



Short Paper*

Assessment of Self-Efficacy in an Online Learning of Teacher Education Students in One State University in the Philippines

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Abstract

Purpose – This paper attempted to describe the online learning self-efficacy of Teacher education students from two groups with and without prior online learning experience in one state university in the Philippines. It further determined whether the self-efficacy of the two groups are comparable as to learning in the online environment, time management, and technology use.

Methodology – The researchers utilized the Online Learning Self-Efficacy Scale (OLSES) to collect the necessary data to assess and compare the level of online learning self-efficacy of the respondents from the two groups. Three hundred and eighty-seven Teacher Education students with and without prior online learning experience participated in the study.



Results – The study revealed that both groups rated their self-efficacy in learning in the online environment, time management, and technology use as very good. However, the students with online learning experience yielded a relatively higher online learning self-efficacy in all three domains compared to the students without an online learning experience. The study further showed that there is no significant difference in the online learning self-efficacy between the two groups.

Conclusion – The Teacher Education students assessed their online learning self-efficacy as very good regardless of their online learning experience. Based on the results of the study, since the p-values of all variables do not exceed the critical value of 0.05, the null hypotheses were all accepted. This implied that there is no statistical difference that exists in the online learning self-efficacy of the students from the two groups.

Recommendation – The academic institution, instructors, and students should include the online learning self-efficacy of the students in designing a comprehensive online learning program. It is also recommended to conduct experimental research and explore other demographic factors for future research directions to substantiate the results of the present study.

Practical Implications – The higher education institutions would be able to develop a comprehensive design of online delivery of teaching and learning, grounded on the self-efficacy in online learning of the students, to accommodate the needs of various students who lack learning experiences in the context of online learning.

Keywords – Online learning, online learning experience, online learning self-efficacy, Self-efficacy.

INTRODUCTION

The unforeseen emergence of Corona Virus Disease 2019 (COVID-19) has prompted educational institutions to deliver instruction in flexible modalities, and explore technologies that could support the delivery of classes without physical meeting. Online learning, where teaching and learning are freed from the constraint of time, place, and pace of study, is a viable instructional response to the COVID-19 pandemic. Online learning is a form of distance education, where learning takes place partially or entirely over the Internet. It is claimed that any learning arrangement with substantial elements of online learning is considered as online learning (Nguyen, 2015). This educational migration to an online learning system has changed the landscape of learning context from physical to virtual set-up. Online courses are conducive to students who favor self-regulated learning, a critical factor for successful online learning (You & Kang, 2014). Self-regulated learning strategies and self-efficacy beliefs of the learners are interdependent.

Learners with good self-regulation favor higher self-efficacy. Further, self-efficacy theory highlights the importance of interactions between the person, the environment, and the behavior. Therefore, learning contexts and experiences are crucial sources of self-efficacy beliefs of an individual.

The introduction of self-efficacy as a psychological construct is generally recognized as an essential contribution to educational psychology (Dinther, Dochy & Segers, 2010). According to Bandura (1977), self-efficacy refers to “*beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments.*” This construct plays a vital role in how you feel, think and behave in a given situation. It also influences one's action on how they would effectively approach a specific goal, task, or challenge. It further reflects confidence in the ability to exert control over one's motivation, behavior, and social environment. It is a cognitive self-evaluation that can influence all manner of human experience. This increasing belief in our capabilities catalyzes to effect change in behavioral patterns that lead to the achievement of goals. Educational researches revealed that self-efficacy has positive implications on students' motivation, task engagement, and academic achievement (Honicke & Broadbent, 2016; Köseoğlu, 2015; Margahi et al., 2018). It is further recognized as a key in enhancing the motivation of struggling learners (Margolis & MacCabe, 2003). Thus, self-efficacy is critical to effective teaching and learning.

