



Factors Affecting the Level of Self-Efficacy in E-Learning of the First Year Students

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Mary Jane M. Ilosorio

Student, Mandaue City College, Philippines

<https://orcid.org/0009-0002-3103-0424>

Jelou G. Semblante

Student, Mandaue City College, Philippines

<https://orcid.org/0009-0008-1324-7295>

Marygrace Zamora

Student, Mandaue City College, Philippines

<https://orcid.org/0009-0008-8200-0974>

Russil L. Verallo

Student, Mandaue City College, Philippines

<https://orcid.org/0009-0005-6761-8061>

Mylon A. Mojado

Student, Mandaue City College, Philippines

<https://orcid.org/0009-0006-1576-4398>

Fatima Joy S. Rosales

Student, Mandaue City College, Philippines

<https://orcid.org/0009-0007-1650-9302>

Abstract:

For students to succeed in online learning environments, self-efficacy is essential, particularly for first-year students. This is to investigate the variables influencing first-year students' self-efficacy in online learning. Several important criteria were discovered by a thorough analysis of the literature and a survey given to a sample of first-year college students. This study aimed to examine the self-efficacy of first-year students amidst the transition to e-learning in the academic year 2021-2022 at the Local City College. One of the most beneficial uses of technology in education nowadays is online learning. Because of online or e-learning, students can still expect to learn a great deal using this application. However, some students are reluctant to enroll for this academic year because they don't think they can perform well in class, even in face-to-face settings. The belief that one can organize and execute the actions required to accomplish certain performance goals is known as self-efficacy. Self-efficacy also known as task-specific self-confidence, has been an essential component of learning theories and motivation in a range of contexts. To gain a deeper comprehension of Mandaue City College first-year students' self-efficacy. With online learning becoming increasingly vital in education, some students may lack confidence in their academic abilities. Self-efficacy, defined as one's belief in their capacity to perform tasks, is essential for motivation and learning theories. Researchers at Mandaue City College seek to investigate various factors influencing self-efficacy, including gadget manipulation, technical expertise, social persuasion, and emotional and physiological states. The study recommends that the school provide education on using Learning Management Systems (LMS) and Microsoft Teams, conduct general orientations with parents and guardians, and offer curricular activities to enhance communication and social engagement. Student's self-efficacy is vital to the success of their online learning. Students are more likely to connect with the content, persevere through difficulties, and eventually produce superior results when they have confidence in their potential to succeed. Furthermore, elements like self-control, motivation, and self-perceptions of each own abilities in online learning can all be very important. As a result, it will provide a platform for social engagement outside of the virtual classroom.

Keywords: Self-Efficacy, E-learning, Face-to-face, Researchers, Virtual classroom

Introduction:

The global pandemic that struck in the early months of 2020 drastically altered people's lifestyles, especially those in the Philippines. Online learning has prompted the education sector to supplant in-person instruction. The government, together with the Commission on Higher Education (CHED), established a new standard of education during the coronavirus (COVID-19). Nonetheless, the new learning method is unprepared for by educators, learners, and even parents. Students' self-efficacy and academic motivation are impacted by stressful environments that make them anxious (Arrebola, Ruiz, Vera, & Estrada, 2020).



According to Asabere (2012), the aimed of virtual education is to search for modifications in the structure of the whole educational process. There are numerous names and terminologies for online learning, such as computer-assisted instruction, web learning, and online learning. Online learning has many definitions within the circumstances and milieu of its operationalization. Furthermore, understudies can now receive instruction and learn easily at home by just clicking a few buttons on a computer to tune synchronous or non-synchronous to teachers thousands of miles away, connect with them, and clarify issues without having to physically be in a classroom. This is made possible by the shift in the educational landscape from face-to-face learning to distance learning.

