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Research Article

Engagement Strategies and Academic Performance of the Learners in Online Distance Learning, Zone 3, Division of Zambales

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ABSTRACT

This study aimed to determine the learner engagement strategies and academic performance in online distance learning, Zone 3, Division of Zambales. A descriptive-correlational research design and quantitative analysis were employed in the study. The learner engagement strategies of intermediate learners in online distance learning were described and the academic performance tested its relationship. Findings revealed that learners are female, early adolescents, have smartphones, and are connected to the internet via WIFI broadband. The learners are highly engaged in the learner engagement strategies in online distance learning as learner-to-learner, learner- to- teachers and learner-to-content strategies in online distance learning. The learners obtained an outstanding academic performance. There is a significant difference in the learner engagement strategies in online distance learning as to learner-to-learner, learner- to- teachers and learner-to-content strategies in online distance learning when grouped according to the profile of the respondents in terms of age. There is a negligible relationship on the academic performance and learner engagement strategies of the learners. The proposed dissemination plan was developed based on the results of learner-to-learner, learner-to-teacher, and learner-to-content engagement strategies. The researcher recommends the following based on the findings that the teacher may still provide learning materials to be available to the learners. The teachers may encourage the learners to participate in the forum actively created so that they may ask questions about the lesson. The participation of the learners in virtual meetings during discussions is highly encouraged.

Keywords*: Learner engagement strategies, Academic performance, Online distance learning, Learner-to-learner strategies, Learner-to-teacher strategies*

Introduction

The pandemic emergency period requires the face-to-face learning system to be replaced with online learning so that the learning process continues (Sinterma, 2020). In Indonesia, online learning is also used as an alternative

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solution in education today (Pratama, Lestari, & Astutik, 2020). Online learning is carried out starting from various levels of education from early childhood, elementary, junior high school, high school, and university (Sintema, 2020).

In 2020, public secondary and elementary schools adopted the Department of Education Oder Number 012, series 2012. Adoption of the Basic Education Learning Continuity Plan (BE-LCP) for School Year 2020- 2021 in the light of the COVID-19 Public Health Emergency. This plan was designed and implemented in Basic Education in response to the challenges of the Coronavirus Pandemic. It covers the streamlining of the K to 12 Curriculum into the Most Essential Learning Competencies (MELCs) and allowing different learning modalities to be adopted by the schools to ensure the education and services will continue to the learners.

In the Philippines, the Department of Education (DepEd) has applied distance learning modalities to ensure learning continuity. Distance learning is a learning delivery modality where learning takes place between the teacher and the learners who are geographically remote from each other during instruction. This modality has three types: Modular Distance Learning (MDL), Online Distance Learning (ODL), and TV/Radio-Based Instruction.

During the recent implementation of the BE-LCP, most of the public secondary and elementary schools extensively used printed modular distance learning (MDL). Later, they used online distance learning (ODL) in the delivery of education amid the pandemic. The ODL, features the teacher as a facilitator, engaging learners' active participation through the use of various technologies accessed through the internet while they are geographically remote from each other during instruction. The internet is used to facilitate learner-teacher and peer-to-peer communication. Online learning allows live synchronous instruction. It requires participants to have a good and stable internet connection. It is more interactive than the other types of distance learning. The responses are real-time. The learners may download materials from the internet, complete and submit assignments online, and attend webinars and virtual classes. This is practiced effectively by using a Learning Management System or related technologies. The DepEd Commons and Learning Resources Portal fall in this category.

In Zone 3, Division of Zambales, online distance learning is the modality implemented to continue to deliver a high quality of education amidst COVID-19- the COVID-19 pandemic. The researcher would like to investigate the learners' engagement strategies in online distance learning as learner-to-learner engagement strategy learner-to-instructor engagement strategy, and learner-to-content engagement strategy. The study would test the relationship between the learners' engagement and the academic performance of the intermediate learners in Zone 3, Division of Zambales.

Methodology

Research Design

Descriptive-correlational research design and quantitative analysis were employed in the study. The learner engagement strategies of intermediate learners in online distance learning were described and the academic performance will test its relationship. Descriptive research aims to accurately and systematically describe a population, situation, or phenomenon that can answer what, where, when, and how questions (McCombes, 2020). Bueno and Matriano (2016) described the descriptive method as a type of study in which information is collected without making any changes to the study subject. A correlational research design investigates relationships between variables without the researcher controlling or manipulating any of them. A correlation reflects the strength and/or direction of the relationship between two (or more) variables. The direction of a correlation can be either positive or negative (Bhandari, 2022).

