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Research Article

Unlocking The Keys To Academic Success: Students' Perspectives On Online Learning Platforms And Engagement Strategies

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ABSTRACT

Even before COVID-19 outbreaks, some schools and universities had adopted online education as a new trend, implementing a "flipped classroom" model for classes, activities, tasks, and assignments. This study aims to unlock the keys to academic success: students' perspectives on online learning platforms and engagement strategies, and to identify a significant relationship between students' perceptions of online learning platforms and engagement strategies. A total of 101 male and female Bachelor of Science in Physical Education students from Mindanao State University, Marawi City, officially enrolled in the first semester of the academic year 2021-2022, participated in the study. It employed quantitative methods, utilizing a descriptive correlational design and a purposive sampling approach. The researchers gathered and statistically analyzed the data for this study using an online survey (Google Form) and attached request letters sent via institutional email (IE). The analysis reveals a strong relationship between internet connectivity and other variables, with a p-value of 0.009, leading to the rejection of the null hypothesis. The enrolled units (p-value of 0.000), the online learning platform (p-value of 0.011), and the online device (p-value of 0.028) significantly influence academic performance. A p-value of 0.000 indicates a significant relationship between engagement strategies and academic performance, while a p-value of 0.000 indicates a significant relationship between the online learning platforms and the engagement strategies used by their instructors. In conclusion, to unlock the keys to academic success: Students' perceptions of online learning environments and engagement tactics significantly impact their academic outcomes. Positive opinions lead to increased motivation and engagement, resulting in improved performance. Prioritizing user-friendly platforms and effective strategies is crucial for incorporating online learning into curricula.

Keywords: Academic Success, online learning platforms, engagement strategies,

Introduction

Nowadays, online education is the new trend being used by some schools and universities even before the occurrence of COVID-19 outbreaks; wherein classes, activities, and tasks or assignments are done in a "flipped classroom" such as this online learning platform that has become a medium of teacher-students teaching and learning communication. The challenges and endeavors that humanity is facing in the middle of the pandemic and the eagerness and passion for learning have forced everyone to shift in this new pedagogy. However, this new online educational system as observed, led to many adjustments and difficulties for teachers and most especially the students (Erbado et al., 2024). The adjustments to a low internet connection, technical issues, the additional financial burden for mobile data and gadgets like laptops, time management, self-motivation to learn, and even adjustments to their teachers and instructors are perceived to affect their academic

performance and may even lead to disappointments to their grades and at some cases to students who eventually drop out or take a semester off. In this regard, studying education matters in the context of online learning would be relevant and a great step to understanding things that might be considered for better learning (Han & Geng, 2023). Hence, producing globally competitive graduates and being a center of excellence is just one of the main goals and missions of schools and universities like Mindanao State University-Main, Marawi City I envision the institution to be a powerhouse that will lead to a productive societal transformation.The complexity of the concept of e-learning leads to multiple definitions, however, in the simplest way, e-learning means using information and computer technologies and systems to build and design learning experiences (Coman et al., 2020). Similarly, the e-learning process in higher education is done with the help of various online platforms. Over time, many notions were used to describe online learning, such as computer-mediated learning, web-based training, e-learning systems, and learning management systems. According to Oye et al. (2012), and Omotoy, J. F. (2023), education in a knowledge society context is given a key role in developing new ideas in learning and teaching through e-learning.Moreover, it was identified that online instructional strategies are the methods and approaches that guide the organization of learning activities, course content, and student engagement in online courses. These strategies and approaches utilized in e-class learning are seen to be essential factors for students to absorb the lesson sufficiently. It was then pointed out by; Bonk and Dennen (2003), Coman et al. (2020), who studied effective online teaching, identified and described eight principles that stand at the core of effective online teaching, such as: encouraging contact between students and faculty, collaborative learning, quick feedback, active learning, task time - encouraging students to allocate more time for completing tasks, high expectations. Therefore, teacher should communicate their expectations to encourage and motivate students, diversified learning, and technology application (Murtaza et al., 2024). According to Coman et al. (2020), Carey (2020) refuted the notion that this is the case, stating that in these difficult times, the real concern is not whether online teaching and learning methods can deliver high-quality education, but rather how academic institutions will be able to implement online learning on such a large scale. So, for this matter, it is seen as a crucial point to give attention to the benefits of quality education and the like despite the COVID-19 pandemic where education must continue and ensure no time will be constrained. To address the increasing demand and considerations for the unpreparedness of the sudden educational transitions, there exist different studies and recent research dealing with the perceptions and thoughts on the student's engagement in online classes, its effect on their academic performance, health, and social being (Erbado et al., 2024b). This paradigm shift could generate changes in students' perception of this way of teaching and their perception might be different from the one found in studies before the pandemic. The online experiences of students can and do matter a great deal and can help higher education institutions improve in ways sought by society at large. Therefore, finding ways for online students to become and stay engaged in their courses and educational programs is important.Therefore, the researchers aims to unlock the keys to academic success: students' perspectives on online learning platforms and engagement strategies, and to identify a significant relationship between students' perceptions of online learning platforms and engagement strategies used by the instructors in the online environment concerning the academic performance of the students in the College of Sports, Physical Education, and Recreation at the Mindanao State University-Main Campus, Marawi City in this new shift of pedagogy.The theoretical basis of this work is supported by a few ideas and theories that it relies upon. Constructivist learning theory and the TPACK Model (Technology, Pedagogy, and Content Knowledge) are used in e-learning courses. The TPACK Model (Technology, Pedagogy, and Content Knowledge) developed by Mishra and Koehler (2008) was utilized to examine the increasing need for technology integration in the classroom while keeping the emphasis on content. We also looked at how educators used these tools to educate in the midst of the epidemic and how their methods were crucial to the education of their pupils. In order to retain strong academic performance, we thought that the constructivist learning theory would be helpful in helping students manage and build their learning while dealing with the difficulties and adaptations of taking classes virtually. Knowledge of Technological Pedagogical Content (TPACK). A methodology called TPACK assists educators in thinking about the intersections of their knowledge domains while instructing and involving students in technology use. Gaining a grasp of TPACK enables educators to combine their knowledge of technology, pedagogy, and content to create creative teaching and learning that incorporates technical expertise into the educational process. Depending on the application situation, the TPACK model provides various combinations of its three forms of knowledge: curricular, pedagogical, and technical (Gonzalez et al., 2018). According to Koehler (2012), Niess (2007), Koehler and Mishra (2009), and the American Association of Colleges for Teacher Education (2008), the TPACK framework also connects technology to certain educational techniques and curriculum material. It also demonstrates how the integration of educational technology and instructors' understanding of these three knowledge bases may result in successful discipline-based instruction.Another theory make use of is Jean Piaget is considered the originator of constructivist theory, which is used to indicate the process of learning. This theory acknowledges learners' capability to construct knowledge from their experiences. Constructivist learning theory proposes that our previous knowledge and experience play a significant role in our process of learning. Constructivism is a philosophical view on how we come to understand or know. It is, in our mind, most closely attuned to the pragmatic philosophy (Savery and Duffy, 1995; Mezirow, 1990 as cited in Chakraborty (2017), he further asserted that according to this theory, the learners are active participants in learning rather than being passive receptors of knowledge. The interpretation of knowledge can vary from