Self-efficacy is grounded on Albert Bandura’s Social Cognitive Theory. It assumes that previous experiences and efficacy expectations contribute to self-efficacy. This can be strengthened through the experience of mastery, observing others succeed, and verbal persuasion such as direct encouragement (Bandura, 1977). The mastery experience plays a vital role in this current study, it pertains to the experiences people gain when they take on a new challenge and succeed. It is also referred to as performance accomplishment which happens to be the most influential as it is based on learners' previous successful experiences (Alqurashi, 2016). Previous accomplishments increase mastery expectations, which lower the negative effect of failure. In an online learning environment, learners' previous experiences in an online environment are vital to a successful educational experience. These prior experiences include learning in a virtual environment or blended learning modality, utilizing computer and information communication technologies, and managing time in a self-regulated distance learning set-up. Irani (2000) contended that respondents who had relevant prior experience had the most favorable perceptions of the perceived usefulness of Internet communication tools. The study further revealed that previous experience is a strong predictor of behavioral intention to use these technologies. Sit et al. (2005), however, reported that online learning could also result in negative experiences to the students when implemented improperly. They also argued that inadequate opportunity for human interaction in the online environment hinders their collaborative support and discussion about the subject matter. Zimmerman and Kulikowich (2016) contended that completing an online course can improve students' confidence in an online task, however, there are students despite no online experience demonstrate high self-efficacy beliefs. In essence, learning

experience could be translated by the students to positive or negative influence which would affect one's self-efficacy.

Online learning is a flexible learning system that has been present in the Philippine Higher Education Institutions (HEIs) for decades already. The educational transition in HEIs from a classroom setting to online or distance learning highlighted the importance of self-efficacy among learners. The learners' belief that they would be academically successful despite changes in learning context is fundamental to progressive migration to online learning environment. Self-efficacy toward online learning, which is a situation-specific form of efficacy, refers to individuals' judgment of their capabilities to use online learning systems e.g. computers, the Internet, and web-based instructional and learning tools (Lee & Mendlinger, 2011). Online learning self-efficacy (OLSE) is a key aspect to become successful in online learning, (Hodges, 2008; Shen et al., 2013). It is a strong element of a successful online educational experience (Albelbisi & Yusop, 2019). Zimmerman and Kulikowich (2016) contended that students with high OLSE are more likely to become effective learners in an online environment. Recent researchers in OLSE have focused on the technical aspects particularly in ICT and computer skills (Alqurashi, 2016). In the framework of OLSE by Zimmerman and Kulikowich (2016), three components were identified that explain self-efficacy in an online learning environment: (1) learning in the online environment; (2) time management; (3) technology use.

The studies in the concept of self-efficacy in online learning have focused on the technology dimension. Alqurashi (2016) claimed that there is an inadequate number of studies focusing on general self-efficacies and the learning dimension in online learning environments. In this regard, assessment of OLSE using the conceptual framework of Zimmerman and Kulikowich (2016) is necessary and has important practical applications. Students who are contemplating enrolling in an online program can self-assess their readiness and confidence in terms of their self-efficacy in online learning. This will provide baseline data about the current status of the students' beliefs to learn online. Consequently, instructors will be informed of the appropriate design of the online learning programs that best suit the interest and capability of the students. It will also provide them the students' areas of strengths and weaknesses which will inform educational institutions and teachers of the areas of concerns that need to provide training and encouragement.

As numerous educational institutions migrate from traditional learning set-up to online delivery mode, the school administration should craft well-defined institutional policies and regulations regarding the implementation of plans and programs to improve online learning, grounded on a research-based assessment of self-efficacy of students to learn online. This will identify the important roles of the administrators, teachers, students, and other stakeholders in the program. To attain this thrust, this study assesses the OLSE of the respondents in terms of (1) learning in the online environment; (2) time management; (3) technology use. It also determines the significant difference in the OLSE between the student-respondents with and without prior online learning experience. The

results from this study would serve as a basis for identifying the appropriate actions and interventions to increase the success rate of learners on the online learning course despite the lack of educational and personal learning experiences.

Hypotheses

The following hypotheses were posited in this study. These were founded on the assumption that previous experiences affect the self-efficacy beliefs of an individual as stated in Bandura's Self-efficacy Theory. It posed that previous experiences can negatively or positively impact one's belief to be successful on a given task. Schunk (2012) argued that personal experience is a major source of self-efficacy. These were tested using inferential statistics and were interpreted accordingly.