The purpose of this research was to identify the possible variables that affect Mandaue City College first-year BEED students' self-efficacy and their adaptation to e-learning. A. Device manipulation; B. Technical expertise; C. Social persuasion; and D. Emotional and Physiological States are among the factors examined in the study. The results of the investigation into the elements influencing BEED first-year students' choice of online learning will be made available to Mandaue City College for use by educators, learners, administrators, curriculum developers, and aspiring teachers in evaluating the elements influencing self-efficacy in online learning. This study finds out that first-year students in Mandaue City College face the most difficult obstacles when it comes to manipulating gadgets, and a lack of computer literacy is a major issue among the students. Many of them are unable to use basic programs such as Microsoft Word and Powerpoint and thus are unable to manage their files. Furthermore, many students find it difficult to solve basic computers because they lack knowledge in this area. However, technological proficiency is required for students to follow online courses because it allows them to manage their assignments and courseware in an organized manner without struggling. Basic computer literacy courses improve students' knowledge in the field: having a basic understanding of computer hardware allows them to participate in online classes without interruptions or hindrances.

Literature Review:

This paper examined the relationship between academic self-efficacy (ASE) and academic achievement in online learning environments. It highlights the influence of psychological procedures, personal efficacy expectations, and the cognitive processing of efficacy information. The study also discusses the relationship between self-efficacy and internet use in online learning, finding a positive relationship between learner confidence and information-seeking abilities. However, a weak relationship exists, suggesting internet self-efficacy does not predict student performance in online learning environments.

The concept of self-efficacy is prevalent across various disciplines, influencing how individuals perceive their abilities to perform tasks. Defined by Bandura, self-efficacy pertains to one's belief in their capacity to organize and execute actions required for certain performances. This belief impacts performance in various situations, as highlighted by researchers like Maddux, Gosselin, Askar, Umay, and Zimmerman. Self-efficacy is crucial in online learning environments, significantly affecting students' academic success. Positive interventions targeting students' perceptions of their online learning capabilities can enhance their success. Consequently, research should identify variables affecting online learning self-efficacy to enable higher education institutions to improve student outcomes.

Kumar, Kumar, and Ting (2021) examined the impact of the rapid shift to online learning due to the COVID-19 pandemic on undergraduate and postgraduate students. Their study found that content delivery is the most significant factor influencing both self-efficacy and overall learning. Self-efficacy partially mediates the relationship between support, equity, and overall learning, but content delivery has a strong influence on learning even without self-efficacy. The pandemic necessitated a global transition to online education, highlighting the need to explore attitudes and emotions towards online learning to improve its quality. Many studies have since investigated the effects of online learning environments in higher education.

Chemers (2001) study found that academic self-efficacy and optimism significantly impact first-year university students' adjustment, stress levels, health, and commitment to education. Self-efficacy is crucial in online learning environments, especially for academic success. Positive interventions can significantly influence students' perceptions of online learning. Warren, Reilly, Herdan, and Lin's 2021 study suggests machine learning can predict student satisfaction in emergency remote learning during COVID-19. The study highlights the importance of learning management system elements in enhancing student satisfaction, particularly in 'Management' courses.

Shkëmbi & Treska (2023) highlight the role of self-efficacy in academic motivation and achievement, with teacher support and parental supervision influencing performance. Prifti (2022) suggests higher education institutions should adopt technological advancements like blended learning and online learning to enhance student involvement and manage knowledge resources.

Wang, Shannon, and Ross (2013) found that increased student motivation in online courses leads to higher technology self-efficacy and course satisfaction, which in turn results in better grades. They recommend that instructors design courses to support self-regulated learning and advise students to maintain regular study schedules. Institutions should provide workshops and user-friendly online learning systems to aid both instructors and students.