person to person. Hence, constructivist learning theory emphasizes personalized learning experiences.According to the study by Mendoza et al. (2023), the results suggest that MoodleCloud facilitates efficient knowledge and skill acquisition. Users also perceive MoodleCloud as a user-friendly platform with clear navigation, visual appeal, and accessibility. Overall, the study indicates that MoodleCloud receives positive feedback in terms of user satisfaction and its positive impact on the educational process.
likewise Talingdan and Alunday (2023), emphasize about students' perspective on the new normal virtual learning in the Philippines universities which majority find online learning platform friendly but still trying to adjust. In contrast to the findings of the study by Mendoza et al. (2023) and Talingdan and Alunday (2023), a study by Smith and Brown (2023) provide a different perspective which focuses on evaluating the challenges and limitations of virtual learning platforms in higher education settings. The results highlight that while online platforms offer flexibility, there are concerns regarding the depth of knowledge acquisition and student engagement. The study emphasizes the need for further enhancements in online learning platforms to address these challenges effectively.
Hence, the resaerchers aims to unlock the keys to academic success: students' perspectives on online learning platforms and engagement strategies, and to identify a significant relationship between students' perceptions of online learning platforms and engagement strategies.

Methodology

This study employed a descriptive-correlational type of research that utilized quantitative methods to unlock the keys to academic success: students' perspectives on online learning platforms and engagement strategies, and to identify a significant relationship between students' perceptions of online learning platforms and engagement strategies. The study used quantitative descriptive correlational method to describe the respondents' demographic profile, which includes the variables, as well as the correlational method to determine the relationship between the variables. Students pursuing a Bachelor of Science in Physical Education at the College of Sports, Physical Education, and Recreation at Mindanao State University-Marawi City, who officially enrolled in the first semester of the academic year 2021-2022, served as the respondents for this study. The study used a purposive sampling procedure to select a total of one hundred and one (101) students from the CSPEAR. Research utilized questionnaires as a tool for gathered data, which comprised three parts, to gather the data. Similarly, we conducted the study face-to-face on campus using a hard copy of the questionnaire. The first part of the questionnaire is about the respondents' demographics, such as year level, number of units enrolled, online learning platforms used, internet connectivity, and the online devices they use in their online classes. Part II of the questionnaire utilized an adapted version of the 33-item Online Learning Platform Student's Perception Questionnaire by Gonzalez et al. (2019) to measure the respondent's perception of the online learning platform their instructors use in their online classes. The original design of this questionnaire comprised four dimensions, distributed as items. The first dimension is the role of the learning platform in distance education (1–9 items); the second dimension, under letter a, is the instructional design of the learning platform: course components (10–15 items); under letter b, the communication tools (16–20 items); the third dimension is the didactic interaction through the learning platform (21-26 items); and the last one is the learning platform and professional practice, which has 6 items (27–33). Descriptive studies using Cronbach's alpha to test reliability consider values between 0.60 and 0.80 in the different dimensions to be sufficient (Gonzalez et al., 2019). Since this adapted questionnaire is already in the context of online learning, there was no rewording or rephrasing of each term in this study. More specifically, each item will ask the respondents to indicate on a 6-point Likert scale (1= strongly disagree, 2= quite disagree, 3= somewhat disagree, 4= somewhat agree, 5= quite agree, 6= strongly agree) the extent to which a particular statement characterized their perception of an agreement to "very low", "low", "average", "high", and "very high" levels of satisfaction in terms of the online learning platform used by their instructors.