Ho₁: There is no significant difference in OLSE in terms of learning in the online environment between the students with and without prior online learning experience.

Ho₂: There is no significant difference in the OLSE in terms of time management between the students with and without prior online learning experience.

Ho₃: There is no significant difference in the OLSE in terms of technology use between the students with and without prior online learning experience.

METHODOLOGY

Research Design

This study utilized a survey research design particularly the cross-sectional design to assess the OLSE of Teacher Education students in terms of three domains - (1) learning in the online environment; (2) time management; (3) technology use. The purpose of this research design is to collect quantitative data from the respondents via questionnaire for statistical analysis to describe the trends about the responses and test the research hypotheses (Creswell, 2015). This design is also appropriate for comparison between two educational groups in terms of attitude, beliefs, or opinion (Stockemer, 2019).

Respondents of the Study

The study was conducted in one state university situated in San Pablo City, Laguna, Philippines. The respondents of this study were 387 Teacher Education students, who were previously enrolled in the academic year 2019-2020 and intended to continue education in the upcoming academic year. The participants were selected using convenience sampling since the participants have the option of not participating in the study. This type of sampling is usually used in an online survey because of its cost-effectiveness and the widespread Internet access of the population. To secure that only

target respondents get to answer the survey, the online instrument was set that only the verified e-mails of the students of the state university are capable of accessing the survey link.

The students without prior online learning experiences comprised 63.57% of the respondents, while the students with substantial online learning experience comprised the remaining 36.43%. The age of the respondents ranged from 18 to 42 where the majority is within the age range of 18 to 20 (80.80%). In terms of sexual identity, 71.1% were females, 23.8% were males, while 5.2% of the respondents preferred not to state their sex identity. The respondents were undergraduate students with 45% on the first-year level, 44.7% on the second-year level, and 10.3% on the third-year level. The table below presents the characteristics of the sample of two groups of students with and without prior online learning experience.

Table 1. Characteristics of the Respondents

		Without Online Learning Experience		With Online Learning Experience	
		Number of Respondents			
Respondents' Characteristics		N = 246		N = 141	
		f	%	f	%
Age	18-20	196	79.7	117	83.0
	21-23	30	12.2	18	12.8
	24-26	6	2.4	2	1.4
	27-29	5	2.0	2	1.4
	30 above	9	3.7	2	1.4
Gender	Female	174	70.7	101	41.1
	Male	61	24.8	31	12.6
	Prefer not to say	11	4.5	9	3.7
Year Level	First Year	111	45.1	63	25.6
	Second Year	109	44.3	64	26.0
	Third Year	26	10.6	14	5.7
	Fourth Year	-	-	-	-

Instruments

This study used the Online Learning Self-Efficacy Scale (OLSES) developed by Zimmerman and Kulikowich (2016). The authors sought permission to utilize the scale from the developer via email. Upon approval, the researchers validated the instrument's appropriateness to the target sample. Experts from the fields of statistics and educational technology were asked to check the validity of the instrument. This scale is composed of 22 items which measure the online learning self-efficacy of the students in terms of Learning in an Online Environment (e.g., *Communicate effectively with technical support via e-mail, mobile phone, or live online chat*); Time Management (e.g. *Complete all*

assignments on time); and Technology Use (e.g., *Navigate online course materials efficiently*). It is measured in a 6-point Likert scale from 1 – “Poor” to 6 – “Expert”. This instrument gained an overall reliability index of $\alpha=.961$. The following table shows the Cronbach’s alpha of the three subscales of OLSE. It shows that the reliability index of subscale 1 is excellent while subscales 2 and 3 are both interpreted as good.

Table 2. Instrument Subscales and Reliability Index

<i>Subscale</i>	<i>No. of Items</i>	<i>Cronbach’s Alpha</i>
1. Learning in Online Environment	10	0.925
2. Time Management	5	0.880
3. Technology Use	7	0.897

Data Collection

The researchers asked for permission from the College of Teacher Education of the state university to administer the study on their institution. To gather the data, the researchers programmed the questionnaire in Google forms and were distributed using electronic mailing resources. The researchers asked assistance from the faculty of the College of Teacher Education to encourage and secure the response of the target participants. The link for the survey was only sent via private messages to avoid responses from non-respondents. The study obtained a 62% response rate which exceeds the 60% threshold of acceptable survey response rate (Fincham, 2008). A high response rate also implied that the current study has a lower likelihood of non-response bias.