Respondents and Location

124 intermediate learners participated as the respondents in the conduct of the study from the central elementary schools such as San Antonio Central School, San Narciso Elementary School, San Felipe Elementary School (West), and Cabangan Elementary School. These learners are from Grade IV, Grade V, and Grade VI levels. The purposive sampling technique was utilized in this study.

Research Instrument

The instrument was adopted from the study of Martin and Bolliger (2018) and Kadir, Mohamad, Rathi, & Rashid (2021) on the importance of engagement strategies in the online learning environment and the effectiveness of student engagement strategies in open and distance learning. The instrument consists of 2 parts. Part 1 is the profile of the respondents as to sex, age, availability of gadgets, and type of internet connectivity. Part 2 is the learner engagement strategies of intermediate in online distance learning be described in terms of learner-to-learner, learner-to-teacher, and learner-to-content engagement strategy. It has 10 statements per parameter. A 4- 4-point Likert scale was used 4- Highly Engaged (HE); 3- Engaged (E); 2- Slightly Engaged (SE); and 1- Not Engaged (NE).

Data Collection

After the development of the instrument, the researcher secured a letter to be signed by the Thesis Adviser and Graduate School Director to conduct a study addressed to the School Division Superintendent. Once approved, a letter of endorsement was submitted to the School Principals in Zone 3, Division of Zambales to the chosen central elementary schools. The researcher personally distributed the questionnaire to the respondents for 2 weeks. The researcher will explain the overview of the study. The researcher strictly observed the minimum health protocols for COVID-19.

The academic performance of the 124 intermediate learners was collected by the adviser.

After 2 weeks, the data was collected, tabulated, analyzed, and interpreted.

Ethical Compliance

Ethical practices included obtaining approval from the SDS DepEd Division of Zambales, informing the PSDS, school head, teachers, and respondents about the study, and ensuring voluntary participation and privacy.

Data Analysis

Analysis and interpretation were conducted using the SPSS version 20. The following statistical tools were used: frequency, percentage distribution, weighted mean, F-Test, and Pearson Product Moment Coefficient of Correlation.

Results and Discussions

The study showed the frequency and percentage distribution of the respondents' profiles as to sex, age, availability of gadgets, and type of internet connectivity.

Table 1. Frequency and Percentage Distribution of the Respondents' Profile

Profile		Frequency	Percent
Sex	Male	49	39.52
	Female	75	60.48
	Total	124	100.00
Age	13 years old & above	3	2.42
	11-12 years old	72	58.06
Mean = 10.76 years old	9-10 years old	49	39.52
	Total	**124**	**100.00**
Availability of Gadgets	Desktop Computer	19	15.32
	Laptop	41	33.06
	Smartphone	58	46.77
	Tablet	5	4.03
	For others, please specify	1	0.81
	Total	**124**	**100.00**
Type of Internet Connectivity	Digital Subscriber Line (DSL)	2	1.61
	Cable Broadband	12	9.68
	Fiber Optic Broadband	6	4.84
	WIFI Broadband	68	54.84

Profile	Frequency	Percent
Mobile Broadband	36	29.03
Total	**124**	**100.00**

Out of 124 learners, there were 75 (60.48%) were females while 49 (39.53%) were males. The results suggest that gender disparity exists in the enrollment data because dominant of the learners were females. Boys were more likely to be reported as lacking interest than girls, but the gender difference grew closer over time. The second most cited reason for not attending school was illness or disability, which was more often cited for girls than for boys. The gender gap between girls and boys was most evident.

Out of 124 learners, there were 72 (58.06%) in the age group of 11-12 years old; 49 (39.52%) in the age group of 9- 10 years old; and 3 (2.42%) in the age group of 13 years old and above. It shows that the learners are in the adolescent stage. **During this stage, children often start to grow more quickly.** They also begin to notice other body changes, including hair growth under the arms and near the genitals, breast development in females, and enlargement of the testicles in males (Allen, 2019).