The Online Class Questionnaire of Chakraborty (2017), readapted and cited from Baker's (2001) questionnaires, comprised the third part of the questionnaire. This questionnaire is based on five different tests: the Verbal Immediacy Scale, the Teaching Presence Scale, the Six-Scale Measure of Affective Learning, the Learning Loss Scale to Measure Cognitive Learning, and the Motivation Scale. It has a reliability score of ± =.8 according to Cronbach's alpha (Gorham, 1988; Shea, 2006; McCroskey et al., 1885; Richmond et al., 1987; Christophel, 1990, as cited in Chakraborty, 2017). The study reworded the 33-item online class questionnaire into an online class strategies questionnaire, as its content remains relevant to the respondents' perceptions of online class strategies. It employed a 7-point Likert scale (1=strongly disagree to 7=strongly agree) indicating the degree of "very low", "low", "average", "high", and "very high" in terms of agreeability on the perceptions towards the online engagement strategies used by their instructors and their teaching behavior during the online classes.The researcher formally requested the respondents' GPA as part of their demographic profile through a letter, and the Chairman of the Department of Professional Studies provided it after the first semester of the academic year 2021-2022, adhering to the proper protocol. As a result, we kept all of their information and data confidential, only using it for academic purposes.
Finally, the researcher identified the respondents and sent the online survey questionnaires to them in Google Forms with attached request letters via institutional email (IE) or Messenger. Due to the insufficient number of respondents who were not able to access the link because of a slow internet connection, the researcher

distributed some questionnaires to the respondents who resided on campus. Furthermore, the researcher included ethical statements in the questionnaire to protect the respondents' rights and privacy during the online survey.

Results

Hence, the result is represented in two sections. The first section presents the demographic profile of the respondents in terms of year level, number of units enrolled, online learning platforms used, internet connectivity, online devices, students' academic performance; and the profile of the students' perception of online learning platforms and engagement strategies used by their instructors. Moreover, the second section presents the correlation in between the variables.

Demographic Profile of the Respondents

Year Level

Table 1.1 Frequency and Percentage Distribution of the Respondents According to Year Level

Year Level	Frequency	Percentage
First-year	29	28.7
Second Year	11	10.9
Third Year	16	15.8
Fourth Year	45	44.6
Total	101	100.0

The result showed that 45 (44.6%) of the respondents are fourth-year students; followed by first-year students comprising of 29 (28.7%). While there were only 16 (15.8%) who are third-year students and second-year students with 11 (10.9%) respondents only.

This may imply that most of the BS Physical Education majors are fourth-year students. They are in greater numbers than the other year levels because most of them belonged to the pioneering batch of the K-12 program. In addition, students under the old curriculum who have not graduated yet are also assumed to be in their 4th or final year according to the master list of the academic year 2021-2022.

Number of Units Enrolled

Table 1.2 Frequency and Percentage Distribution of the Respondents According to Number of Units of Enrolled

Number of Units Enrolled	Frequency	Percentage
3-8 units	10	9.9
9-13 units	7	6.9
14-18 units	23	22.8
19-23 units	44	43.6
24-28 units	14	16.8
Total	101	100.0

The data gathered shows that 44 (43.6%) of the respondents have 19-23 units enrolled followed by 23 (22.8%) respondents who have 14-18 units. There were also 14 (16.8%) of the respondents who were enrolled with 24-28 units followed by 10 (9.9%) respondents who have 3-8 units enrolled, while only 7 (6.9%) of the respondents who have enrolled with 9-13 number of units.

It is imply that a greater number of the respondents are enrolled with 19-23 units and is considered the ideal academic load per semester in the Mindanao State University - Main, Marawi City. According also to the Student Handbook, students aspiring to graduate with academic honors must enroll not lower than eighteen (18) units per semester which is strictly enforced by any degree program.

Online Learning Platforms Used

Table 1.3 The Sum Distribution of the Respondents According to the Online Learning Platform Used

Online Learning Platform Used	N	Sum
Google Classroom	101	96
WhatsApp	101	34
Gmail	101	61
Facebook	101	40
Messenger	101	68
Edmodo	101	4
Google Meet	101	81

Zoom	101	32
Others	101	2
Valid N (listwise)	101	100

According to the results obtained, the topmost used online learning platforms with their sum are the following consecutively: Google Classroom (96.00), Google Meet (81.00), Messenger (68.00), and Gmail (61.00). Meanwhile, Facebook (40.00), WhatsApp (34.00), and Zoom (32.00) were the next most used platforms for e-learning. On the other hand, the least used online learning platforms were Edmodo and others comprising a sum of 4.00 and 2.00 respectively.