Moreover, the questionnaire is secured with an informed consent form stating the purpose of the study and an assurance that utmost confidentiality would be observed on the collection and analysis of the data. It also states that their responses will be used for the sole purposes of the study. Submission of their responses signifies their consent.

Data Analysis

The researchers described the OLSE of the respondents from the two groups using descriptive statistics such as weighted mean and standard deviation with corresponding verbal interpretation. To test the hypotheses, a t-test for independent samples was administered to determine if there is a significant difference in the OLSE of the students from the two groups.

RESULTS AND DISCUSSION

This study intended to assess the OLSE of Teacher Education students from one state university in the Philippines. It further compared the OLSE of two groups with and without prior online learning experience. It was hypothesized that there is no significant difference between the OLSE of the two groups in terms of (1) learning in an online

environment; (2) time management; and (3) technology use. To address these problems, descriptive statistics and tests of difference were conducted.

Table 3. Online Learning Self-efficacy as to Learning in Online Environment

Indicators	With Online Learning Experience		Without Online Learning Experience		Overall	
	Mean	VI	Mean	VI	Mean	VI
1. Communicate effectively with technical support via e-mail, mobile phone, or live online chat.	4.32	VG	4.07	VG	4.20	VG
2. Overcome technical difficulties on my own.	3.79	PR	3.56	VG	3.68	VG
3. Learn to use a new type of technology efficiently.	4.14	VG	3.94	VG	4.04	VG
4. Learn while you and your instructor are in distant places.	4.00	VG	3.89	VG	3.95	VG
5. Learn without being in the same room as other students.	3.93	VG	3.89	VG	3.91	VG
6. Communicate using asynchronous technologies (discussion boards, padlet, e-mail, etc.)	3.65	VG	3.39	G	3.52	VG
7. Complete a group project entirely online.	3.73	VG	3.57	VG	3.65	VG
8. Use synchronous technology to communicate with others (such as Skype, Google meet, Zoom).	3.65	VG	3.44	G	3.55	VG
9. Use the library's online resources efficiently.	3.63	VG	3.34	G	3.48	VG
10. When a problem arises, promptly ask questions in the appropriate forum (e-mail, discussion board, etc.)	3.75	VG	3.56	VG	3.66	VG
General Mean	3.86	VG	3.67	VG	3.76	VG

Legend: 1-1.83 –Poor (P); 1.83-2.66, Fair (F); 2.67-3.49 – Good (G); 3.50-4.32 – Very Good (VG); 4.33-5.15 – Proficient (PR); 5.16-6 – Expert (E)

Table 3 shows the overall assessment of the student-respondents on their self-efficacy to learn in an online environment. The data shows that the general mean for student-respondents with and without online learning experience are 3.86 and 3.67 respectively. These means are both verbally interpreted as “very good.” This implies that both groups are capable of learning in an online learning environment despite a lack of online learning experience. Table 2 further shows that all indicators revealed that the

student-respondents have very good potential to learn in virtual classrooms as shown on the general mean value of 3.76. The student-respondents with online learning experience can overcome technical difficulties on their own, as revealed by the mean value of indicator 2, which got the highest rating. For student-respondents without an online learning experience, the data shows that they can communicate effectively with technical support via e-mail, mobile phone, or live online chat.

