

Exploring the Relationship between Online Learning Behavior and Onsite Assessment Scores of the Students

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ABSTRACT

The shift in online learning led to some concerns, such as learner participation and its effect on their academic performance. But despite these existing problems, earlier studies have attributed improved performance to effective online learning approaches. The integration of online learning platforms in education transformed students' learning behaviors, but it remains unclear how these online study behaviors influence the performance of the students in onsite assessments. The key concern of this study was to understand how the learning behaviors of the students affect their performances in onsite assessments. Therefore, this research aimed to determine the relationship between online study behavior and onsite assessment scores of the students. Providing empirical evidence would contribute valuable insights that might help to address the gaps in terms of student academic outcomes and can guide educators in developing more effective online learning strategies that enhance students' performance in traditional assessments. A mixed-methods design was used and utilized an adopted-modified survey questionnaire and interview guide. Results indicate that the students often participate, have good learning routines, and monitor themselves in online learning. Meanwhile, students who experience challenges affect their capability to retain and apply their knowledge effectively, resulting in lower onsite assessment outcomes. Statistical analysis revealed that there is a notable connection between online study behavior and onsite assessment scores of the students. However, there is only a weak correlation between these two, and future researchers should consider other factors such as motivation and prior knowledge to determine the strong relationship between these two variables.

Keywords: online learning, online behaviors, onsite assessment scores, learner participation

INTRODUCTION

During the pandemic outbreak, most of the schools suspended traditional face-to-face classes for the safety of the students, and this is the time when online learning arose and has become prevalent all over the world (Park and Lee, 2021). This mode of learning aimed to impart knowledge to the students while only using technology. (Binyamin, 2019). Online learning has brought many advantages in education that cannot be ignored (Fanguy, 2023). But despite its great contribution to education, the problem still arises because

several students refuse to learn in an online setup (Nguyen, 2022). This was a critical area of study, as the transition from traditional in-person teaching to digital platforms has led to a shift in how students engage with their education. With each student having different learning needs and preferences, this shift may either support or hinder their academic growth. Understanding how online study behaviors translate into on-site performance is essential for adapting educational strategies to better support student success in this evolving landscape.

The researchers conducted a thorough analysis of the related literature and noticed that there are only limited

studies regarding the relationship between the relationship of online study behavior and onsite assessment scores of the students.

And to contribute to the research gap, this research aimed to explore the relationship between students' online study behaviors and their on-site assessment scores. This study sought to identify the behavior of the students in online learning and how it is related to the onsite assessment scores of the students. And by analyzing these patterns, the research aimed to provide insights into effective online discussions that schools can adopt to support ethical behavior across both settings.

METHODOLOGY

Research Design

This study employed a mixed-methods research design utilizing a convergent approach. This research design combined both quantitative and qualitative data to better comprehend the research problem, specifically the relationship between the online study behavior of the students and their on-site assessment scores. Quantitative data were gathered to assess the on-site assessment scores of the students, while qualitative data were collected to explore their online study behaviors. The convergent design was used to analyze the data separately, then to interpret and compare the results of both quantitative and qualitative data.

Participants

The study involved a total of 275 Grade 10 students and 10 high school teachers who participated in the survey. Most of the student respondents were 15 years old, with a total number of 141 students. The participants were selected based on their direct involvement in the online learning and assessment processes.

Instruments

The study utilized an adaptive-modified survey questionnaire from (Fernandez & Montes, 2021), (Jansen, 2016), (Woolf, 2020), (Natarajan, 2024), which includes sections on respondents' demographic profiles, students' engagement in online learning, learning routines, and self-monitoring. The interview guide questions were adopted from the study of Huang (2023).

To ensure the validity of the questionnaire and interview guide questions, three experts reviewed the instrument for clarity and relevance. The survey questionnaire was distributed personally, while interviews were also conducted in person.

Data Analysis and Coding Process

A statistical analysis was conducted to identify the notable connection between the online behavior and on-site assessment scores of the students. The study also applied an inductive coding process to analyze the qualitative data. Researchers used thematic analysis to determine the key patterns and themes of the acquired qualitative data.