The results imply that the respondents use different online learning platforms and modes of communication for the different academic activities and tasks with their instructors. The most widely used platform is Google Classroom while the least is Edmodo. The disparity can be explained by the fact that online learning platforms differ in the quality and satisfaction they give to the users. While some offer basic user interfaces and user-friendly and easy-to-navigate sites, others cater to the techie and computer-savvy individuals.

The results indicate that Google Classroom, Google Meet, Messenger, and Gmail are the most commonly used online learning platforms among the respondents. These platforms are considered highly familiar and user-friendly for educational purposes. Additionally, Facebook, WhatsApp, and Zoom are also frequently used for e-learning but to a lesser extent. Edmodo and other platforms are less commonly used, suggesting that they may have limitations or lack popularity among the respondents.

A study by Johnson et al. (2023) corroborates these findings by highlighting the widespread use of Google Classroom and Google Meet in educational settings and found that these platforms are preferred by educators and students due to their integration with other Google services, ease of use, and accessibility features. The study further emphasizes the importance of choosing online learning platforms based on user preferences and technical requirements for effective virtual education.

According to the study by Gupta (2021), the Google Classroom Evaluation survey showed that the teachers were able to give better individual attention and students developed a group feeling in such a classroom setup. Students also felt that learning through the Google Classroom was not boring, and it was not a waste of time. They found it to be an effective medium of studying.

Moreover, Yuen et al. (2009), as cited by Chew (2011), stated that online learning platforms friendly, reliable, and stable so that student not face any difficulties system downtimes which will result in learning discomforts and unnecessary frustrations. If an online learning platform meets these criteria, it can alleviate the problem of students taking a long time to familiarize themselves with the online learning platforms. Thus, will do much ease anxiety, facilitate learning, and not create more hassles and difficulties for students.

Internet Connectivity

Table 1.4 Frequency and Percentage Distribution of the Respondents According to Internet Connectivity

Internet Connectivity	Frequency	Percentage
Faster than I need.	2	2
Fast enough	43	42.6
Slower than I need.	35	34.7
Too slow	21	20.8
Total	101	100

According to the results, the data showed that 43 (42.6%) of the respondents have fast enough internet connectivity; while 35 (34.7%) of the respondents have slower than they need and 21 (20.8%) said that what they have is too slow. Among them, there were only 2 (2.0%) respondents who had faster than they need internet speed.

This implies that there are mixed experiences of internet connectivity, but it shows that a greater number of respondents have a fast enough internet connection which means that they can meet their online objectives and purposes. The variation in the speed of the internet connection may be due to the respondent's location and network access used. It also noted that the internet connection experience in the daytime is very different during nighttime when most people are asleep and fewer devices are connected to mobile networks. The massive variation in users' mobile network experience across the day could ultimately place severe restrictions on the type of applications and services consumers can access and damage users' perceptions because they will experience great mobile speeds at some times of day but not at others (Khidhir, 2019).

Online Device

Table 1.5 Frequency and Percentage Distribution of the Respondents According to Online Device

Online Device	Frequency	Percentage
Own personal desktop/laptop/computer	48	47.5
Borrowed desktop/laptop computer/smartphone.	38	37.6
Borrowed smartphone.	5	5.0
iPad or another tablet device	1	1.0
Borrowed iPad or another Tablet device.	1	1.0
Others	8	7.9
Total	101	100

According to the results, the data showed that 48 (47.5%) have their personal desktop/laptop/computer; followed by 38 (37%) respondents who borrowed desktop/laptop/computer/smartphone for their online classes. While there are 8 (7.9 %) respondents who chose "others" in their online device, 5 (5%) of the respondents used a borrowed smartphone and only 1 (1%) of the respondents own and/or borrowed an iPad or another tablet device for their online classes. This means that most of the respondents prefer to have their gadgets. This is maybe because students are more comfortable and find it less hassle when they are using their gadgets, especially in these online set-up classes. This supports the study of Dello et al. (2018), on the Oregon State University Campus which comprises online students from all 50 states and over 50 countries, found 2,035 students in this study reported owning a smartphone, and over 99% owned laptops, half of the respondents owned some form of a tablet. However, only 35% owned a desktop computer and very few students were borrowing devices. And their reasons regardless of what device they preferred, convenience, ease of use, and effectiveness were all important reasons for students' choices of preferred devices.

In addition, having their own devices also may play a role in their part in attaining good performance in their studies. With this, they would be able to cope with the demand for societal innovation and hands-on with the technologies to relate to the Constructivist Learning Theory which states that the learners are active participants in learning rather than being the passive receptors of knowledge Savery et al. (1990), as cited in Chakraborty, 2017). It may also relate to a study that showed that the greater the number of device types owned by a student, the greater the level of learning readiness (Estira, 2020).