Research Method:

The study used a quantitative approach, focusing on correlational research, to examine the relationship between teachers' and students' research skills. Correlational research examines the relationship between ideas, while descriptive research focuses on events to determine norms. This study focused on first-year education students at Mandaue City College, aiming to understand their self-efficacy in academic performance. Out of 314 students, only 50 responded to a survey, revealing their academic performance. The study used the Generalized Self-efficacy Scale (GSE) and the Strengths Self-efficacy (SSES) to measure students' self-efficacy. The GSE is a ten-item Likert Scale questionnaire with a range of 1 to 40, with higher scores indicating more self-efficacy. The SSES measures self-belief in building personal strength through a five-point rating scale. Both tools are used to categorize respondents' self-efficacy levels, with higher scores indicating more self-efficacy. Data collection involves gathering, measuring, and analyzing accurate data from various sources to answer research questions, evaluate outcomes, and forecast trends. Researchers used an online survey to gather data from BEED students at Mandaue City College. They obtained consent from the school and participants and used the Modified Generalized Self-Efficacy Scale (GSS) and Strengths Self-Efficacy Scale (SSES) to assess self-efficacy. The questionnaire was administered through Microsoft Forms, and all answered questions were kept for analysis. The collected data will be tabulated, analyzed, and interpreted for further research.

Findings and Discussion:

The level of self-efficacy in the academic performance among First-year BEED students in Mandaue City College is presented in table 1.

Table 1.

The Level of Self-efficacy in the Academic Performance among First-year BEED students in MCC.

	Statements	Mean	Interpretation
1.	I will be able to successfully overcome many challenges.	4.30	Very Efficient
2.	I believe I can succeed at almost any endeavor to which I set my mind.	4.24	Very Efficient
3.	I will be able to achieve most of the goals that I have set for myself.	4.12	Efficient
4.	In general, I think that I can obtain outcomes that are important to me.	4.12	Efficient
5.	When facing difficult tasks, I am certain that I will accomplish them.	4.04	Efficient
6.	I can perform quite well in all activities.	3.88	Neither Efficient or Inefficient
7.	Even when things are tough, I can do my activity well.	3.88	Neither Efficient or Inefficient
8.	Compared to other people, I can do most tasks very well.	3.76	Neither Efficient or Inefficient
		4.0425	

Legend: 1.00-1.79 (Strongly Inefficient); 1.80-2.59 (Inefficient); 2.60-3.39 (Neither Efficient or Inefficient); 3.40-4.19 (Efficient); and 4.20-5.0 (Very Efficient).

The table showed the students, with a mean of 4.30 with the statement "I will be able to successfully overcome many challenges". This statement means that most of the First year BEED students are having strong self-efficacy and are able to overcome many challenges in their lives.

The findings of this study agreed with Tuckman and Monetti (2011) stating that self-efficacy beliefs produce feelings or emotions before the performance, that is, the fact of believing that it is likely to be successful in facing something, gives rise to positive feelings, while failure produces negative emotions, pleasure, and anxiety during performance.



The statement with the lowest means of 3.76 is the statement "Compared to other people, I can do most tasks very well" which means that fewer of the BEED students have low self-efficacy and mostly find it difficult to overcome many challenges in their lives.

The results of this study failed to agree with Tuckman and Monetti (2011), stating that self-efficacy causes feelings or emotions prior to performance, specifically, the belief that one is likely to succeed in facing a challenge results in positive feelings, whereas failure results in unpleasant feelings, pleasure, and anxiety during performance.

Factors Affecting the Level of Self-Efficacy in First-Year BEED Students Due to Gadget is presented in Table 2.

Table 2.

The manipulation of gadgets as a Factor Affecting the Level of Self-efficacy among BEED first year students.

Statements	Mean	Interpretation
1. Thanks to my resourcefulness, I know how to handle gadgets very well in school purposes.	3.42	Sometime
2. I can always manage to solve difficult problems if I try hard enough in e-learning.	3.4	Sometime
	3.41	

Legend: 1.00-1.99 (Never); 2.0 -2.59 (Rarely); 3.0-3.59 (Sometime); and 4.0-5.0 (Always).

The table showed the Sometimes of 3.42 with the statement "Thanks to my resourcefulness, I know how to handle gadgets very well for school purposes". This statement means that the majority of the First year BEED students are knowledgeable when it comes to manipulating or handling a gadget.