Procedure

Researchers began by acquiring the school principal's consent and searching for the chosen participants. Assent forms were distributed to the selected Grade 10 students, followed by the administration of survey questionnaires to the selected participants. Focus group discussions were conducted with the upper group and lower performing group from the chosen Grade 10 section, and the teachers' interviews were carried out. Then, the students' on-site assessment scores were collected and interpreted using the DepEd grading guidelines.

RESULT

Table I Descriptive Perception of Students' Engagement in Online Learning

| Statements | Average | SD | Descriptive Interpretation |
|--|---------|------|---|
| 1. I am eager to participate in the online class discussion | 3.33 | 1.03 | The behavior happens on occasion but is not consistent. |
| 2. I am interested in gaining knowledge through online discussions | 3.25 | 1.11 | The behavior happens on occasion but is not consistent. |
| 3. I ask questions in discussions when I don't understand. | 3.48 | 1.16 | The behavior happens on occasion but is not consistent. |
| 4. I consistently complete my online learning assignments and activities on time. | 3.76 | 1.01 | Behavior frequently occurs and is a common experience. |
| 5. I feel confident in my ability to understand course material through online learning platforms. | 3.37 | 1.05 | The behavior happens on occasion but is not consistent. |
| 6. I feel confident in my ability to understand the subject | 3.88 | 0.92 | The behavior frequently occurs and is a common experience |
| 7. I regularly participate in online class discussions to ensure my understanding of the topic. | 3.64 | 1.06 | The behavior frequently occurs and is a common experience |
| Overall | 3.53 | 1.05 | The behavior happens on occasion but is not consistent |

In this table, most of the students stated that they feel confident in their ability to understand the subject, with an average of 3.88, which shows students are always engaged in online learning, but there were still some students who were not that engaged when they were in online learning. Followed by the responses of the students with an average of 3.76, which indicates that some of the students always complete their tasks in online classes, while some of them frequently comply with the activities given to them, and some are not able to complete the assignments in their online CLASSES. Next, an average of 3.64, which revealed that some students always participate while some have occasional participation in class discussions to ensure their understanding of the topic. This reflected that the engagement of the students is significant for their online learning because this can help them improve their understanding, which leads to better learning outcomes in online learning.

Table II Descriptive Responses of the Students on their Study Habits in Online Learning

| Statements | Average | SD | Descriptive Interpretation |
|--|---------|------|---|
| 1. I make sure that I am in a quiet environment when attending my class. | 4.27 | 0.89 | The behavior frequently occurs and is a common experience |
| 2. I take down notes when there is a class discussion | 3.96 | 1.02 | The behavior frequently occurs and is a common experience |
| 3. I spend time reviewing whenever there is an assessment | 3.53 | 1.07 | The behavior happens on occasion but is not consistent |
| 4. I periodically review my notes to help me understand further the topic during our online discussion | 3.66 | 1.10 | The behavior frequently occurs and is a common experience |
| 5. I collaborate with my classmates to get ideas regarding our online discussion. | 3.81 | 1.14 | The behavior frequently occurs and is a common experience |
| 6. I feel confident in my ability to understand the subject | 3.63 | 1.03 | The behavior frequently occurs and is a common experience |
| 7. I make a study plan to manage my time effectively | 3.49 | 1.18 | The behavior happens on occasion but is not consistent |
| Overall | 3.77 | 1.06 | The behavior frequently occurs and is a common experience |

In Table 2, most of the students make sure that they are always in a quiet environment, and some of them often

ensure that they are in a quiet place when they are attending online classes, with an average of 4.27. Next is an average of 3.96, which revealed that most of the students frequently take down notes, and some of them often jot down notes while they are in online class discussions. Followed by the responses that most of the students choose to always collaborate, while some choose to interact with their classmates to get ideas regarding their online discussion, with an average of 3.81. This indicated that having good learning routines is important in online learning because it has a significant influence on the academic success of the students and could enhance the performance and understanding of the students in an online learning environment.