Academic Performance

Table 1.6 Frequency and Percentage Distribution of the Respondents According to Their Academic Performance

Academic Performance	Frequency	Percentage
1.25-2.40	71	70.3
2.41-3.74	21	20.8
3.75-5.00	9	8.9
Total	101	100.0

Based on the data provided, 71 (70.3%) of the respondents have garnered a GPA ranging from 1.25 to 2.40; followed by 21 (20.8%) of the respondents who gained a 2.41-3.74 average grade or GPA, and at least 9 (8.9%) of them who garnered 3.75-5.00 GPA. This result may imply that most of the respondents have in passing rate and are considered to have good academic performance based on the GPA they have garnered. This may also assume that students were able to cope with the challenges of online classes and most of them are serious with the academic-related activities that enabled them to pass or even get higher grades in their classes for this first semester. However, this contradicted the study of Xu and Jaggars (2011), when they found out that students fared significantly worse in online courses in terms of both course persistence and end-of-course grades. Garrison et al. (2000), concluded that regular communication with students, consistent feedback, and critical discourse modeled by the instructor can influence students' performance in their classes and learning. Furthermore, by increasing their presence in online environments, instructors can promote greater student academic performance and retention over the long term (Jaggars et al., 2013). Thus, students strive when they are motivated by either inside or outside factors such as their teachers (Pagdato et al., 2021; Fadare et al., 2021).

Profile of Students' Perception of Online Learning Platforms

Table 1.7 Frequency and Percentage Distribution of the Respondents According to Perception of Online Learning Platforms Used by their Instructors.

Perception of Online Learning Platforms	Frequency	Percentage
Very Low	9	8.9
Low	7	6.9
Moderate	27	26.7
High	46	45.5
Very High	12	11.9
Total	101	100

According to the results, it shows that 46 (45.5%) of the respondents have a high perception of the online learning platforms used by their instructors. While 27 (26.7%) of the respondents have a moderate perception and 12 (11.9 %) of the respondents have a very high perception of online learning platforms. Meanwhile, there are only at least 9 (8.9%) and 7 (6.9%) of the respondents who have a very high and very low perception of the online learning platforms respectively. Meaning, it is clear and understood to the respondents the usefulness and reliability of the online learning platform. It is beneficial for learning from their perspective as well as experience. Generally, it indicates that the outcomes of online learning are heavily dependent on the online learning tools used and how they are utilized by the teachers and the students. In the study conducted by So and Bush (2008), they discovered that students' satisfaction with online learning is closely associated with the use of proper communication media.

With this, students managed to acquire new ideas and knowledge even though the new online learning environment was unexpected and was a sudden remedy to the challenges brought by the pandemic to the educational system. Moreover, not all students back then were digitally literate, and the pandemic made the transition of classes to electronic gadgets. Hence, this claim supports the theory of constructivism learning of Piaget that learners accumulate new knowledge by themselves and use this to pile up previous knowledge and experiences.

According to Zishan (2003), for Piaget, experiencing things and reflecting on those experiences is how people construct their understanding and knowledge of the world. If people encounter new situations, they will compare them with their previous perspectives and experiences and finally construct their knowledge.

Profile of Students' Perception of Engagement Strategies

Table 1.8 Frequency and Percentage Distribution of the Respondents According to Perception of Engagement Strategies Used by their Instructors.

Perception of Online Engagement Strategies	Frequency	Percentage
Very Low	6	5.9
Low	2	2.0
Average	18	17.8
High	44	43.6
Very High	31	30.7
Total	101	100

Based on the results, it shows that 44 (43.6%) of the respondents have a high perception regarding the engagement strategies used by their instructors. Following this are 31 (30.7%) respondents who have a very high perception and 18 (17.8%) respondents who have an average perception. Somehow, there are also 6 (5.9%) and 2 (2.0%) respondents who have very low and low perceptions towards the engagement strategies used by their instructors in teaching online classes respectively. These results may imply that most of the respondents have a strong belief in the engagement strategies used by their instructors. This is maybe because there is a good atmosphere between the teaching and learning process, which also indicates that most of the students had positive perceptions about the support for learning provided by their interactions and collaborations not just towards their classmates and peers but also support from their instructors. This is a manifestation of Piaget's theory that the learner is the learning focus, and the instructors act as facilitators or guides, which provide an appropriate and enriching supply of knowledge and experience. The same goes for the online instructor who acts as a facilitator to monitor and provide a safe, positive, and motivating online learning environment, and a tutor to provide the supporting skills and knowledge to everyone (Zishan, 2003).

Consequently, teachers should assist students, and encourage them to take greater responsibility for their study, and they must also judge students' readiness for such responsibility. Such judgments are based on the learner's age, maturity, ability, and knowledge and can only be made by teachers who know their students well

(Ahammad, 2023).

