

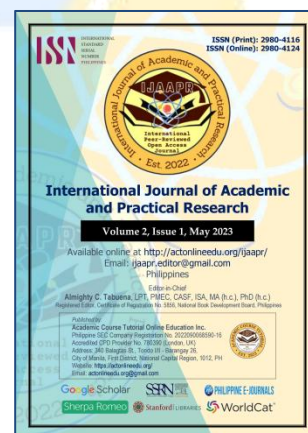


Research Article

Examining the Relationship Between Online Game Habits and the Academic Achievements of High School Students

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Abstract

The purpose of the study is to determine the students' online game habits and the relationship between online games and the students' academic achievements among 98 students in the Paramount School of Arts, Languages, Management, and Sciences. This quantitative study used descriptive research as the research design and data analysis method. The results of the study revealed that the students' attitude toward being exposed to online games in terms of entertainment was moderately practiced, and the addiction was fairly practiced among the respondents. For the effects of online games on the academic achievements of the students, two dimensions were fairly well practiced, namely, retention and recall and participation and conscientiousness. Only the dimension of reasoning was moderately practiced among the science education students. The study recommends that enhancing the setup in class is one of the keys to promoting a positive attitude and improving the performance of the students in their schoolwork and activities. With that being said, it would help divert high school students' minds from playing online games frequently; instead, they would be more focused on their academic achievements.

Keywords

online games, academic achievements, high school students

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INTRODUCTION

Background of the Study

As technology progresses, it brings many things that can either make people's lives easier or harder and more complicated. One result of this change is that people can now play games online through the internet, which has become one of the most popular ways for adults and teens to spend their leisure time. Some people say that there are many reasons to play video games: to relieve stress, to challenge and compete with others, to relax, to have fun, to meet new people, and even to mentally escape from the real world. It is more a way for players to connect with each other than a specific way to play a game.

Online games are played on a computer network, usually the Internet these days. They give up their allowances just so they can save up for online gaming bets. In fact, students already forget what they said they would do at school and at home. It also distracts students and makes people less good at their jobs. This can be seen in the way they act and, even worse, in how often they skip classes and work.

Unexpected learning occurs in class, but playing online games inappropriately can also cause issues like distractions at school. Even the child's health and social lives are unwittingly impacted when their attention is divided (Camero, 2022; Tan, 2022), according to research. According to several psychological studies, increased internet use has been linked to poorer face-to-face communication skills with friends, peers, and family members, including parents. Studies about online games have shown that using technology is one of the reasons the human brain is easily destroyed. To keep things relevant for the current generation, the educational system tends to adapt along with the tide of society's ongoing transformation. The researchers felt it was essential to examine how children's use of the internet for gaming affects their academic performance (Pajarillo-Aquino, 2019).

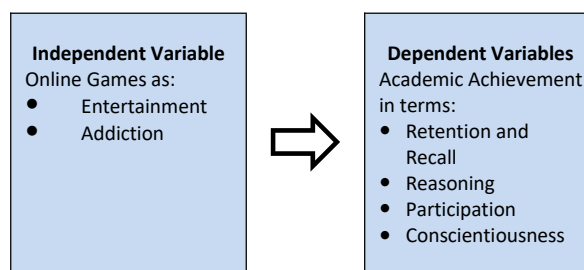
Theoretical and Conceptual Framework

Many parents believe that internet games make their children's minds dull and sluggish. In actuality, though, the opposite is true. Simultaneously, regular video game play increases grey matter in the brain, which aids in brain connectivity. Grey matter in the brain is associated with memory, perception, muscle control, and other functions. Similarly, when playing video games, you must memorize numerous things, such as rules, hacks, game strategies, and so on. When your child plays the game daily, it helps them remember many things, which helps strengthen both their short-term and long-term memory. Furthermore, while playing games, you must make quick decisions, which helps boost brain function. This can

benefit students by allowing them to respond swiftly to their teacher's inquiries.

One of the most serious downsides of internet gaming is addiction. Online video games are designed to be addictive, but it is the individual's responsibility to keep him from becoming addicted. According to one study, internet game addiction is as harmful as drug addiction. This addiction might also have an impact on a student's academic performance. It can be detrimental to a student's mental health. Encourage Aggression: Online gaming instills a high amount of tension in the participant. A stressed-out gamer may become hostile toward those around him. In a psychological experiment, people who played violent video games were found to be aggressive and have lower patience levels than others (Benedicto et al., 2019).