Table III. Descriptive Responses of the Student on their Self-Regulation

| Statements | Average | SD | Descriptive Interpretation |
|--|-------------|-------------|---|
| 1. I reflect on the things that I have learned in our online class. | 3.67 | 0.94 | The behavior frequently occurs and is a common experience |
| 2. I get a sense of achievement when I learn new skills in my online class. | 3.88 | 0.97 | The behavior frequently occurs and is a common experience |
| 3. I get a specific goal to help me manage my studying time when doing tasks from our online discussion. | 3.73 | 0.92 | The behavior frequently occurs and is a common experience |
| 4. I am aware of what strategies I will use when I study in online class. | 3.65 | 1.08 | The behavior frequently occurs and is a common experience |
| 5. I make an effort to stay focused when I feel distracted during online discussion. | 3.95 | 1.00 | The behavior frequently occurs and is a common experience |
| 6. I regularly assess my progress and evaluate how well I understand the material during online classes. | 3.55 | 0.90 | The behavior happens on occasion but is not consistent |
| 7. I think of alternative ways to solve the problems I encountered in our online learning | 3.76 | 0.98 | The behavior frequently occurs and is a common experience |
| Overall | 3.74 | 0.97 | The behavior frequently occurs and is a common experience |

Table 3 shows that most of the students always tried to stay focused, and some of them often managed to avoid feeling distracted during online discussions, with an average of 3.95. Next is an average of 3.88, where several students frequently get a sense of achievement, and some of them often feel a sense of achievement when they can learn new skills in online classes. Followed by an average of 3.76, which revealed that most of the students always think of alternative ways, and some of them sometimes think of another way to solve the problems they encountered in their online discussion. This illustrated that self-regulated students have a better understanding of their online learning because self-monitoring is an important tool for directing the cognitive process of the students and helps them to achieve a better understanding and enhance learning in online discussions.

Table IV. Descriptive Measure of Onsite Assessment Scores of the Students

| Description | No. of Students | Interpretation |
|----------------|-----------------|---------------------|
| Very High | 41 | Very Satisfactory |
| High | 233 | Satisfactory |
| Low | 1 | Fairly |
| Very Low | 0 | Poor |
| Overall | 275 | Satisfactory |

In this table, it is shown that 233 of the students were able to get a satisfactory grade in their onsite assessments. Followed by 41 students who got a very satisfactory grade in the assessment that happened in the on-site setup. While one student has a fair grade in the onsite setup assessment. This revealed that despite having online learning, the students were able to get a satisfactory grade on their onsite assessment, and this showed that online learning is beneficial to the students to get good grades in their onsite assessments.

Table V. Descriptive Measures of the Relationship Between Online Learning Behavior and Onsite Assessment Scores of the Students

| Variables Correlated Interpretation | R | Description | Sig-Value | Decision |
|---|--------|--|-----------|---|
| Online Learning Behavior and Onsite Assessment Scores | 0.1252 | A weak but significant positive relationship exists between online learning behavior and onsite assessment scores. | .037994 | There is a significant relationship between online learning behavior and onsite assessment scores of the students |

The findings showed a slightly positive linear association between the two variables. This indicated that with more favorable online study behavior demonstrated by students, their onsite test scores tend to slightly increase. The weak correlation, however, indicated that the impact of online study behavior on test performance is weak, and it implies that the relationship they show is less likely to result from random occurrences, despite the low strength of their relationship. And the correlation indicates a positive direction tells that learners with improved habits for online classes will perform modestly better at onsite tests, although it is not much.

Table VI. Descriptive Perception of the Students' Engagement in their Learning Environment

| Respondents | Categories | Themes |
|------------------------|--------------------------------|---|
| S1, S2, S7, S4, S8, S5 | Barriers to Effective Learning | Theme 1. Challenges and Distractions in Online Learning |

Theme 1: Challenges and Distractions in Online Learning

Several respondents observed that there are barriers to achieving effective learning experiences, which led to challenges in online classes. It emphasized that there are distractions and difficulties in the home environment that produce challenges and hindrances in Online learning. The responses reveal that students are easily distracted by their home environment, so they tend to lose their focus in online sessions.