Table 4. Online Learning Self-efficacy as to Time Management

Indicators	With Online Learning Experience		Without Online Learning Experience		Overall	
	Mean	VI	Mean	VI	Mean	VI
	1. Manage time effectively	4.14	VG	4.09	VG	4.11
2. Complete all assignments on time	4.56	PR	4.40	PR	4.48	PR
3. Meet deadlines with minimal reminders.	4.13	VG	3.99	VG	4.06	VG
4. Focus on schoolwork when faced with distractions.	3.69	VG	3.62	VG	3.66	VG
5. Develop and follow a plan for completing all required work on time.	4.12	VG	4.07	VG	4.09	VG
General Mean	4.13	VG	4.03	VG	4.08	VG

Legend: 1-1.83 –Poor (P); 1.83-2.66, Fair (F); 2.67-3.49 – Good (G); 3.50-4.32 – Very Good (VG); 4.33-5.15 – Proficient (PR); 5.16-6 – Expert (E)

Table 4 presents the assessment of student-respondents on their self-efficacy in time management in the context of online learning. The general mean value of 4.08 indicates that the student-respondents rated themselves as "very good" in managing their time effectively. Both groups of student-respondents with and without online learning experience assessed their self-efficacy in time management as "very good" as revealed by their mean values of 4.13 and 4.03 respectively. The table further shows that both groups got the highest rating on indicator 2. This finding implies that they are very much capable of accomplishing all assignments on time.

Table 5 shows the assessment of student-respondents on their self-efficacy to technology use. The overall assessment shows that the student-respondents are "very good" in using technologies essential in learning online as revealed by the general mean value of 3.93. The data also reveals that both groups of student-respondents with and without online learning experience assessed their self-efficacy in technology use as "very good" as shown by their mean values of 4.03 and 3.82, respectively. The table further reveals that both groups got the highest rating in indicator 3 suggesting that they can communicate effectively with their instructor via e-mail e.g. Gmail, yahoo mail, and messenger.

Table 5. Online Learning Self-efficacy as to Technology Use

Indicators	With Online Learning Experience		Without Online Learning Experience		Overall	
	Mean	VI	Mean	VI	Mean	VI
	1. Navigate online course materials efficiently.	3.85	VG	3.58	VG	3.72
2. Find the course syllabus online.	3.87	VG	3.63	VG	3.75	VG
3. Communicate effectively with my instructor via e-mail (Gmail, yahoo mail, messenger)	4.43	VG	4.15	VG	4.29	PR
4. Submit assignments to an online dropbox such as Google drive.	4.14	VG	3.83	VG	3.99	VG
5. Navigate the online grade book.	3.81	VG	3.56	VG	3.69	VG
6. Search the Internet to find the answer to a course-related question.	4.08	VG	4.06	VG	4.07	VG
7. Search the online course materials.	4.01	VG	3.95	VG	3.98	VG
General Mean	4.03	VG	3.82	VG	3.93	VG

Legend: 1-1.83 –Poor (P); 1.83-2.66, Fair (F); 2.67-3.49 – Good (G); 3.50-4.32 – Very Good (VG); 4.33-5.15 – Proficient (PR); 5.16-6 – Expert (E)

Table 6 shows the summary of the test of difference in OLSE in terms of learning in an online environment, time management, and technology use between the two groups. The table reveals that the group with online learning experience gained generally higher mean values on their OLSE compared to the group without an online learning experience. The t-value and p-value of learning in an online environment ($t_{385}=-1.628$, $p=.104$), time management ($t_{385}=-.685$, $p=.494$), and technology use ($t_{385}=-1.129$, $p=.260$) reveal that there is no significant difference between the OLSE of the students with and without online learning experience since the p-value is less than the critical value of 0.05. This suggests that the hypotheses in this study are all accepted at a 95% confidence interval. These results can be attributed to the target respondents, who belong to the same program. The respondents are Teacher Education students who are being trained to become future educators that can manage to teach effectively in various learning contexts. It attests that the student-respondents understand the importance of believing in their capabilities to be successful in every challenge despite lack of learning experience.

Shen et al. (2013) argued in their study that the reasonable hypothesis is that students who gained more online learning experience tend to have a higher level of OLSE. The study further identified online learning experience as a predictor of self-efficacy to complete an online course and self-efficacy to interact with classmates for academic purposes. Zimmerman and Kulikowich (2016) also revealed that although

descriptive statistics according to online learning experience resulted in a relatively higher level of OLSE in favor of students with an online learning experience, however, the difference cannot account for statistical difference. Cho and Kim (2013) further revealed that the number of online learning courses taken is not related to the self-regulation to interact with others. Since self-efficacy is related to the concept of self-control and the ability to modulate behavior to reach goals, hence, this study implies that prior online learning experience may not necessarily predict self-efficacy to learn online.