Figure 1
Relationship Between the Independent and Dependent Variables



As with any other social breakthrough, the advent of online games has had a huge impact on students. Since the 19th century, psychologists have been refining the concept of behaviorism. Behavioral learning theory is a scientifically observable and quantifiable foundation for educational psychology. The notion behind behaviorism learning theory is that a student's behavior is influenced by their interactions with their environment. Thus, it suggests that online games have a significant impact on students' academic performance.

Statement of the Problem

This research raises concerns regarding the primary factors of online games that affect the academic achievements of students. To obtain all the essential knowledge, data, and information, this research sought to answer the crucial questions:

1. What are the attitudes of students exposed to online games in terms of:
 - a. Entertainment, and
 - b. Addiction
2. What are the effects of online games on the academic performance of:
 - a. Participation and conscientiousness
 - b. Retention and recall
 - c. Reasoning

METHODS

Research Design

This study utilized descriptive research that focuses on the effects of online games on the academic performance of students. This research utilized a survey questionnaire to gather data.

Sample and Sampling Technique

The respondents to this study were chosen through a random sampling procedure. This method was used to make sure that the variables for the study were fairly represented. From the population of 129 high school and senior high school students, the researchers utilized Sloven's formula in order to get the sample size of 98 students at a 95% confidence level. The sample size will be divided into six groups, one for each grade level: first year (13), second year (14), third year (12), fourth year (16), grade 11 (22), and grade 12 (21). The researcher will personally distribute the questionnaires during the students' available time so that their classes will not be disrupted.

Research Instrument

The study will use a survey questionnaire to collect the necessary data to address the research problem. The instrument used the Likert scale (see Table 1) to measure the data from the participants. The respondents are asked to indicate their level of agreement with a given statement by way of an ordinal scale.

Table 1
Scaling Matrix for the Gathered Data

Scale	Interval	Description	Qualitative Interpretation
5	4.21-5.00	Strongly Agree	Highly Practiced
4	3.41-4.20	Agree	Moderately Practiced
3	2.61-3.40	Not Sure	Fairly Practiced
2	1.81-2.60	Disagree	Seldom Practiced
1	1.00-1.80	Strongly Disagree	Not Practiced

The assessment used to determine the effects of online games on the students is comprised of two scales (see Table 2). Entertainment will determine the extent to which online games entertain or amuse students. This scale is significant since students are inclined to play online games. Addiction will determine the extent to which students become addicted to playing online games. It is a significant area because students are more likely to be exposed to and prone to online gaming addiction.

Table 2
Scale Description and Item Placement for Students' Attitude Indicators

Scale	Placement of Indicators	Scale Description
Entertainment	Question Nos. 1-9	The extent to which online games entertain or amuse students
Addiction	Question No. 10-19	The extent to which online games make students addicted to them

Table 3 shows the scales for assessing the academic performance of students engaged in online games. Retention and recall measure the extent to which online games affect students' memory. Reasoning measures the extent to which online games affect students' ways of thinking. Participation and conscientiousness are the measurements of the extent to which online games affect students' activeness and engagement in class and their desire to do tasks and activities well and thoroughly without leaving them unattended.

Table 3
Scale Description and Item Placement for Online Games Effect on Students' Academic Achievement Indicators

Scale	Placement of Indicators	Scale Description
Retention and recall	Question Nos. 20-25	The extent to which online games affect students' memories
Reasoning	Question Nos. 26-33	The extent to which online games affect students' ways of thinking
Participation and conscientiousness	Question Nos. 34-41	The extent to which online games affect students' activeness and engagement in class and the desire to do tasks and activities well and thoroughly without leaving them unattended

Data Gathering Procedure

The researchers asked for permission to conduct the study from the Principal's Office of the school. Before the dissemination of the survey questionnaires, the researchers will discuss the nature of the study with the respondents and seek their consent. The dissemination of the survey questionnaire will be face-to-face. The researchers received a letter of recommendation from the research adviser prior to conducting the study, after which the approved letter was handed to the PSALMS office for approval of the permit to perform the study. The questionnaire was delivered to the respondents, who were randomly selected by the researchers.