Table VII. Descriptive Responses of the Students on their Interaction and Participation in Online Learning

| Respondents | Categories | Themes |
|--------------------------------|--|---|
| S1, S2, S3, S4, S5, S6, S7, S8 | Student Engagement and Participation Strategies in Online Learning | Theme 1. Engagement and Interaction in Virtual Classrooms |

Theme 1: Engagement and Interaction in Virtual Classrooms

Most respondents' statements highlighted their strategies for engaging and participating in the online learning environment. The responses present a different approach to engagement in online discussions.

Table VIII. Descriptive Perception of the Students on their Study Routines for Online Learning

| Respondents | Categories | Themes |
|-------------|---|---|
| S1, S3, S5 | Personal Strategies and Study Habits for Focus and Preparation in Online Learning | Theme 1. Maintaining Discipline and Engagement in Virtual Classes |
| S7, S8 | Differences in Preparation for Face-to-Face and Online Classes | Theme 2. Adaptation in Online Learning |

Theme 1: Maintaining Discipline and Engagement in Virtual Classes

A few respondents presented various strategies that they utilized to sustain discipline and engagement in an online environment. Their responses emphasized the importance of creating routines, reducing home distractions, and getting mentally and physically prepared before attending online classes.

Theme 2. Adaptation in Online Learning

A couple of respondents revealed how they adapt in the online learning environment, for instance, by adjusting their routines, habits, and attitudes. It illustrates the contrasting levels of effort and motivation these students show in adapting to virtual classes. One respondent revealed that in an online class, the students will only prepare for class when the class is near. However, during face-to-face classes, the student wakes up early to prepare for classes, implying that online learning changes the study habits of students, making it less structured compared to face-to-face.

This table showed the various perspectives of the students towards their capacity to manage their time and stay focused in online classes.

Table IX. Descriptive Responses of the Students on Managing Time and Staying Motivated in Online Learning

| Respondents | Categories | Themes |
|----------------|--|---|
| S1, S6, S7, S8 | Difficulties in Managing Home Responsibilities During Online Classes | Theme 1. Struggles and Responsibilities in Home-Based Learning Environments |
| S2, S5 | Motivation and Productivity Challenges in Online Learning | Theme 2: Difficulties in Engagement and Self-Motivation |

Theme 1: Struggles and Responsibilities in Home-Based Learning Environments

Half of the respondents found difficulties in managing home responsibilities during online classes. This highlights the struggles and responsibilities encountered by the students in home-based learning environments. This struggle reflects the overlapping obligations in school and home, which leads to more stress and less concentration. Students often struggle to balance home responsibilities and academic commitments, leading to

poor time management.

Theme 2: Difficulties in Engagement and Self-Motivation

The respondents claimed that the absence of face-to-face interaction in online classes reduces their motivation, and the lack of physical presence makes it easier to lose focus in online discussions. This indicated that these students are more motivated to study when they collaborate with their peers.

Table X. Descriptive Perception of the Students in Maintaining their Focus and Staying Active During Online Learning

| Respondents | Categories | Themes |
|-------------|---|---|
| S1, S2, S3 | Strategies to Maintain Focus in Online Learning | Theme 1. Student Adaptation to Improve Concentration |
| S4, S5 | Using Beverages to Sustain Focus and Active Participation | Theme 2. Strategies to Maintain Engagement in Online Classes |
| S6, S8 | Strategies to Enhance Concentration in Online Learning | Theme 3. Creating a Distraction-Free Environment for Enhanced Focus |

Theme 1. Student Adaptation to Improve Concentration

Few respondents use strategies to keep their concentration during online discussions. The response showed that the students make active adjustments to their environment and habits so that they can improve their engagement and focus during online sessions. Their statements emphasized the significance of finding a quiet environment so that they can focus and prevent distraction from their environment.

