Mean=3.58	Almost always/ Often	
	f	%
Communicate with my classmates about school-related topics	103	91.15
Contact instructors about school-related topics	21	18.58
Get school logistical information (class schedule, exam dates, etc.)	107	94.69
Get announcements regarding courses, classes, or school issues	104	92.04
Get support for homework/assignments	41	36.28
Contact predecessors/experienced people for academic advice	53	46.90
Facilitate group tasks/projects	99	87.61
Know and join beyond-university/college projects/activities	51	45.13
Join other groups of similar academic interests	30	26.55
Join groups to search for information on Higher Education or prospective jobs	27	23.89
Get access to/share academic resources or learning materials	97	85.84
Bookmark/save relevant/useful resources for studies	64	56.64

Table 2 shows that overall, Gen Z nursing students moderately use Facebook for educational purposes (Mean=3.58). Majority almost always or often use Facebook to communicate with their classmates (91.15%), get announcements regarding school-related information (92.04%), get school logistical information (94.69%), facilitate group project (87.61%) and get access or share academic resources or materials (85.84%). A little more than half almost always or often use Facebook to bookmark or save relevant or useful resources for studies (56.64%). Nearly half contact

predecessors or experienced people for academic advice (46.90%) and join beyond university/college projects or activities (45.13%). More than one-third use Facebook to get support for homework or assignments (36.28%). A little more than one-fourth join other groups or communities of similar academic focuses or interests (26.55%). Only less than one-fourth join groups or communities to search for information on Higher Education or prospective jobs (23.89%) and contact instructors about school-related topics (18.58%).

Table 3. Perception regarding the use of Facebook for educational purposes

Perception of Facebook Mean=4.36	Strongly Agree / Agree	
	f	%
Effective tool for communication and exchange of school-related information.	105	92.92
Highly useful in doing group works and in promoting collaboration among group members.	98	86.73
Enables and enhances collaboration beyond school community for academic and professional development.	102	90.27
Effective tool for accessing and sharing educational resources/materials.	105	92.92
Assists in accessing and sharing rich multimedia resources easily	103	91.15
Using Facebook is beneficial for my personal learning experience.	87	76.99
Facebook can serve as an effective tool to assist formal learning.	90	79.65
Facebook can be used as an effective means to assist informal learning.	97	85.84

Table 3 shows that majority of Gen Z nursing students agreed or strongly agreed that Facebook is an effective tool for communication and exchange of school-related information (92.92%), doing group works and in promoting collaboration among group members (86.73%), collaboration beyond school community for academic and professional development

(90.27%), accessing and sharing educational (92.92%) and rich multimedia resources (91.15%). More than three-fourths agreed and strongly agreed that Facebook is beneficial for personal learning experience (76.99%) and effective in assisting formal (79.65%) and informal learning (85.84%).

Table 4. Difficulties in the use of Facebook for educational purposes

Difficulties with Facebook	Almost always / Often	
	f	%
Easily distracted by other Facebook contents/activities	92	81.42
Miss updated posts or announcements	86	76.11
Encounter misunderstanding while communicating	37	32.74
Feel suspicious about the verification of resources/materials	44	38.94
Give attention to show references	77	68.14
Feel uncomfortable mixing personal life and academic life	46	40.71
Others (functionality and connectivity issues)		

Table 4 shows that the major drawback for using Facebook for educational purposes as reported by four out of five Gen Z nursing students was that they almost always or often get distracted by other Facebook contents or activities (81.42%). A little over three-fourths claimed that they almost always or often miss updated posts or announcement if they do not get online (76.11%). Also, a little over two-thirds almost always or often gave attention to references in sharing educational materials on

Facebook (68.14%). Less than half reported to almost always or often feel uncomfortable when mixing personal and academic life (40.71%), feel suspicious of the veracity of resources shared on Facebook (38.94%) and encounter misunderstanding when communicating through Facebook (32.74%). Few nursing students expressed issues related to the functionality (disorganized files) and connectivity (lack of stable internet connection) of Facebook.