Data Analysis

This study used descriptive statistics, specifically the mean, to analyze the data obtained from the numerical values of the rating scale.

Ethical Considerations

The research assured that the data collected from the respondents would be protected and kept confidential, as would the details of our respondents. Moreover, the researcher ensured the privacy and confidentiality of the information that would be carefully organized and managed during the gathering and analysis.

RESULTS AND DISCUSSION

A Descriptive Analysis of Students' Attitudes as Exposed to Online Games

Students' attitudes as they are exposed to online games is one of the areas of this research endeavor. This study promotes a strong engagement in achieving the goal of the students' academic achievements. Thus, it is important to examine the two dimensions of this area to understand the underlying concepts denoted among the one hundred twenty-nine (129) high school students of Paramount School of Arts, Languages, Management and Sciences Inc.

Students' Attitude: Entertainment

Table 4

Online Games and the Academic Achievements of Students in Terms of Entertainment

Indicators	Mean	Descriptive Rating	Qualitative Interpretation
Playing online games is fun.	4.31	Strongly Agree	Highly Practiced
Online games is one of the most enjoyable games in the internet.	4.13	Agree	Moderately Practiced
When I play online games, I meet people which can even get to be my friends.	4.10	Agree	Moderately Practiced
Playing online games makes me feel better.	3.94	Agree	Moderately Practiced
Playing online games relieves my stress.	3.93	Agree	Moderately Practiced
Online games' audio and visual effects entertains me.	3.92	Agree	Moderately Practiced
Online games allow me to mentally escape from the real world.	3.83	Agree	Moderately Practiced
Playing Online games increases my endorphins.	3.82	Agree	Moderately Practiced
Playing online games relaxes me, that when I'm in school I don't feel pressured.	3.54	Agree	Moderately Practiced
Overall Mean	3.95	Agree	Moderately Practiced

Table 4 presents the online games and the academic achievements of the students in terms of entertainment. The table reveals an overall mean score of 3.95 indicating "Moderately Practiced" in the following indicators, namely: "Playing online games is fun.", (4.31); "Online games is one of the most enjoyable games in the internet.", (4.13); "When I play online games, I meet people which can even get to be my friends.", (4.10); "Playing online games makes me feel better.", (3.94); "Playing online games relieves my stress.", (3.93); "Online games' audio and visual effects entertains me.", (3.92); "Online games allow me to mentally escape from the real world.", (3.83); "Playing Online games increases my endorphins.", (3.82); and "Playing online games relaxes me, that when I'm in school I don't feel

pressured.", (3.54). The result of the study implies that the majority of the respondents view or treat online games as a form of entertainment.

The finding is supported by the study of Smith (2021); their study states that the primary reasons students play online games are entertainment and leisure, emotional coping, excitement, challenge seeking, and escape from reality. Additionally, Zamani et al. (2009) stated that there is no doubt that the games are intended to be entertaining and addictive.

Students' Attitude: Addiction

Table 5

Online Games and the Academic Achievements of Students in Terms of Addiction

Indicators	Mean	Descriptive Rating	Qualitative Interpretation
Dedicating too much time in playing online games robs the time I need to learn and do my homework.	3.64	Agree	Moderately Practiced
After playing games I feel mentally distress.	3.20	Not Sure	Fairly Practiced
Playing online games like Mobile Legends, Call of Duty, PUBG, League of Legends, and Clash of Clans can result to failing grades and low grades.	3.18	Not Sure	Fairly Practiced
Online game addiction leads to a loss of interest in after school activities, including social clubs and sports.	3.17	Not Sure	Fairly Practiced
Online games is one of the factors why I can't focus or concentrate with my studies.	2.96	Not Sure	Fairly Practiced
Online games influence me not to do my assignments and projects.	2.91	Not Sure	Fairly Practiced
Because I couldn't stop myself from playing online games very late at night, I cannot manage to wake up early and happens to arrive at school late.	2.89	Not Sure	Fairly Practiced
Playing online games make me slow to catch up lessons in every lesson in school.	2.85	Not Sure	Fairly Practiced
When I'm already at the peak of doing my schoolwork, and suddenly remember the games that I play online, then I tend to prioritize it and forget about what I'm supposed to be doing.	2.81	Not Sure	Fairly Practiced
Even I'm in the middle of the class, I couldn't stop myself from thinking about the game.	2.49	Not Sure	Fairly Practiced
Overall Mean	3.01	Not Sure	Fairly Practiced