Theme 2. Strategies to Maintain Engagement in Online Classes

A couple of respondents demonstrate the method that students use to remain focused and attentive during virtual learning. The respondents revealed that they consume beverages such as tea and coffee while listening to discussions and taking notes to maintain their active engagement during classes. This showed that students believe that through this method of using caffeinated drinks, they can sustain their attention throughout the discussion.

Theme 3. Student Strategies to Minimize Distractions and Stay Focused

Two respondents highlighted the actions they have taken to create a conducive learning environment. Through this, students can learn more effectively since it boosts better understanding and retention of the information that is being learned. One respondent exhibits good strategies to maintain concentration and stay engaged in online classes. The response reveals strategies such as before online sessions, the students looking for a quiet study place with a strong wifi connection.

Table XI. Descriptive Perception of the Students in Utilizing Learning Behavior to Perform Better in Online Assessments

| Respondents | Categories | Themes |
|--------------------|---|--|
| S1, S2, S6, S7, S8 | Strategies for Understanding Lessons | Theme 1. Overcoming Learning Difficult Challenges in Virtual Education |
| S3, S4, S5 | Effective Study Habits in Online Learning | Theme 2. Student Strategies for Engagement in Online Classes |

Theme 1. Overcoming Learning Challenges in Virtual Education

Several respondents mentioned strategies for understanding difficult lessons. Based on the participants' responses, state strategies including revisiting online courses, lectures, recorded discussions, and using additional resources were some ways to improve comprehension.

Theme 2. Student Strategies for Engagement in Online Classes

Few respondents highlighted the importance of effective learning routines in online learning to perform well and stay engaged during online discussions. The respondents statement revealed that to understand the lesson in online learning these students listen carefully to the teacher and they take notes during online sessions.

Table XII. Descriptive Perception of the Students' Engagement in their Learning Environment

| Respondents | Categories | Themes |
|-------------|--|--|
| S1, S2, S3 | Difficulty Paying Attention in Virtual Class | Theme 1. Struggles Faced in the Online Environment |
| S4, S5, S6 | Lack of Motivation on Students' Engagement | Theme 2. Factors that Affect Students' Focus in Online Classes |

Theme 1. Struggles Faced in the Online Environment

Half of the respondents demonstrated the challenges in sustaining focus during virtual classes, highlighting the struggles they face. And these struggles hindered the student's ability to stay focused and engage with the educational content effectively

Theme 2. Factors that Affect Students' Focus in Online Classes

Half of the respondents faced challenges in sustaining focus during virtual classes, highlighting the struggles they face, which hindered their ability to focus and engage with the educational content effectively.

Table XIII. Descriptive Responses of the Students on their Interaction and Participation in Online Learning

| Respondents | Categories | Themes |
|----------------|---|---|
| S1, S2, S3, S4 | Student's Engagement through Verbal Participation | Theme 1. Students' Ways of Participating in Class |

Theme 1: Students' Ways of Participating in Class

Most of the respondents' responses fall into the category of students' engagement through verbal participation. This showed the idea that the students are actively engaging in online class discussion through expressing their thoughts and ideas verbally. The responses revealed that students participate in online classes by sharing their ideas and thoughts about the discussion.

Table XIV. Descriptive Perception of the Students on their Study Routines for Online Learning

| Respondents | Categories | Themes |
|-------------|--------------------------|---|
| S1, S2, S3 | Techniques for Reviewing | Theme 1. Study Habits and Preparation Before Taking Assessments |

Theme 1. Study Habits and Preparation Before Taking Assessments

In this table, it was shown that most respondents described their study routine by employing specific techniques to review their lessons before taking assessments. The responses revealed that these students' techniques in reviewing are that they use their notes taken during discussion as they review for assessments.

Table XV. Descriptive Responses of the Students on Managing Time and Staying Motivated in Online Learning

| Respondents | Categories | Themes |
|-------------|--|---------------------------------|
| S2, S3 | Strategies to Avoid Home Theme Distractions in Online Class | 1.Avoiding Distractions at Home |

Theme 1: Avoiding Distractions at Home

Two respondents presentee the distractions they encountered at home, which enabled them to create strategies to get rid of these hindrances. It indicated that the home environment had a direct impact on the students' ability to concentrate on virtual classes.