Out of 124 learners, there were 58 (46.77%) have smartphones; 41 (33.06%) have laptops; 19 (15.32%) have desktop computers; 5 (4.03%) have tables, and 1 (0.81%) have smart televisions. It shows that even children do have the smartphone for educational purposes for online classes.

Out of 124 learners, there were 68 (54.68%) are connected via WIFI broadband; 36 (29.03%) are connected via mobile broadband; 12 (9.68%) are connected via cable broadband; 6 (4.84%) are connected via fiber optic broadband and 2 (1.61%) are connected via digital subscriber line (DSL). It shows that the connection is high-speed wireless Internet access or computer networking access over a wide area using WIFI broadband. One of the main advantages of wireless broadband is that you can access the Internet from anywhere, whether it is your office, canteen, living room, kitchen, bedroom, etc. The only thing you need to make sure you are in the range of your router. There is no need to lay down the cable in your whole office or home. An Internet connection is also possible in remote areas

Table 2. Learner Engagement Strategies in Online Distance Learning in terms of Learner-to-Learner Strategy

Learner-to-Learner	AWM	Descriptive Rating	Rank
1. Learners use a virtual lounge where they can meet informally to share common interests.	3.41	Highly Engaged (HE)	2
2. Learners complete an integrated profile on the learning management system that is accessible in all courses	3.33	Highly Engaged (HE)	6
3. Leaners introduce themselves using an ice-breaker discussion	3.28	Highly Engaged (HE)	9
4. Leaners moderate discussions.	3.36	Highly Engaged (HE)	4
5. Leaners have choices in the selection of readings (articles, books) that drive discussion group formation.	3.42	Highly Engaged (HE)	1
6. Leaners post audio and/or video files in threaded discussions instead of only written responses.	3.13	Highly Engaged (HE)	10
7. Learners interact with peers through student presentations (asynchronously or synchronously)	3.31	Highly Engaged (HE)	7

Learner-to-Learner	AWM	Descriptive Rating	Rank
8. Learners work collaboratively using online communication tools to complete performance tasks.	3.36	Highly Engaged (HE)	4
9. Leaners peer-review classmates' work.	3.30	Highly Engaged (HE)	8
10. Learners are required to rate the individual performance of team members on projects.	3.37	Highly Engaged (HE)	3
Overall Weighted Mean	**3.33**	**Highly Engaged (HE)**	

The learners are highly engaged in having choices in the selection of readings (articles, books) that drive discussion group formation with a weighted mean of 3.42 (rank 1st). The learners are highly engaged in posting audio and/or video files in threaded discussions instead of only written responses with a weighted mean of 3.13 (rank 10th). The overall weighted mean on the learner engagement strategies in online distance learning in terms of Learner- to- Learner Strategy is 3.33 with a descriptive rating of highly engaged. The result signifies that there are many educational or learning resources such as books and other reading materials that can be used by the learners for their studies. Children should be exposed to adequate instructional resources since they acquire knowledge by constructing it through their interactions with the environment to explore the environment. Even though providing opportunities and materials for children to classify, sort, and group objects using various criteria like; color, shape, size, texture, or use, helps children to symbolize and use different imitations and enhance their mental abilities.

Table 3. Learner Engagement Strategies in Online Distance Learning in terms of Learner-to-Teacher Strategy

Learner- Teacher	AWM	Descriptive Rating	Rank
1. The teacher refers to students by name in discussion forums.	3.51	Highly Engaged (HE)	1
2. The teacher sends/posts regular announcements or email reminders.	3.43	Highly Engaged (HE)	5
3. The teacher creates a forum for students to contact the instructor with questions about the course	3.31	Highly Engaged (HE)	10
4. The teacher conducts orientation to the learners.	3.40	Highly Engaged (HE)	6
5. The teacher posts a "due date checklist" at the end of each instructional unit.	3.44	Highly Engaged (HE)	4
6. The teacher creates short videos to increase the instructor's presence in the course.	3.37	Highly Engaged (HE)	7
7. The teacher provides feedback using various modalities (e.g., text, audio, video, and visuals).	3.45	Highly Engaged (HE)	2
8. The teacher provides students with an opportunity to reflect (e.g., via a journal or surveys).	3.36	Highly Engaged (HE)	8
9. The I teacher posts grading rubrics for all assignments.	3.44	Highly Engaged (HE)	3
10. The teacher uses various features in synchronous sessions to interact with students (e.g., polls, emoticons, whiteboard, text, or audio and video chat).	3.31	Highly Engaged (HE)	9
Overall Weighted Mean	**3.40**	**Highly Engaged (HE)**	