Table 5. Satisfaction and recommendation to use Facebook for educational purposes

Satisfaction Mean=3.95	Not satisfied		Somewhat satisfied		Satisfied		Very Satisfied		Extremely satisfied	
	f	%	f	%	f	%	f	%	f	%
	1	.9	4	3.5	21	18.6	61	54	26	23
Recommendation Mean=3.89	Not likely		Somewhat likely		Likely		Very likely		Extremely likely	
	f	%	f	%	f	%	f	%	f	%
	4	3.5	6	5.3	20	17.7	52	46	31	27.4

Table 5 shows that many Gen Z nursing students were generally very satisfied (54%) and extremely satisfied (23%) with the use of Facebook for educational purposes with a mean

score of 3.95. Also, many participants were very likely (46%) and extremely likely (27.4%) to recommend Facebook for educational purposes with a mean score of 3.89.

Table 6. Correlation between variables

Variables	r	p
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Usage and Perception	.537	.000
Satisfaction and Recommendation	.715	.000

Table 6 shows that there was a significant positive relationship between usage and perception of Facebook for educational purposes ($r=.537$; $p=.000$). Moreover, there was a significant positive relationship between

DISCUSSIONS

This study investigated the use of Facebook among Gen Z nursing students. This study demonstrated that Gen Z nursing students generally use their smartphones to access Facebook almost daily. Similarly, a study found nursing students commonly use smartphones for personal use (Zarandonaa, 2018). Internet is part of the everyday life of this generation. It must be noted however, that while majority of students in this study had a stable internet connection, there were still students who struggle with having a stable internet connection. Some nursing students also disclosed connectivity problems. This is a main consideration for nursing faculty if they plan to utilize the online tool for instructional purposes.

In terms of the affirmative value of Facebook in nursing education, the findings of this study are reasonably consistent with the literature. This study affirms Mazman & Usluel (2010) theory explaining that Facebook in education is primarily used for communication, collaboration, and sharing of resources or materials. Undergraduate students in Vietnam use Facebook for the same purposes (Nguyen, 2017). Even among the nursing student cohort, earlier studies found that Facebook is mainly utilized to enhance communication, foster collaboration, promote peer and deeper learning and share and access academic or learning resources (Tower et al., 2014; Tower et al., 2015; Tubaiشات, 2018). Remarkably, Facebook usage was not only accepted positively in nursing classrooms but also in clinical placements (Morley, 2014; Watson et al., 2016).

Review studies also found social media as a novel tool for guiding and supporting learning (Kakushi & Évora, 2016; Ross & Myers, 2017). Even with other social media applications

satisfaction with Facebook use for educational purposes and the likelihood of recommending Facebook for academic purposes ($r=.715$; $p=.000$).

such as Twitter and WhatsApp, nursing students in United Kingdom (Price et al., 2018) and Zambia (Wahila et al., 2018) were optimistic about using social media use in education. However, compared to other social media platforms, Facebook allows sharing of links of content-related interactive materials making it a more acceptable platform for teaching and learning (Hegadi & Angadi, 2015). Students are not only confined to text-based materials and classroom lectures but are allowed to learn in a digital environment enriched with visually based content and rich multimedia resources (Chicca & Shellenbarger, 2018; Chen, 2018). Moreover, although some students in this study were reluctant in using Facebook for formal teaching, with the improvement in the functionality of Facebook, more recent studies affirm that Facebook is a helpful aid in teaching and learning. Even though a recent study shared that Gen Z prefers using other social media applications such as Instagram and Snapchat than Facebook (Lines & Metcalf, 2017; Young, 2018), the above stated features of Facebook brands it to be a more valuable platform for teaching and learning.

From the educators' perspective, teachers in United Kingdom recognized the educational value of social media (Prescott et al., 2013; Keenan et al., 2018). On the contrary, nurse educator students used Facebook less often to support their studies (Lahti et al., 2017). Second-year nursing students also used social media applications more in their free time than in their studies (Tuominen et al., 2014).