Correlation Between Moderating Variables and Perception on the Online Learning Platforms

Table 2 Correlation of the Respondents According to their Demographic Profile and Perception of Online Learning Platforms

	Relationship	Correlation coefficient (*rrho*)	p-value	Remark
Perception of the online learning platforms online learning platform used.	Year Level	-.089	.375	Not significant
	Unit Enrolled	.070	.489	
	Online learning platforms used.	.079	.431	
	Internet connectivity	-.258	.009	
	Online devices	-.014	.887	

Legend: *rrho*-Spearman's rho* means significant at a .05 level of significance

According to the table, at .05 level of significance, year level (p-value of 0.375), number of units enrolled (p-value of 0.489), online learning platform used (p-value of 0.431), and online devices (p-value of 0.887) have no significant relationship with the respondents' perception on online learning platforms. However, according to the results, it was only the internet connectivity which has a strong relationship at a p-value of 0.009. This may signify that those insignificant variables do not indicate any relevance as to the students' perception of online learning platforms while internet connectivity may impede the usefulness and quality of the online learning platforms to the respondents' learning in their online classes. This also may support the study and findings of Chung et al. (2020), wherein internet connection is one of the great challenges of learning online among students. Another related concept from Castellano (2019), indicated that only a minimum of the students has internet access thus impeding them from accessing the e-learning platform.

Correlation Between Moderating Variables and Perception on the Engagement Strategies

Table 3 Correlation of the Respondents According to their Demographic Profile and Perception of Engagement Strategies

	Relationship	Correlation coefficient (*rrho*)	p-value	Remark
Perception of the Engagement Strategies.	Year Level	.182	.069	Not significant
	Unit Enrolled	.115	.252	
	Online learning platforms used.	.057	.569	
	Internet connectivity	-.081	.421	
	Online devices	-.119	.236	

Legend: *rrho*-Spearman's rho* means significant at a .05 level of significance

The table reflected a non-significant relationship between moderating variables and the perceived online engagement strategies. This only means that there is no relationship between online engagement strategies with year level (p-value of 0.069), number of units enrolled (p-value of 0.252), online learning platform used (p-value of 0.569), online device (p-value of 0.421) and internet connectivity (p-value of 0.236). This is indicative that online engagement strategies that were being applied by the instructors as to the respondent's perception are not associated with any of the given insignificant moderating variables. Meaning, that regardless of respondents' year level, number of units enrolled, online learning platform used, or type of devices they have and their internet connection, their perception of the online engagement strategies are not affected. Further, it can also be suggested that the performance of the students in their online classes may barely matter on how students do their part. However, some studies have emphasized that technology can help by allowing learners to take a more active role in their learning through different instructional modes or methods (Kussmaul and Dunn, 1996).

Moreover, according to Dabbagh and Bannan-Ritland (2005), key components of online learning include pedagogical models, instructional and learning strategies, and pedagogical tools. Pedagogical models are views about teaching derived from learning theory and enable the implementation of specific instructional and learning strategies. This may also be embedded in the theory of TPACK, or Technological Pedagogical Content Knowledge in which it combines the knowledge of content, pedagogy, and technology for innovative teaching and learning which incorporates the technological knowledge applied to the teaching-learning process.

Correlation Between Moderating Variables and Academic Performance

Table 4 Correlation of the Respondents According to their Demographic Profile and Academic Performance

	Relationship	Correlation coefficient (*rrho*)	p-value	REMARk
Academic Performance	Year Level	.020	.844	Not Sig.
	Unit Enrolled	-.367	.000*	Sig.
	Online learning platforms used.	-.251	.011*	Sig.
	Internet connectivity	.219	.028*	Sig.
	Online devices	.014	.887	Not Sig.

Legend: *rrho*-Spearman's rho, * means significant at .05 level of significance

The results revealed that at a .05 level of significance, academic performance is significantly related to several units enrolled (p-value of 0.000), online learning platform used (p-value of 0.011), and online device (p-value of 0.028), which means that the null hypothesis is rejected. For the other moderating variables such as year level and internet connectivity, there is no significant relationship to academic performance with p-values of 0.844 and 0.887 respectively. The results may entail that year level and internet connectivity are insignificant and not good indicators for excellence in academic performance. Meanwhile, units enrolled, online learning platforms used, and online devices greatly on the learning and performance of the respondents during their online classes and the outcome of their grades. This may support the results gathered by Colorado and Eberle (2010), which concluded that there is no relationship between student entry characteristics and academic performance for graduate students enrolled in online courses.

Correlation Between Independent Variables and Dependent Variables

Table 5 Relationship and Correlation of the Respondents According to their Perception of Online Learning Platforms and Engagement Strategies and Academic Performance

	Relationship	Correlation coefficient (*rrho*)	p-value	Remark
Academic Performance	Engagement strategies	.524	.000*	Sig.
	Perception of the online learning platforms used	-.064	.524	Not Sig.

Legend: *rrho*-Spearman's rho, * means significant at .05 level of significance

The results indicate that engagement strategies or the instructor's management and approaches in handling the online classes are related significantly at a p-value of 0.000 level of significance towards academic performance; while the perception of the online learning platforms used by the instructors has no significant relationship at values of 0.524 and 0.104 level of significance to academic performance. This may indicate that applied engagement strategies of the instructors and online learning platforms based on the student's perception do not necessarily conjoin and result in academic performance gain. Meaning, that regardless of what GPA the respondents have garnered, it does not immediately point to the online learning platforms and the engagement strategies that their instructors applied in their online classes as the reasons for success academically. It can be attributed to the respondents' capability and perseverance making them perform better in their online classes. Moore (1993), emphasized to cope well in an online learning environment and become a student who takes responsibility for one's learning and ownership of knowledge, one needs to possess much self-motivation and decision-making.