The overall weighted mean on the learner engagement strategies in online distance learning in terms of Learner- to- Teacher Strategy is 3.40 with a descriptive rating of highly engaged. The result shows that the teacher recognized the learners by their names. The practice of the teacher would promote the belongingness of the learners to their class. Online discussions can be a great way to help build a learning community or communities among your students. Social learning is key for many students to learn and excel in a course. Setting up individual discussion spaces based on groups is an effective way to build learning communities and spark interaction whether in a blended or fully online course.

Table 4. Learner Engagement Strategies in Online Distance Learning in terms of Learner-to-Content Strategy

	Learner- Content	AWM	Descriptive Rating	Rank
1.	Learners interact with content in more than one format (e.g., text, video, audio, interactive games, or simulations).	3.37	Highly Engaged (HE)	9
2.	Learners use optional online resources to explore topics in more depth.	3.44	Highly Engaged (HE)	5
3.	Learners experience live, synchronous web conferencing for class events and/or guest talks.	3.35	Highly Engaged (HE)	10
4.	Discussions are structured with guiding questions and/or prompts to deepen their understanding of the content.	3.49	Highly Engaged (HE)	3
5.	Learners research an approved topic and present their findings in a delivery method of their choice (e.g., discussion forum, chat, web conference, multimedia presentation).	3.42	Highly Engaged (HE)	6
6.	Learners search for and select applicable materials (e.g., articles, books) based on their interests.	3.39	Highly Engaged (HE)	8
7.	Learners have an opportunity to reflect on important elements of the course (e.g., use of communication tools, their learning, team projects, and community).	3.48	Highly Engaged (HE)	4
8.	Learners work on realistic scenarios to apply content (e.g., case studies, reports, research papers, presentations, client projects)	3.40	Highly Engaged (HE)	7
9.	Learners understand the content of the lessons provided.	3.57	Highly Engaged (HE)	2
10.	Learners use self-tests to check their understanding of materials.	3.63	Highly Engaged (HE)	1
	Overall Weighted Mean	**3.45**	**Highly Engaged (HE)**	

The learners are highly engaged in the use of self-tests to check their understanding of materials with a weighted mean of 3.63 (rank 1st). The learners are highly engaged in the experience of live, synchronous web conferencing for class events and/or guest talks with a weighted mean of 3.35 (rank 10). The overall weighted mean on the learner engagement strategies in online distance learning in terms of learner-to-learner-to-content strategy is 3.45 with a descriptive rating of highly engaged. The result denotes that the learner does self-tests or pre-tests to determine the prior knowledge and help them identify the gaps in their learning. Pre-assessments and formative assessments

are often described as assessments for learning as they help teachers plan instructions and better focus the learners' learning by having more information about them in advance.

Table 5. Summary of Learner Engagement Strategies in Online Distance Learning

Learner Engagement Strategies	AWM	Descriptive Rating	Rank
Learner-to-Learner	3.33	Highly Engaged (HE)	3
Learner-to- Teacher	3.40	Highly Engaged (HE)	2
Learner-to- Content	3.45	Highly Engaged (HE)	1
Overall Weighted Mean	**3.39**	**Highly Engaged (HE)**	

The learners unanimously evaluated highly engaged on the learner engagement strategies in terms of learner-to-content (3.45, rank 1st); learner-to-teacher (3.40, rank 2nd), and learner-to-learner (3.33, rank 3rd). The overall weighted mean on the learner engagement strategies in online distance learning is 3.39 with a descriptive rating of highly engaged. The result shows that the learners are actively participating in the discussion because they understand the content of the lesson. They interact with their teacher during the discussion online. The teacher does prompt responses to the questions of the learners. Online learning environments and supportive online behaviors are both important intermediaries between students' achievement goal orientations and their academic expectations.