This study also found that while the benefits of Facebook in education are inevitable, distraction with other Facebook contents remains to be a major challenge. This is supported by a study in Jordan where nursing students shared the potential of Facebook to cause distraction and encourage procrastination

(Tubaishat, 2018). That said, “the distinction between entertainment and true intellectual engagement” remains a challenge in the use of Facebook (Espinosa, 2015). Given that Gen Z has lesser attention span compared to Millennials (Hampton & Keys, 2017; Williams, 2019), nursing faculty must carefully plan activities when using Facebook ensuring that undertakings will be relevant and will actually help students to learn taking advantage also of the entertaining value of Facebook in grabbing students’ attention.

Surprisingly, there were still nursing students in this study who reported miscommunication in using Facebook despite it’s widely acknowledged merit for communication. Nonetheless, this problem was found to be of minimal concern. Previous research related that Facebook was used by nursing students to help manage confusion and seek clarification about class-related activities (Tower, 2015). The Facebook messenger feature may also help bridge the communication gap among students and even between students and instructors. It may also be helpful for nursing faculty to be clear with instructions on activities conducted on Facebook to help avoid confusion and misunderstanding. Also, the poor quality of information that can be accessed on social media and other online sources (Ventola, 2014) poses a risk for miscommunication and in acquiring inaccurate information. Gen Z grew up seeing the negatives effects social media such as the proliferation of fake news and has acknowledged the consequences of sharing too many information (Hampton & Keys, 2017). It is significant to note that many Gen Z nursing students in this study pay particular attention to the integrity of information and references of materials posted on Facebook. This finding supports the guarded behavior of Gen Z. One characteristic associated with Gen Z is their cautious nature compared to past generations (Chicca&Shellenbarger, 2018; Williams, 2019).

Another problem reported in the use of Facebook is related to privacy issues. Nursing students in Jordan also reported a similar concern about privacy (Tubaishat, 2018). Some students may want to demarcate their social life and academic life (Madge et al., 2009;

Manca&Ranieri, 2014) to protect their privacy (Wang et al. 2011). Additionally, some nursing students in this study experienced functionality or technical issues in using Facebook. Students may be confronted with unexpected technological breakdowns when using Facebook such as difficulty in retrieving posts (Nguyen 2017), disorganized files (Wang et al., 2011), and problems with searching and organizing information (Manca&Ranieri, 2014).

Apart from the assistive functions of Facebook in education and the difficulties encountered with its use, Facebook is also criticized because of its negative effect on the mental health of nursing students (Labrague, 2014) and in promoting uncivil, unprofessional and irresponsible online behaviors (Oducado, et al., 2019). New research on Gen Z has shown that this generation is feeling bummed out from social media because it is negatively affecting their mental health (Hill Holliday, 2019). Also, although positive outcomes were found in the use of Facebook and academic performance (Gonzalez et al., 2016), there are still reports about its undesirable effect on academic performance (e.g. Khan & Ahmed, 2018). It is not possible to disregard these threats. Nursing instructors must attend to these concerns. Nevertheless, it cannot be denied that Facebook is a novel tool that can help engage the new generation of nursing students in learning. It is not envisioned to replace good pedagogical practices instead augment teaching and align with the needs of the new generation of future nurses (Chicca&Shellenbarger, 2018).

Lastly, highlighting the social context of learning, the above findings are supported by the social view of learning asserting that knowledge is constructed through social interaction and cooperation with others (Tubaishat, 2018). In addition, taking advantage of the motivation of this generation to stay connected online and of the interactive nature of Facebook to grab students’ attention supports the cognitive components of the social learning theory of Bandura (1977).

While the study is fairly consistent with the literature regarding the benefit of Facebook to aid instruction and learning, the results of the present investigation cannot be generalized because of the relatively limited sample size

conducted in a single College and the descriptive nature of the study design. And because generational stereotypes are not absolute, there is still a need to tailor approaches and strategies for classroom, clinical, or individual needs of students (Chicca&Shellenbarger, 2018).