Table 6. Summary of Test of Difference between the Online Learning Self-efficacy of Two Groups with and without Online Learning Experience

Variable	Group	Mean	SD	t-value	df	p-value	Decision ($\alpha=0.05$)	Interpretation
Learning in Online Environment	With Online Learning Experience	3.86	.92	-1.628	385	.104	Support Ho ₁	Not Significant
	Without Online Learning Experience	3.67	.90					
Time Management	With Online Learning Experience	4.13	1.00	-.685	385	.494	Support Ho ₂	Not Significant
	Without Online Learning Experience	4.03	.94					
Technology Use	With Online Learning Experience	4.03	.87	-1.129	385	.260	Support Ho ₃	Not Significant
	Without Online Learning Experience	3.82	.89					

*p-value < .05 is significant (Two-tailed)

LIMITATIONS OF THE STUDY

The sole purpose of this study is to determine the significant difference in OLSE between the respondents with and without prior online learning experience. The study is

only conducted in one state university in Laguna, Philippines: thus, relative to generalizing the context of the study, it only accounts for one academic program in one state university which is Teacher Education Program. The researchers only used a self-report survey which could be affected by the emotional willingness during the answering of the instrument. Further, the survey was administered only once which makes it impossible for the researchers to measure the change in OLSE of the respondents. In terms of the measure used to collect the data, the researchers only identified whether the respondents have prior experience or none in online learning, it did not determine how many online courses the respondents have taken. This information could help to substantiate the relevance of prior online learning experiences on the development of self-efficacy of the respondents.

CONCLUSIONS AND RECOMMENDATIONS

The educational transition from a classroom setting to online learning is increasingly becoming popular in HEIs and even in basic education in the Philippines due to its flexibility and customizability. Online learning delivery requires preparation and readiness particularly on the end of the learners. Readiness for online learning is influenced by their self-efficacy and self-motivation. Based on the research problems identified and salient findings of this study, the following conclusions were drawn: The majority of the respondents do not have a prior online learning experience. The study reveals that the OLSE of the student-respondents with online learning experience is generally higher than the students without an online learning experience. However, inferential statistics revealed that there is no significant difference in the OLSE of the two groups as to learning in an online environment, time management, and technology use. Thus, the null hypotheses posited were all hereby accepted. This implies that the self-efficacy in online learning of the two groups are comparable to each other.

The results of the study seem to show that the Teacher Education students who participated in the study are ready and prepared for migration to online learning modality from the traditional set-up. Their positive self-assessment of their OLSE indicates their willingness to enroll and learn in an online learning program, despite differences in an online learning experience. In light of the finding of the study and its limitation, the researchers recommended shedding more light on this topic by conducting experimental studies to obtain experience-based evidence that will substantiate the results of the current study. For future research directions, a larger number of participants is encouraged involving various academic programs aside from Teacher Education to obtain more reliable results. Other demographic factors such as gender, ethnicity and academic levels, and programs as a basis for groupings may be considered for future research as the study only explored the online learning experience.

PRACTICAL IMPLICATIONS

Assessment of the OLSE of the students will help identify their strengths and weaknesses which will provide information to develop an appropriate intervention. OLSE is an important matter because it can impact student's behavior. Students with higher OLSE are more likely to enroll and succeed in online programs. Consequently, the higher education institutions would be able to develop a comprehensive design of online delivery of teaching and learning, grounded on the self-efficacy to learn online of the students, to accommodate the needs of various students who lack learning experiences in the context of online learning