Table 5 presents the online games and the academic achievements of the students in terms of addiction. The table reveals an overall mean score of 3.01, indicating "fairly practiced." One indicator scored "Moderately Practiced", namely: "Dedicating too much time to playing online games robs me of the time I need to learn and do my homework", (3.64).



Eight indicators scored "Fairly Practiced" namely, "After playing games I feel mentally distress.", (3.20); "Playing online games like Mobile Legends, Call of Duty, PUBG, League of Legends, and Clash of Clans can result to failing grades and low grades.", (3.18); "Online game addiction leads to a loss of interest in after school activities, including social clubs and sports.", (3.17); "Online games is one of the factors why I can't focus or concentrate with my studies.",(2.96); "Online games influence me not to do my assignments and projects.",(2.91); "Because I couldn't stop myself from playing online games very late at night, I cannot manage to wake up early and happens to arrive at school late.",(2.89); "Playing online games make me slow to catch up lessons in every lesson in school.", (2.85); "When I'm already at the peak of doing my schoolwork, and suddenly remember the games that I play online, then I tend to prioritize it and forget about what I'm supposed to be doing.",(2.81).

And one indicator scored "Seldom Practiced," namely, "Even though I'm in the middle of the class, I couldn't stop myself from thinking about the game." (2.49). The results of the study suggest that the respondents, or the students involved in the study, were not sure whether or not they were addicted to online games.

Griffiths (2010) conducted an investigation into online gaming addiction, and his findings suggested that while one of the players appeared to be legitimately addicted to online gaming, the other player was not. The two examples given emphasize the significance of context in a gamer's life and show that excessive gaming does not automatically indicate addiction. It is believed that rather than the quantity of time spent playing, the definition of online gaming addiction should focus on how negatively excessive gaming affects other aspects of the gamers' lives.

Another finding is that even if a person engages in an activity for 14 hours a day, it cannot be said to be an addiction if there are little (or no) detrimental effects on their lives. This means that students who are playing online games can't determine if they are addicted to them or not. According to Iowa State University, children, especially students, tend to deny how much time they spend on games. His research also revealed that students tend to lie about their addiction to online games to avoid getting into trouble, especially with their parents.

Summary of the Findings for Students' Attitude

Table 6
Summary of the Findings for Students' Attitude

Dimensions	Mean	Descriptive Rating	Qualitative Interpretation
Entertainment	3.95	Agree	Moderately Practiced
Addiction	3.01	Not Sure	Fairly Practiced
Overall Mean	3.48	Agree	Moderately Practiced

Table 6 presents the summary of the findings for students' attitudes as exposed to online games. The table reveals the combined mean scores of entertainment (3.95) and addiction (3.01), which are 3.48, indicating "moderately practiced." The results signify the importance of maintaining good strategies that retain good attitudes inside the classroom. The study of Hainey et al. (2013) suggests that the use of online games and students' attitudes towards them should continue to be evaluated.

A Descriptive Analysis of the Effects of Online Games on the Academic Achievements of Students

The effects of online games on the academic achievements of students are the other area studied in this research endeavor. It is vital because it is a space where effects and consequences matter. Thus, it is essential to assess the three dimensions in order to understand how online games impact students' academic achievements.