CONCLUSIONS

The research suggests that Facebook can be a useful complementary instructional tool to face-to-face classroom instruction to engage Gen Z, a truly digital generation of nursing student in class. Gen Z nursing students utilize Facebook for communication and collaboration and for sharing learning resources and consider it as a valuable tool for learning. They also generally have a good perception of and are satisfied with using Facebook for educational purposes. While Facebook showcases promising potential as a learning tool, problems and challenges associated with Facebook use must be properly addressed to optimize its potential not only as a personal tool for establishing and maintaining social relations but also a tool that can aid instruction and enhance the academic success of students. Use of Facebook for educational purposes is not intended to take the place of existing effective teaching practices, but it can be used to supplement instruction. Through careful consideration and thoughtful planning of Facebook integration in nursing education, nursing schools can take full advantage of the benefits of Facebook as a learning tool, likewise address the learning needs of the current generation of nursing students.

REFERENCES

- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall.
- Capilitan, F.T. (2019). Facebook group page as a supplemental instructional approach in teaching college students in the Philippines. *Science International – Lahore*, 31(2), 221-224. doi: 10.13140/RG.2.2.22076.08326
- Chen, M. (2018). Students' perceptions of the educational usage of a Facebook group. *Journal of Teaching in Travel and Tourism*, 18, 4. doi: 10.1080/15313220.2018.1434448
- Chicca, J. (2019). Strategies for working with Generation Z. *American Nurse Today*, 14(2), 48-50.
- Chicca, J., & Shellenbarger, T. (2018). Connecting with Generation Z: Approaches in nursing education. *Teaching and Learning in Nursing*, 13, 180-184. doi: 10.1016/j.teln.2018.03.008
- Clarke, G., & Zagarella, J. (2012). Teachers and technology: A technological divide. *Childhood Education*, 88(2), 136-139. doi: 10.1080/00094056.2012.662140
- Datareportal. (2019). *Digital 2019: Global digital overview*. Retrieved from <https://datareportal.com/reports/digital-2019-global-digital-overview>
- Deaton, S. (2015). Social learning theory in the age of social media: Implications for educational practitioners. *Journal of Educational Technology*, 12(1), 1-6. doi: 10.26634/jet.12.1.3430
- Diño, M.J.S. & Ong, I.L. (2019). Research, technology, education & scholarship in the fourth industrial revolution [4IR]: Influences in nursing and the health sciences. *Journal of Medical Investigation*, 66(1.2), 3-7. doi: 10.2152/jmi.66.3.
- Dimock, M. (2019). Defining generations: Where millennials end and generation Z begins. *Pew Research Center*. Retrieved from <https://www.pewresearch.org/fact-tank/2019/01/17/where-millennials-end-and-generation-z-begins/>
- Espinosa, L.F. (2015). The use of Facebook for educational purposes in EFL classrooms. *Theory and Practice in Language Studies*, 5(11), 2206-2211. doi: 10.17507/tpls.0511.03
- Fewkes, A.M., & McCabe, M. (2012). Facebook: Learning tool or distraction? *Journal of Digital Learning in Teacher Education*, 28(3), 92-28.
- Fisher, G. (2018). Engaging generation Z: A study on Facebook group implementation in language courses and in multiple contexts. *All Theses and Dissertations*. 159. <https://dune.une.edu/theses/159>