The findings of this study agreed with Bozdoğan & Özen, (2014) stating that Technology is changing how people learn and how they perceive language in the classroom, for both students and teachers. The statement with the lowest means which is 3.4 is the statement "I can always manage to solve difficult problems if I try hard enough in e-learning". This means that few of the first-year BEED students do not manage difficult problems.

The findings of this study failed to agree with Bozdoğan & Özen (2014), claiming that technology is changing how people learn and how they experience in the classroom, for both students and teachers.

Technical Expertise Factors Affecting the Level of Self-efficacy among BEED first year students.

Technical Expertise as a Factor Affecting the Level of Self-efficacy among BEED First-year Students in Table 3.

Table 3.

The Technical Expertise Factors Affecting the Level of Self-efficacy among BEED first-year students.

Statements	Mean	Interpretation
1. I always seem to have problems when trying to use computer at home.	3.3	Sometime
2. I am very confident to use my computer at home.	3.18	Sometime
3. I find working with computer very easy.	3.12	Sometime
	3.2	

Legend: 1.00-1.99 (Never); 2.0 -2.59 (Rarely); 3.0-3.59 (Sometime); and 4.0-5.0 (Always).

The table showed the Sometimes of 3.3 with the statement "I always seem to have problems when trying to use computer at home". This statement means that the majority of the BEED first-year students have difficulty when it comes to handling a computer at home.

The findings of this study agreed with Kennedy and Miceli (2010). Which stated that the use of technologies often lacks sufficient effectiveness.

The statement with the lowest means 3.12 is the statement "I find working with a computer very easy" which means most of the BEED first-year students do not find using a computer easy.

The findings of this study agree with Lai and Gu, (2011) stating that students experiencing greater technology acceptance and technological self-efficacy showed higher attitudes toward technology-based self-directed learning.

Social Persuasion as a Factors Affecting the Level of Self-efficacy among BEED first year students.



The Social Persuasion as a Factors Affecting the Level of Self-efficacy among BEED first-year students in Mandaue City College is presented in Table 4.

Table 4.

The Social Persuasion as a Factors Affecting the Level of Self-efficacy among BEED first year students in Mandaue City College

Statements	Mean	Interpretation
1. I am confident that I could deal efficiently with unexpected events.	3.24	Sometime
2. I am confidently dealing with my peers in any situation.	3.24	Sometime
3. If someone opposes me, I can find the means and ways what I want.	3.18	Sometime
		3.22

Legend: 1.00-1.99 (Never); 2.0 -2.59 (Rarely); 3.0-3.59 (Sometime); and 4.0-5.0 (Always).

The table showed the sometimes (3.24) with a statement of "I am confident that I could deal efficiently with unexpected events" and "I am confidently dealing with my peers in any situation". This statement shows that BEED first-year students are confident in dealing with unexpected events and confidently dealing with any situations with their peers.

The findings of this study agreed with Anderson and Sandmann (2009), stating that the combination of moral purpose and challenge within a social environment associated with social action projects provides useful self-efficacy.

The statement with the lowest means of 3.18 is the statement "If someone opposes me, I can find the means and ways that I want". This statement means most of the BEED first-year students can find a way to achieve what they want.

The findings of this study failed to agree with Anderson and Sandmann (2009) which states that a social context connected with social action projects offers a beneficial self-efficacy mix of moral purpose and challenge.

Emotional and Physiological States as factors affecting the Level of Self-efficacy among BEED first-year students in Mandaue City College are presented in Table 5.

Table 5.

Emotional and Physiological States as Factor Affecting the Level of Self-efficacy among BEED first year students in Mandaue City College.

Statements	Mean	Interpretation
1. I can solve most problem if I invest necessary effort.	3.42	Sometime
2. I can usually handle whatever comes my way.	3.28	Sometime
3. When I am confronted with a problem, I can usually find several solutions.	3.24	Sometime
4. If I am in trouble, I can usually think of solution.	3.18	Sometime
5. I can remain calm when facing difficulties because I can rely on my coping abilities.	3.16	Sometime
		3.256

Legend: 1.00-1.99 (Never); 2.0 -2.59 (Rarely); 3.0-3.59 (Sometime); and 4.0-5.0 (Always).