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REFERENCES

- Albelbisi, N., & Yusop, F. (2019). Factors influencing learners' self-regulated learning skills in a massive open online course (MOOC) environment. *Turkish Online Journal of Distance Education*, 20, 1–16. doi: 10.17718/tojde.598191.
- Alqurashi, E. (2016). Self-Efficacy in online learning environments: A literature review. *Contemporary Issues in Education Research*, 9(1), 45-52. doi: 10.19030/cier.v9i1.9549
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191-215
- Cho, M. -H., & Kim, B. J. (2013). Students' self-regulation for interaction with others in online learning environments. *Internet and Higher Education*, 17, 69–75. doi: 10.1016/j.iheduc.2012.11.001
- Creswell, J. W. (2015). *Research designs: Quantitative, qualitative and mixed-method approaches, 4th Edition*. Thousand Oak, California. SAGE Publications, Inc.
- Dinther, M. V., Dochy, F. & Segers, M. (2010). Factors affecting students' self-efficacy in higher education. *Educational Research Review*, 6(2011), 95-108. doi:10.1016/j.edurev.2010.10.003
- Fincham, J. E. (2008). Response Rates and Responsiveness for Surveys, Standards, and the Journal. *American Journal of Pharmaceutical Education*, 72(2), 43. doi: 10.5688/aj720243
- Hodges, C. B. (2008). Self-efficacy in the context of online learning environments: A review of the literature and directions for research. *Performance Improvement Quarterly*, 20(3–4), 7–25.

- Honick, T., & Broadbent, J. (2016). The influence of academic self-efficacy on academic performance: a systematic review. *Educational Research Review, 17*, 63–84. doi: 10.1016/j.edurev.2015.11.002
- Irani, T. (2000). Prior Experience, Perceived Usefulness and the Web: Factors Influencing Agricultural Audiences' Adoption of Internet Communication Tools. *Journal of Applied Communications, 84*(2). doi: 10.4148/1051-0834.2151
- Köseoğlu, Y. (2015). Self-efficacy and academic achievement – A case from Turkey. *Journal of Education and Practice, 6*(29), 131-141.
- Lee, J. W. & Mendlinger, S. (2011). Perceived self-efficacy and its effect on online learning acceptance and student satisfaction. *Journal of Service Science and Management, 4*(3), 243-252. doi: 10.4236/jssm.2011.43029
- Margahi, M., Mortazavi-Tabatabaei, S. A, Ahmady, S. & Hosseini, M. A. (2018). The relation of educational self-efficacy and motivation among Medical Education students. *Journal of Advances in Medical Education, 1*(2), 1-5.
- Margolis H. & McCabe P. (2003). Self-efficacy: A key to improving the motivation of struggling learners. *Preventing School Failure, 47*(4), 162–169.
- Nguyen, T. (2015). The Effectiveness of Online Learning: Beyond No Significant Difference and Future Horizons. *MERLOT Journal of Online Learning and Teaching, 11*(2), 309-319.
- Schunk, D. H. (2012). Social cognitive theory. In *APA Educational Psychology Handbook*, K. R. Harris, S. Graham, T. Urdan, C. B. McCormick, G. M. Sinatra, J. Sweller, and J. Brophy (Eds.), 101–24. Washington, DC: American Psychological Association.
- Shen, D., Cho, M., Tsai, C. & Marra, R. (2013). Unpacking online learning experiences: Online learning self-efficacy and learning satisfaction. *Internet and Higher Education, 19*, 10-17. doi: 10.1016/j.iheduc.2013.04.001
- Sit, J., Chung, W., Chow, M., Wong, T. (2005). Experiences of online learning: Students' perspective. *Nurse Education Today, 25*(2), 140-147. doi: 10.1016/j.nedt.2004.11.004
- Stockemer, D. (2019). *Quantitative Methods for the Social Sciences: A Practical Introduction with Examples in SPSS and Stata*. Springer: Cham, Switzerland, Springer Nature Switzerland AG. doi: 10.1007/978-3-319-99118-4
- You, J. W. & Kang, M. (2014). The role of academic emotions in the relationship between perceived academic control and self-regulated learning in online learning. *Computers & Education, 77*, 125-133. doi:10.1016/j.compedu.2014.04.018
- Zimmerman, W. A., & Kulikowich, J. M. (2016). Online learning self-efficacy in students with and without online learning experience. *American Journal of Distance Education, 30*(3), 180-191. doi: 10.1080/08923647.2016.1193801