- Ferguson, C., DiGiacomo, M., Saliba, B., Green, J., Moorley, C., Wyllie, A., & Jackson, D. (2016). First year nursing students' experiences of social media during the transition to university: A focus group study. *Contemporary Nurse*, 52(5), 625–635. doi: 10.1080/10376178.2016.1205458
- Gonzalez, M.R., Gasco, J., & Llopis, J. (2016). Facebook and academic performance: A positive outcome. *Anthropologist*, 23(1,2): 59-67. doi: 10.1080/09720073.2016.11891924
- Gunawan, J. (2016). Generation Y nurse: What do i need in the workplace? *Belitung Nursing Journal*, 2(3), 44-46. doi: 10.33546/bnj.21
- Hampton, D.C., & Keys, Y. (2017). Generation Z students: Will they change our nursing classrooms? *Journal of Nursing Education and Practice*, 17(4), 111-115. doi: 10.5430/jnep.v7n4p111
- Hegadi, P.S., & Angadi, G.R. (2015). Facebook as an instructional tool in fostering academic achievement, social interaction skills and attitude towards use of Facebook. *International Journal of Research in Engineering, IT & Social Sciences*, 5(4), 40-56.
- Hill Holiday. (2018). *Meet Gen Z: The social generation*. Retrieved from http://thinking.hhcc.com/?utm_campaign=Thought%20Leadership%20%E2%80%94%20Gen%20Z&utm_source=Press%20Release
- Hussin, A.A. (2018). Education 4.0 made simple: Ideas for teaching. *International Journal of Education & Literacy Studies*, 6(3), 92-98. doi: 10.7575/aiac.ijels.v.6n.3p.92
- Junco, R. (2012). The relationship between frequency of Facebook use, participation in Facebook activities, and student engagement. *Computers and Education*, 58: 162-171. doi: 10.1016/j.compedu.2011.08.004
- Kakushi, L.E., & Évora, Y.D.M. (2016). Social networking in nursing education: Integrative literature review. *Revista Latino-Americana de Enfermagem*, 24, e2709. doi: 10.1590/1518-8345.1055.2709
- Khan, N.T., & Ahmed, S. (2018). Impact of Facebook addiction on students academic performance. *Research Medical and Engineering Sciences*, 5(2), 424-426. doi: 10.31031/RMES.2018.05.000607
- Keenan, I., Slater, J., & Matthan, J. (2018). Social media: Insights for medical education from instructor perceptions and usage. *MedEdPublish*, 7(1), 27. doi: 10.15694/mep.2018.0000027.1
- Lahiri, M., & Moseley, J.I. (2015). Learning by going social: Do we really learn from social media? *International Journal of Learning, Teaching and Educational Research*, 11(2), 12-25.
- Lahti, M., Haapaniemi-Kahala, H., & Salminen, L. (2017). Use of social media by nurse educator students: An exploratory survey. *The Open Nursing Journal*, 11, 26-33. doi: 10.2174/1874434601711010026
- Labrague, L.J. (2014). Facebook use and adolescents' emotional states of depression, anxiety, and stress. *Health Science Journal*, 8(1), 80-89.
- Lamasan, J.I.L. & Oducado, R.M.F. (2018). A qualitative description of millennial nurse administrators' perspectives on leadership and their practice environment. *Indonesian Nursing Journal of Education and Clinic*, 2(3), 153-164. doi: 10.24990/injec.v3i2.226
- Lines, C., & Metcalf, B. (2017). iGeneration and their acceptance of technology. *International Journal of Management & Information Systems*, 21(2), 11-26. doi: 10.19030/ijmis.v21i2.10073
- Lopez, V., & Cleary, M. (2018). Using social media in nursing education: an emerging teaching tool. *Issues in Mental Health Nursing*, 39(7), 616-619. doi: 10.1080/01612840.2018.1494990
- Madge, C., Meek, J., Wellens, J., & Hooley, T. (2009). Facebook, social integration