Table 6. Academic Performance of the Respondents

Descriptive Rating	Numerical Rating	Frequency	Percent
Outstanding	90 - 100	95	76.61
Very Satisfactory	85 - 89	29	23.39
Satisfactory	80 - 84	0	0.00
Fairly Satisfactory	75 - 79	0	0.00
Did not meet expectation	74 & below	0	0.00
	Total	**124**	**100.00**
		93.13	
	Mean	**Outstanding**	

Out of one hundred twenty-four (124) learners, 95 (76.61%) obtained a rating of 90-100 with a descriptive rating of Outstanding; and 29 (23.39%) obtained a rating of 85- 89 with a descriptive rating of Very Satisfactory. The computed mean on the academic performance of the learners is 93.13 interpreted as Outstanding. It signifies that the learners demonstrated academic achievement in their studies.

Table 7. Test of Significant Difference on Learner Engagement Strategies in Online Distance Learning in terms of Learner-to-Learner Strategy When Grouped According to Profile Variables

Source of Variations		df	F	Sig.	Decision/ Interpretation
Sex	Between Groups	1	0.02	0.88	Accept Ho Not Significant
	Within Groups	122			
	Total	123			
Age	Between Groups	2	7.47	0.00	Reject Ho Significant
	Within Groups	121			
	Total	123			
Availability of Gadgets	Between Groups	4	1.50	0.21	Accept Ho Not Significant
	Within Groups	119			

Source of Variations		df	F	Sig.	Decision/ Interpretation
	Total	123			
Type of Internet Connectivity	Between Groups	4	1.33	0.26	Accept Ho Not Significant
	Within Groups	119			
	Total	123			

There is a significant difference in the learner engagement strategies in online distance learning in terms of learner-to-learner strategy. Therefore, the Null Hypothesis is Rejected, hence there is a significant difference when grouped according to profile variables in terms of age. The results denote that learner-to-learner strategy had a statistically significant effect on the age of the learners. Learner-learner engagement can include items such as class introductions icebreaker activities and collaborative activities. If students are not motivated to engage with one another at the beginning of the semester, the classroom culture will be one of independent study rather than interactivity.

There is no significant difference in the learner engagement strategies in online distance learning in terms of learner-to-learner strategy. Therefore, the Null Hypothesis is Accepted, hence there is no significant difference when grouped according to profile variables in terms of sex, availability of gadgets, and type of internet connectivity. The results denote that learner-to-learner strategy had no statistically significant effect on sex, availability of gadgets, and type of internet connectivity used by the learners.

Table 8. Test of Significant Difference on Learner Engagement Strategies in Online Distance Learning in terms of Learner-to-Teacher Strategy When Grouped According to Profile Variables

Source of Variations		df	F	Sig.	Decision/ Interpretation
Sex	Between Groups	1	1.17	0.28	Accept Ho Not Significant
	Within Groups	122			
	Total	123			
Age	Between Groups	2	3.78	0.03	Reject Ho Significant
	Within Groups	121			
	Total	123			
Availability of Gadgets	Between Groups	4	1.72	0.15	Accept Ho Not Significant
	Within Groups	119			
	Total	123			
Type of Internet Connectivity	Between Groups	4	0.84	0.50	Accept Ho Not Significant
	Within Groups	119			
	Total	123			

There is a significant difference in the learner engagement strategies in online distance learning in terms of learner-to- teacher strategy. Therefore, the Null Hypothesis is Rejected, hence there is a significant difference when grouped according to profile variables in terms of age, sex, availability of gadgets, and type of internet connectivity. There must be cooperation and collaboration between students and instructors in online courses in order to increase online student engagement.

There is no significant difference in the learner engagement strategies in online distance learning in terms of learner-to- teacher strategy. Therefore, the Null Hypothesis is Accepted, hence there is no significant difference when grouped according to profile variables in terms of sex, availability of gadgets, and type of internet connectivity. The results denote that learner engagement strategies had no statistically significant effect on sex, availability of gadgets, and type of internet connectivity.

Consistent interaction with students at the individual and group levels helps set academic expectations among students. Instructor assessment of student work and participation using a stated grading policy, providing summative feedback, and posting grades within a specified time frame can be highly beneficial.