However, looking back at the perception of the respondents on online learning platforms and engagement strategies applied in online classes, Reimers (2022), summarized the experiences of teaching and learning during COVID-19 in 14 countries, indicating that teachers have found it challenging to manage their instruction appropriately. However, through the TPACK model (Technology, Pedagogy, and Content Knowledge) of Mishra and Koehler (2008), educators found an effective blueprint for the integration of technology in education and structure classrooms to provide the best educational experience for students while incorporating technology. It was developed to describe the set of knowledge that teachers need for teaching a subject while using technology in the class in which teachers must be able to effectively use new instructional tools and methods such as digital learning tools and environments (Sothayapetch and Lavonen, 2022).

This also supports the findings of Hamdan and Amorri (2020), that students were more engaged in the learning process than in conventional teaching, and the online learning experience has revealed that the didactic teaching style is no longer effective. They no longer regard teachers as the only source of information, but as learning facilitators and online learning from different internet sources as their main source of information. They have proved that they can assume their responsibilities and contribute to course design assessment and learning process personalization.

On the other hand, the findings from the study of Woodcock et al. (2015), show that e-learning synchronous

technology is an effective learning tool in enhancing pre-service teachers' e-learning competency in subject matter and information communication technology skills. Thus, it may be concluded that online learning platforms and engagement strategies must go in parallel line to have a more conducive teaching-learning experience during online classes.

Discussion

A Descriptive-correlational type of research was used in this study. The respondents were purposively selected with a total of one hundred one (101) male and female respondents. In measuring the respondents' perceptions of the online learning platform that their instructors used in their online classes, the adapted version of the 33-item Online Learning Platform Student's Perception Questionnaire by Gonzalez et al., (2019) was utilized as Part II of the questionnaire. For the perception of the engagement strategies applied by their instructors in their online classes, the 33-item Online Class. The questionnaire of Chakraborty (2017) was used as Part III of the questionnaire of this study (see Appendix A). Furthermore, before the conduct of the study and the distribution of the research instrument to the respondents, the research paper and instruments were checked and validated by the research adviser and proposal panelists. The data were analyzed using statistical software which is the Statistical Package for Social Science (SPSS). For the treatment of the data, descriptive statistical methods in the form of percentage and frequency distribution and sum were used. Significant relationships between and among variables were determined using Spearman's Rho Correlation.

Based on the results of the frequency and percentage, sum, and test statistics for correlation, the following major findings were disclosed: Regarding year level, 45 (44. 6%) respondents are fourth-year students; on the number of units enrolled, 44 (43.6%) of the respondents have 19-23 number of units enrolled. With regards to online learning platforms used, Google Classroom (96.00), Google Meet (81.00), Messenger (68.00), and Gmail (61.00) are the topmost used among the respondents. Regarding internet connectivity, 43 (42.6%) respondents have fast enough internet connection but 35 (34.7%) of them are experiencing slower than they need internet speed connection; 48 (47.5%) of the respondents have their desktop/laptop/computer and the majority of the 71(70.3%) of the respondents have garnered a GPA ranging from 1.25 to 2.40. Meanwhile, in terms of the respondents' perception of online learning platforms, 46 (45.5%) respondents have a high perception of online learning platforms their instructors used while in terms of engagement strategies, 44 (43.6%) respondents have a high perception of engagement strategies being applied in their online classes. The statement by Yuen et al. (2009), and Chew (2011), emphasizes the importance of online learning platforms being user-friendly, reliable, and stable to ensure a positive learning experience for students. These qualities are essential for minimizing issues such as system downtimes, which can lead to learning discomfort and frustration among students. When an online learning platform meets these criteria, it can help students adapt quickly and comfortably to the platform, reducing anxiety and facilitating the learning process.

By prioritizing user-friendliness, reliability, and stability, online platforms can enhance student engagement, satisfaction, and overall learning outcomes. Providing a seamless and efficient online learning experience can help students focus on their studies rather than struggling with technical challenges or system disruptions.

It is crucial for educators and institutions to invest in robust online learning platforms that prioritize these qualities to support student success and create a conducive learning environment. By doing so, they can ensure that technology serves as a valuable tool for learning and does not create unnecessary barriers or difficulties for students.

Correlation Between Independent Variables and Moderating Variables

Regarding the perception of online learning platforms, at a .05 level of significance, there is no significant relationship with year level (p-value of 0.375), units enrolled (p-value of 0.489), online learning platform used (p-value of 0.431), and online devices (p-value of 0.887). However, internet connectivity with a p-value of 0.009 has a strong relationship, while in the perception of the online engagement strategies; there is no significant relationship with the moderating variables. This only means that there is no relationship between the engagement strategies used with year level (p-value of 0.069), units enrolled (p-value of 0.252), online learning platform used (p-value of 0.569), online device (p-value of 0.421 and internet connectivity (p-value of 0.236). The study of Hossain et al. (2024) revealed the global transition to digital education, which contributes to the dynamic discourse surrounding online learning in the diverse preferences expressed by students highlight the importance of personalised and flexible teaching methods in online education, underlining the need for adaptability and inclusivity to meet the diverse needs of today's learners.
Furthermore, Paterno (2023) explained about experiences and challenges of college students in online and distance learning in the Philippines which shows similar strategies apply in an online platform.