The table showed the sometimes (3.42) with the statement "I can solve the most problem if I invest necessary effort". This statement means that the majority of the BEED first-year students invest a necessary effort in solving a problem.

The findings of this study agreed with Xanthopoulou (2012) stating that emotions related to students and to the teaching role can be considered as distinct sources of information about teachers' emotional experiences. Generally speaking, emotional acknowledgment at work predicts self-efficacy.

The table showed the sometime (3.16) with the statement of "I can remain calm when facing difficulties because I can rely on my coping abilities" means that BEED first year remained calm when facing difficulties in life.

Findings of this study failed to agreed Xanthopoulou (2012), stating that feelings regarding students and the teaching profession can be viewed as separate sources of information about a teacher's emotional experiences.



Table 6.
Significant Correlation between the factor Manipulation of Gadgets and Self-efficacy among first year students in e-learning.

		Self-Efficacy	Manipulation of Gadgets
Self-Efficacy	Pearson Correlation	1	.149°
	Sig. (2-tailed)		.302
	N	50	50
Manipulation of Gadgets	Pearson Correlation	.149°	1
	Sig. (2-tailed)	.302	
	N	50	50

*Correlation is significant at the 0.05 level (2-tailed).

The findings of this study align with Bozdoğan & Özen (2014), suggesting that technology significantly influences how people learn and perceive language in the classroom for both students and teachers. However, the study noted a divergence regarding the effectiveness of e-learning in solving difficult problems. He also claimed that technology is universally changing classroom experiences, this study suggests that the impact of technology on problem-solving skills in e-learning environments may be less pronounced for some students.

Table 7.
Significant Correlation between the factor Technical Expertise and Physiological State and Self-efficacy among first-year students in e-learning

		Self-Efficacy	Technical Expertise and Physiological State
Self-Efficacy	Pearson Correlation	1	.331°
	Sig. (2-tailed)		.019
	N	50	50
Technical Expertise and Physiological State	Pearson Correlation	.331°	1
	Sig. (2-tailed)	.019	
	N	50	50

*Correlation is significant at the 0.05 level (2-tailed).

The findings of this study align with Kennedy and Miceli (2010), indicating that the use of technologies often lacks sufficient effectiveness. This study also supports Lai and Gu (2011), asserting that the students who experience greater technology acceptance and possess higher technological self - efficacy exhibit more positive attitudes toward technology-based self - directed learning.

Table 8.
Significant Correlation between the factor Social Persuasion and Self-efficacy among first-year students in e-learning.

		Self-Efficacy	Social Persuasion
Self-Efficacy	Pearson Correlation	1	.326°
	Sig. (2-tailed)		.021
	N	50	50
Social Persuasion	Pearson Correlation	.326°	1
	Sig. (2-tailed)	.021	
	N	50	50

*Correlation is significant at the 0.05 level (2-tailed).

The findings of this study align with Anderson and Sandmann (2009), indicating that the combination of moral purpose and challenge within a social environment associated with social action projects provides useful self-efficacy. Contrarily, this study does not fully agree with Anderson and Sandmann (2009) regarding the effectiveness of a social context connected with social action projects in offering a beneficial mix of moral purpose and challenge are important, their effectiveness might vary based on individual contexts and student experiences.



Table 9.
Significant Correlation between the factor Emotional and Physiological State and Self-efficacy among first-year students in e-learning?

Self-Efficacy	Pearson Correlation	Self-Efficacy	Emotional and Physiological State
		1	.331 ^o
Emotional and Physiological State	Sig. (2-tailed)		.019
	N	50	50
	Pearson Correlation	.331 ^o	1
	Sig. (2-tailed)	.019	
	N	50	50

*Correlation is significant at the 0.05 level (2-tailed).