Table XVI. Descriptive Perception of the Students in Maintaining Focus and Staying Active During Online Learning

| Respondents | Categories | Themes |
|-------------|---|---|
| S1 | Sustaining Engagement in an Online Class | INVIVO: By listening carefully to the teacher. |
| S2 | Active Participation in Online Discussion | INVIVO: By cooperating and actively participating in class. |
| S3 | Getting away from Home Disruptions | INVIVO: I avoid distractions, for example, when it's noisy around me, I just leave the area. |
| S4 | Maintaining Physical Relaxation during Online Class | INVIVO: I try to make sure that I'm relaxed. Of course, if you're too stressed and not comfortable in your environment, you'll really have a hard time focusing on your class, right? So that's my strategy here. Whenever I have |

The tables above show that first, respondents expressed that there are strategies for better engagement in virtual classes. The strategies, such as consistent engagement and actively listening, reflected the efforts of the students to be actively involved in the online learning process. Next, one respondent suggests that actively participating in the discussion promotes better engagement in the online learning environment. Then, a respondent shared the significance of creating a free-from-distraction environment, which guarantees better engagement and focus on online classes. Lastly, one respondent mentioned that sustaining physical relaxation will lead to better focus. This revealed that physical comfort has a huge impact on maintaining the focus and motivation of the students.

Table XVII. Descriptive Perception of the Students in Utilizing Online Learning Behavior to Perform Better in Onsite Assessments

| Respondents | Categories | Themes |
|----------------|---------------------------------|---------------------------------|
| S1, S2, S3, S4 | Independent learning strategies | Theme 1. Self-directed learning |

Theme 1. Self-directed learning

All respondents revealed that they utilized independent learning strategies during online classes to perform well in onsite assessments. It emphasized the significance of having self-discipline and self-monitoring for the academic success of the students. The responses indicate that students adopt various strategies to enhance their comprehension, for instance, watching YouTube videos and researching to deepen understanding.

Table XVIII. Distribution of Responses of the Teachers Regarding the Student Engagement in Online Learning

| Respondents | Categories | Themes |
|----------------|-----------------------------------|---|
| T1, T7, T3 | Student Attendance and Discipline | Theme 1. Attendance and discipline of the students while attending the online class |
| T4, T10 | Student Engagement Challenges | Theme 2. Barriers that affect student engagement |
| T9, T5, T2, T6 | Student Focus and Participation | Theme 3. Lack of participation and focus |

Theme 1. Attendance and Discipline of the Students while Attending Online Class

Few respondents observed that a lack of discipline and poor attendance in online classes influence the students' performance in onsite assessments.

Theme 2. Barriers that Affect Student Engagement

While two respondents focused on the difficulties that the students are experiencing in staying engaged during online learning, possibly due to different distractions at home, poor internet connection, or lack of motivation.

Theme 3. Lack of Participation and Focus

Most of the respondents mentioned the issue about the students who were not actively participating or staying focused during online sessions.

This table shows the engagement and attitudes of the students during online learning.

Table XIX. Descriptive Perception of the Teachers on their Students' Engagement in Online Learning

| Respondents | Categories | Themes |
|---------------------|------------------------------------|--|
| T2, T3, T4, T9 | Student Participation and Attitude | Theme 1. Responsiveness of the students |
| T10, T1, T6, T7, T8 | Online Engagement | Theme 2. Lack of student engagement in online learning |

Theme 1. Responsiveness of the Students

Some of the respondents highlighted concerns about how students are participating actively during online classes. Also, several teachers observed that students often appeared unresponsive during online sessions, which could include not participating in class discussions, showing a lack of interest in online classes, or not answering the instructor's questions.