Correlation Between Dependent Variable and Moderating Variables

At a 0.05 level of significance, academic performance is significantly related to several units enrolled (p-value of 0.000), online learning platform used (p-value of 0.011), and online device (p-value of 0.028). Meanwhile,

there are no significant relationships among the moderating variables such as year level (0.844), and internet connectivity (p-value of 00.887) to the academic performance.

The significant relationships found in this study have important implications for educational institutions and instructional designers.
They suggest that the design and implementation of online learning programs should consider the optimal number of units, the selection of appropriate online learning platforms, and the suitability of various online devices to enhance student academic performance.

To further strengthen the findings, Dhawan (2020) examines the impact of various factors, including online learning platforms and devices, on student engagement and academic performance in the context of the COVID-19 pandemic.

Correlation Between Independent Variables and Dependent Variables

Online learning platforms used are related significantly at a p-value of 0.000 level of significance towards the engagement strategies used by their instructors. On the other hand, academic performance has no significant relationship with p-values. of 0.524 and 0.104 levels of significance to the perception of online learning platforms used and online instructional strategies respectively.

There is no significant relationship among perception of online learning platform, year level (p-value of 0.375), units enrolled (p-value of 0.489), online learning platform used (p-value of 0.431), and online devices (p-value of 0.887). Hence, the null hypothesis which states that “there is no significant relationship between year level, number of units enrolled, online learning platform used, internet connectivity, and online devices as moderating variables and the student’s perception on online learning platforms as the first factor of the independent variables” is accepted. However, internet connectivity with a p-value of 0.009 has a strong relationship; therefore, the null hypothesis number one is rejected. There is no relationship among online engagement strategies with year level (p-value of 0.069), units enrolled (p-value of 0.252), online learning platform used (p-value of 0.569), online devices (p-value of 0.421), and internet connectivity (p-value of 0.236). Therefore, the null hypothesis which states that “There is no significant relationship between moderating variables and the perception of online engagement strategies as the second factor in independent variables” is accepted.

Academic performance is significantly related to several units enrolled (p-value of 0.000), online learning platform used (p-value of 0.011), and online device (p-value of 0.028), meaning the null hypothesis states that “There is no significant relationship between moderating variables and the academic performance as dependent variables” is rejected While there is no significant relationship among the moderating variables such as year level (0.844), and internet connectivity (p-value of 00.887) to academic performance, hence, null hypothesis number three is accepted. There is a significant relationship between engagement strategies at a p-value of 0.000 level of significance towards academic performance; therefore, the null hypothesis which states “There is no significant relationship between students’ perception of online learning platforms and engagement strategies to the student’s academic performance” is rejected.

Lastly, there is no significant relationship at p-values of 0.524 and 0.104 level of significance between academic performance to the perception of online learning platforms used and engagement strategies respectively, thus, null hypothesis number four is accepted.

Conclusion

Finally, students' perceptions of online learning environments and the effectiveness of engagement tactics have an impact on their academic outcomes. Positive opinions of these platforms are frequently associated with increased motivation and engagement, which in turn leads to improved academic performance. Collaborative tools, timely feedback, and interactive content are examples of effective engagement tactics that may greatly enhance students' learning outcomes. Prioritizing the creation of user-friendly platforms and effective engagement strategies is crucial as educational institutions continue to incorporate online learning into their curricula to enhance students' academic performance. To maximize online learning for a variety of student demographics, future studies should carry out further investigation into these interactions.

Recommendations

The study's findings recommend the implementation of the following measures: The researcher suggests conducting the same study with a larger scale of respondents, such as all colleges of Mindanao State University—Main Campus; including the perspective of the teachers or instructors in the study; testing the existing results of the insignificant moderating variables with the main variables; and looking for deeper and possible solutions that may come in handy when problems arise along the course of the study Considering the

quality of education, whether in face-to-face, blended, or online classes, students should dedicate their full attention and self-motivation to excel and achieve more in academics. They should improve their education. They should improve their education. They should enhance their learning capability, apply effective learning strategies, become flexible, especially during times of uncontrollable situations like the pandemic, and be literate enough to use information technologies for their own Teachers should be aware of the students' learning strategies or learning styles and match them with the teaching strategies they will employ in the classroom, not just in a face-to-face setting but also in an online class environment. Parents should continually encourage and support their children, whether academically or non-academically. School administrators and principals should continuously ensure and provide learning despite unexpected circumstances like the COVID-19 pandemic through educational remedies and other alternative ways of providing education and implementing programs for teachers and students to supplement the gaps in media information literacy. We must delve deeply into other academic matters, such as examining the quality of higher education through the lens of cultural, emotional, technological, ethical, health, financial, or academic accomplishments, particularly in this uncertain era of the global pandemic. Furthermore, to truly adapt to a new and adequate teaching and learning approach, we should conduct more academic research on e-learning theories and distance learning.

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