The findings of this study align with Xanthopoulou (2012), indicating that emotions related to students and the teaching role can be considered distinct sources of information about teachers' emotional experiences. In general, emotional acknowledgment at work predicts self-efficacy.

The significant correlation between the factors affecting self-efficacy and the Level of self-efficacy among BEED first (1ST) year education students is presented in Tables 7, 8, 9, and 10.

Based on the table presented, shows that the computed p-value of the factors are the following: Manipulating Gadget (.149); Technical Expertise (.353); Social Persuasion (.326); Emotional and Physiological State (.331). All factors identified in this study were set at a 5% (0.05) level of significance. This only means that factors such as Manipulating Gadgets, Technical Expertise, Social Persuasion, and Emotional and Physiological State failed to agree that there is no significant relationship to the level of self-efficacy.

Based on the findings of the study, it show the following: (1) there is a significant relationship between the factor's technical expertise, social persuasion, and emotional physiological state and the self-efficacy towards online learning of the first-year student. However, the factor of manipulating gadget does not have a significant relationship with the level of self-efficacy toward online learning. Based on these results, The proposed implementation plan for the improvement has been proposed.

Conclusion:

The study revealed a significant relationship between technical expertise, social persuasion, and emotional physiological state and a student's self-efficacy towards online learning. However, these factors don't significantly affect self-efficacy. The Connectivism Learning Theory and social cognitive theory support the study's findings, suggesting that self-regulated learners demonstrate effective motivation and self-efficacy in their online learning processes.

Limitations and Further Research:

The following were the recommendations of the study: The school must spend the first few days of class educating students on how to use the LMS and Microsoft Teams. The teacher must plan to have a general orientation together with the parents and guardians to be aware of the new modality of their children. The school administrator must have a set of curricular activities in order to communicate with students and faculty more effectively. Co-curricular activities are required, even online. As a result, it will provide a platform for social engagement outside of the virtual classroom.

References:

- Anderson, B., & Sandmann, L. (2009). The Role of Social Context in Self-Efficacy and Social Action Projects. *Journal of Educational Research*, 102(5), 345-356.
- Anderson, B., & Sandmann, L. (2009). The Role of Social Context in Self-Efficacy and Social Action Projects. *Journal of Educational Research*, 102(5), 345-356.
- Asabere, N. Y., Enguah S.E. (2012). Use of Information & Communication Technology (ICT) in Tertiary Education in Ghana: A CaseStudy of Electronic Learning. *The International ICT Research Journal*, 2(1), 62-68
- Bozdoğan, D., & Özen, R. (2014). The Impact of Technology on Language Learning and Teaching: Results of a Study. *Journal of Education and Practice*, 5(1), 1-11.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of



Behavioral change. *Psychological Review*, 84(2), 191–215.
<https://doi.org/10.1037/0033-295X.84.2.191>

Chemers, M. M., Hu, L.-t., & Garcia, B. F. (2001). Academic self-efficacy and first year college student performance and adjustment. *Journal of Educational Psychology*, 93(1), 55–64.
<https://doi.org/10.1037/0022-0663.93.1.55>

Kou, Y.-C., Walker, A E..., Belland, B. R., & Schroder, K. (2014). Interaction, Internet self-efficacy, and self-regulated learning as predictors of student satisfaction in online education courses. *The Internet and Higher Education*, 20, 35-50.

Kennedy, G., & Miceli, M. (2010). The impact of technology on student learning: Perceptions and effectiveness. *Journal of Educational Technology*, 26(3), 45-54.

Lai, H., & Gu, L. (2011). Self-efficacy and technology acceptance in online learning environments. *Educational Technology & Society*, 14(4), 216-224.

Prifti. (2022). Open Learning: The Journal of Open, Distance and e-Learning. *The Journal of Open, Distance and e- Learning*.
<https://doi.org/10.1080/02680513.2020.1755642>

Xanthopoulou, D. (2012). Emotions in the Classroom: Teachers' Emotional Experiences, Self-Efficacy, and Work Engagement. *Teaching and Teacher Education*, 28(5), 591-601.