Theme 2. Lack of Student Engagement in Online Learning

Based on these results, it showed that the students may have struggled with maintaining focus and self-motivation without the presence of the traditional environment in the learning environment, which is the classroom. Some of the respondents also highlighted the broader issue of students who are not engaging during online classes. Active interaction, such as participating in discussions and engaging with peers, is linked to improved learning outcomes.

This table showed the teacher's observations regarding the reasons why students have low scores in on-site assessments.

Table XX. Descriptive Perception of the Teachers on the Onsite Assessment Scores of their Students

| Respondents | Categories | Themes |
|-------------------------------------|--------------------------------|--|
| T1, T5, T6, T7, T10, T9, T2, T3, T4 | Reasons for Low On-site Scores | Theme 1. Factors why students got low scores in onsite assessments |

Theme 1. Factors why students got low scores in onsite assessments

All respondents identified various reasons that may have led to poor academic performance during in-person assessments. Students who employ effective learning strategies and self-monitor their progress are more likely to achieve higher scores.

Table XXI. Descriptive Perception of the Teachers on Handling the Engagement of their Students to Help them Perform Well in the Onsite Assessment

| Respondents | Categories | Themes |
|----------------|-----------------------------------|---|
| T2, T5, T6, T4 | Gamification and motivation | Theme 1. Effects of interactive materials on student learning |
| T1,T9,T3 | Supportive tools and applications | Theme 2. Alternative way of delivering knowledge |

Theme 1. Effects of Interactive Materials on Student Learning

Most of the respondents explained that interactive tools in online learning play a crucial role in maintaining student motivation and enhancing class participation.

Theme 2. Alternative Way of Delivering Knowledge

While some respondents emphasized that online and educational platforms can be used as an effective alternative for delivering lessons effectively and could catch the attention of the learners.

Table XXII. Descriptive Measure of Effective Teaching Strategies

| Respondents | Categories | Themes |
|----------------|---|--|
| T1, T3, T4, T5 | Interactive Learning Tools | Theme 1. Role of interactive tools in student engagement |
| T2,T9 | Direct Instruction and Facilitated Learning | Theme 2. Teacher-centeredness |
| T6,T10, | Learning Rules and Routines | Theme 3. Effects of classroom routines in learning |

Theme 1. Role of Interactive Tools in Student Engagement

Most of the respondents emphasized that to make the students engaged in online learning, it is important to use digital tools and interactive materials.

Theme 2. Teacher-centeredness

While some of them suggested that including games, multimedia content, and other interactive tools in lessons may boost student interest and participation.

Theme 3. Effects of Classroom Routines in Learning

Two respondents highlighted a more teacher-centered approach; their focus is on direct instruction and facilitated learning. The teacher-centered approach is characterized by the teacher's authority in the classroom.

CONCLUSIONS

This study showed that the students often participate, make effective study plans, and manage themselves well in online learning. Meanwhile, students who experienced challenges, distraction, and had inconsistent study routines in online learning were affected in their capability to retain and apply their knowledge effectively, resulting in lower onsite assessment outcomes. And as the students struggle, it becomes hard for them to do well when they return to face-to-face classes and to have a good performance in their onsite assessments.

This study concluded that there was a relationship between online study behavior and onsite assessment scores of the students. The presence of online study behavior, such as learner participation, learning routines, and self-monitoring, influenced their onsite assessment, which can be shown from the assessment scores gathered by the respondents, where most of the students were able to get very high grades. Therefore, online study behavior was beneficial for the onsite assessment of the students, but as it shows a weak correlation, it was not enough to rely solely on this behavior to determine the outcome of the onsite assessment scores of the students.

RECOMMENDATION

Teachers should continue the teaching methods that contributed to the high performance of the students, enhance teaching effectiveness, especially in online learning environments, teachers should incorporate more student-centered strategies like gamification. Integrating game-based elements into lessons can significantly boost student engagement, motivation, and participation, helping students to overcome the challenges of online learning.

Future researchers should study the effects of student participation in online learning and the learning strategies required to address their learning needs. It would also help to understand how online learning shapes the thinking, problem-solving, and mental growth of the students over time.

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