- and informal learning at university: It is more for socialising and talking to friends about work than for actually doing work. *Learning, Media and Technology*, 34:2, 141-155, doi: 10.1080/17439880902923606
- Manca, S., & Ranieri, M. (2014). *Does Facebook provide educational value? An overview of theoretical and empirical advancements of affordances and critical issues*. In G. Mallia (Ed.). *The Social Classroom: Integrating Social Network Use in Education* (312-338). Hershey, PA: IGI Global. doi: 10.4018/978-1-4666-4904-0
- Mazman, S.G., & Usluel, Y.K. (2010). Modeling educational usage of Facebook. *Computers and Education*, 55(2), 444-453. doi: 10.1016/j.compedu.2010.02.008
- Morley, D.A. (2014). Supporting student nurses in practice with additional online communication tools. *Nurse Education in Practice*, 14(1), 69-75, 1471-5953. doi: 10.1016/j.nepr.2013.06.005
- Niu, L. (2017). Using Facebook for academic purposes: Current literature and directions for future research. *Journal of Educational Computing Research*, 56(8), 1384-1406. doi: 10.1177/0735633117745161
- Nguyen, T. (2017). *Undergraduate students' use of Facebook for educational purposes: Advantages, difficulties, and potential for connected learning* (Master's Thesis). University of Tampere, Finland. Retrieved from <https://trepo.tuni.fi/bitstream/handle/10024/102580/1513684873.pdf?sequence=1&isAllowed=>
- Oducado, R.M.F., Sales, M.R., Magarzo, A.J.P., Panes, P.M.A., & Lapastora, J.T.P. (2019). Perceptions and attitude on using social media responsibly: Toward social media literacy in nursing education. *Belitung Nursing Journal*, 5(3), 116-122. doi: 10.33546/bnj.789
- Prescott, J., Stodart, M., Becket, G., & Wilson, S. (2013). The experience of using Facebook as an educational tool. *Health and Social Care Education*. doi: 10.11120/hsce.2013.00033
- Price, A.M., Devis, K., LeMoine, G., Crouch, S., South, N., & Hossain, R. (2018). First year nursing students use of social media within education: Results of a survey. *Nurse Education Today*, 61, 70-76. doi: 10.1016/j.nedt.2017.10.013
- Ross, J.G., & Myers, S.M. (2017). The current use of social media in undergraduate nursing education: A review of the literature. *CIN: Computers, Informatics, Nursing*, 35(7), 338-344. doi:10.1097/CIN.0000000000000342
- Schmitt, T., Sims-Giddens, S., & Booth, R. (2012). Social media use in nursing education. *OJIN: The Online Journal of Issues in Nursing*, 17(3), Manuscript 2. doi:10.3912/OJIN.Vol17No03Man02
- Shmul-Cohen, S. (2016). *How teachers conceive their role when working with Generation Z pupils in a technological learning environment* (Doctoral thesis). University of Derby, England. <http://hdl.handle.net/10545/620659>
- Tower, M., Blacklock, E., Watson, B., Heffernan, C., & Tronoff, G. (2015). Using social media as a strategy to address 'sophomore slump' in second year nursing students: A qualitative study. *Nurse Education Today*, 35(11), 1130-1134. doi: 10.1016/j.nedt.2015.06.011
- Tower, M., Latimer, S., & Hewitt, J. (2014). Social networking as a learning tool: Nursing students' perception of efficacy. *Nurse Education Today*, 34(6), 1012-1017. doi: 10.1016/j.nedt.2013.11.006
- Tubaishat, A. (2018). Student nurses' perceptions of Facebook as an interactive learning platform in nursing education. *Contemporary Nurse*, 54(4-5), 456-471. doi: 10.1080/10376178.2018.1530944

- Tuominen,R., Stolt, M.,&Salminen, L. (2014). Social media in nursing education: The view of the students. *Education Research International*, Article ID 929245, 1-6. doi: 10.1155/2014/929245
- Wahila, R., Mwape, L., Lyambai, K., &Kabinga-Makukula, M. (2018).Use of social media to support nursing students' learning in Zambia.*Creative Education*, 9, 1237-1251. doi: 10.4236/ce.2018.98092.
- Wang, Q., Woo, H.L., Quek, C.L., Yang, Y.,& Liu, M. (2011). Using the Facebook group as a learning management system: An exploratory study.*British Journal of Educational Technology*, 43(3), 428-438.doi: 10.1111/j.1467-8535.2011.01195.x
- Watson, B., Cooke, M.,&Walker, R. (2016).Using Facebook to enhance commencing student confidence in clinical skill development: A phenomenological hermeneutic study.*Nurse Education Today*, 36, 63-59. doi: 10.1016/j.nedt.2015.07.019
- Williams, C. (2019). Nurse educators meet your new students: Generation Z. *Nurse Educator*, 44(2), 59-60.
- Ventola, C.L. (2014). Social media and health care professionals: benefits, risks, and best practices. *P&T*, 39(7), 491–520.
- Young, K. (2018). *Three differences in how Gen Z and Millennials use social media*. Retrieved from <https://wearesocial.com/blog/2018/03/three-differences-gen-z-millennials-use-social-media>
- Zarandonaa, J., Cariñanos-Ayalaa, S., Cristóbal-Domínguezb, E., Martín-Bezosa, J., Yoldi-Mitxelena, A., &Cilleroc, I.H. (2018). With a smartphone in one's pocket: A descriptive cross-sectional study on smartphone use, distraction and restriction policies in nursing students. *Nurse Education Today*, 82, 67-73. doi:10.1016/j.nedt.2019.08.001