Table 9. Test of Significant Difference on Learner Engagement Strategies in Online Distance Learning in terms of Learner-to-Content Strategy When Grouped According to Profile Variables

Source of Variations		df	F	Sig.	Decision/ Interpretation
Sex	Between Groups	1	0.13	0.72	Accept Ho Not Significant
	Within Groups	122			
	Total	123			
Age	**Between Groups**	**2**	**4.11**	**0.02**	**Reject Ho Significant**
	Within Groups	121			
	Total	123			
Availability of Gadgets	Between Groups	4	2.00	0.10	Accept Ho Not Significant
	Within Groups	119			
	Total	123			
Type of Internet Connectivity	Between Groups	4	0.20	0.94	Accept Ho Not Significant
	Within Groups	119			
	Total	123			

There is a significant difference in the learner engagement strategies in online distance learning in terms of learner-to-content strategy. Therefore the Null Hypothesis is Rejected, hence there is a significant difference when grouped according to profile variables in terms of age. The results denote that learner-to-content strategy had a statistically significant effect on the age of the learners

There is no significant difference in the learner engagement strategies in online distance learning in terms of learner-to- content strategy. Therefore, the Null Hypothesis is Accepted, hence there is no significant difference when grouped according to profile variables in terms of sex, availability of gadgets, and type of internet connectivity. The results denote that learner-to-content strategy had no statistically significant effect on sex, availability of gadgets, and type of internet connectivity. Learner-content engagement includes items such as working on realistic scenarios, providing structured discussions, and interacting with content in more than one media format.

Table 10. Test of Significant Relationship between Academic Performance and Learner Engagement Strategies in Online Distance Learning

Source of Correlations		Grades	Strategies	Decision / Interpretation
Academic Performance	Pearson Correlation	1	-0.063	Negligible Relationship
	Sig. (2-tailed)		0.49	
	N	124	124	
Learner Engagement Strategies	Pearson Correlation	-0.063	1	Accept Ho Not Significant
	Sig. (2-tailed)	0.49		
	N	124	124	

The findings revealed that the academic achievement of the learners cannot be associated with the learner engagement strategies. The study was conducted on the effects of student engagement, student satisfaction, and perceived learning in online learning environments. This study indicated a significant relationship between course structure and perceived student learning. The findings showed that while student interaction had no

statistically significant effect on student satisfaction, the presence of the instructor had a statistically significant effect on perceived student learning.

Conclusions and Recommendations

The researcher concluded the following based on the findings of the study: First, most of the learners are female, early adolescents, have smartphones, and are connected to the internet via WIFI broadband. Second, the learners are highly engaged in the learner engagement strategies in online distance learning as to learner- to- learner, learner- to- teacher, and learner- to- content strategies in online distance learning. Third, the learners obtained an outstanding academic performance. Fourth, there is a significant difference in the learner engagement strategies in online distance learning as to learner-to-learner, learner- to-teacher, and learner- to- content strategies in online distance learning when grouped according to the profile of the respondents in terms of age. Fifth, there is a negligible relationship on the academic performance and learner engagement strategies of the learners. Lastly, the proposed intervention program was developed based on the results of learner-to-learner, learner-to-teacher, and learner-to-content engagement strategies.

Table 11. Proposed Dissemination Plan

Key Results Area	Proposed Activities	Persons Involved	Time Frame	Budget Requirement	Expected Outcome
Learner- to- Content Strategy	Seminar- Workshop on Posting Audios and Videos	Principal Teachers Learners Trainer	8 Hours	Php 15,000.00 MOOE	Improved participation on the class by posting audios and videos about the lesson
Learner- to- Teacher Strategy	Training on creating a Forum to encourage the learners to participate in asking questions.	Principal Teachers Learners Trainer	8 Hours	Php 15,000.00 MOOE	Interactive discussion on the forum about the lessons.
Learner- to- Learner Strategy	Seminar- Workshop on Virtual Meetings using Google Meet	Principal Teachers Learners Trainer	8 Hours	Php 15,000.00 MOOE	Attendance to the Virtual Meetings

The researcher recommends the following based on the findings and conclusions of this study: First, the teachers may still provide learning materials to be available to the learners to sustain that they have choices of reading materials. Second, the teachers may encourage the learners to actively participate in the forum created so that they may ask questions about the lesson. Third, the participation of the learners in virtual meetings during discussions is highly encouraged. Fourth, the proposed dissemination plan may be implemented to enhance the learners' engagement in online learning and improve their academic performance. Lastly, a similar study may be conducted by future researchers to validate the results.

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