Online Games and the Academic Achievements of Students: Retention and Recall

Table 7
Online Games and the Academic Achievements of Students in Terms of Retention and Recall

Indicators	Mean	Descriptive Rating	Qualitative Interpretation
The more I'm focused on playing online games, the less I cannot concentrate on other activities, more specifically in school activities.	3.21	Not Sure	Fairly Practiced
Playing online games sharpens my memory and made me good in enumerating, and memorizing things that I could use in school.	3.18	Not Sure	Fairly Practiced
Online games help develop my comprehensive skills when it comes to academic learning.	3.15	Not Sure	Fairly Practiced
Skills I learn while playing online games, like recalling all the techniques I need to use in order to win, also help me recall things needed in school.	3.11	Not Sure	Fairly Practiced
Online games help me develop my problem-solving skills.	3.10	Not Sure	Fairly Practiced
Playing online games enhances my concentration in class.	2.83	Not Sure	Fairly Practiced
Overall Mean	3.10	Not Sure	Fairly Practiced

Table 7 presents the online games and the academic achievements of the students in terms of retention and recall. The table shows an overall mean of 3.10 indicating "Fairly Practiced" in the following indicators, namely: "The more I'm focused on playing online games, the less I cannot concentrate on other activities, more specifically in school activities.", (3.21); "Playing online games

sharpens my memory and made me good in enumerating, and memorizing things that I could use in school.", (3.18); "Online games helps develop my comprehensive skills when it comes to academic learning.", (3.15); "Skills I learn while playing online games, like recalling all the techniques I need to use in order to win, also help me recall things needed in school.", (3.11); "Online games help me develop my problem-solving skills.", (3.10); and "Playing online games enhances my concentration in class.", (2.83). The result of this study indicates that the respondents were undecided about whether or not online games improve retention and recall skills.

These findings are supported by Adair and Luna-Rose (2022). According to his study, playing online games can affect one's brain, specifically the pre-frontal cortex of the brain, which is responsible for decision-making, judgment, and self-control and does not fully develop until the age of 25. As a result, this can make students who are playing online games less able to weigh the pros and cons of online games. With that being said, students who are playing online games cannot determine whether or not it can affect their retention and recall skills. According to Cisamolo et al. (2021), many studies have shown that playing online games can help increase students' concentration and memory skills, while a 2012 paper in the psychology of popular media and culture found that playing games can harm students rather than help them solve attention problems and memorization. These studies only prove that playing online games has no persistent effect on students' retention and recall skills.

Online Games and the Academic Achievements of Students: Reasoning

Table 8
Online Games and the Academic Achievements of Students in Terms of Reasoning

Indicators	Mean	Descriptive Rating	Qualitative Interpretation
Online games help me have better conclusions when it comes to decision making.	3.62	Agree	Moderately Practiced
Playing online games increases my critical thinking skills.	3.52	Agree	Moderately Practiced
Playing online games increased my mental capacities that could help me make good decisions and have right perception of things.	3.47	Agree	Moderately Practiced
New-found knowledge from online games helps me to communicate in a logical way.	3.47	Agree	Moderately Practiced
When playing online games I seldomly encounter situations that I find difficult to reason out and solve, nevertheless, these help me have better perceptions towards things when faced with real life dilemma's.	3.45	Agree	Moderately Practiced
Online games improves my analytic way of solving problems and understanding.	3.39	Not Sure	Fairly Practiced

Online games increases my knowledge and my vocabulary that I could use for reasoning.	3.34	Not Sure	Fairly Practiced
Online games enhances my capability of reasoning when faced with spontaneous situations or instances that needs immediate solutions.	3.27	Not Sure	Fairly Practiced
Overall Mean	3.43	Agree	Moderately Practiced

Table 8 presents the online games and the academic achievements of the students in terms of reasoning. The table reveals an overall mean of 3.43, indicating "moderately practiced." Five indicators scored "Moderately Practiced," namely: "Online games help me have better conclusions when it comes to decision making" (3.62); "Playing online games increases my critical thinking skills" (3.52); "Playing online games increased my mental capacities that could help me make good decisions and have the right perception of things" (3.47); "New-found knowledge from online games helps me to communicate in a logical way" (3.47); "When playing online games, I seldom encounter situations that I find difficult to reason out and solve, nevertheless, these help me have better perceptions towards things when faced with real-life dilemmas" (3.45). And three indicators scored "fairly practiced," namely: "Online games improve my analytic way of solving problems and understanding" (3.39); "Online games increase my knowledge and my vocabulary that I could use for reasoning." (3.34); and "Online games enhance my capability of reasoning when faced with spontaneous situations or instances that need immediate solutions" (3.27). The result of the study indicates that online games have contributed to the improvement of the students' reasoning skills.

According to Griffiths (2010), online games can affect the critical thinking skills of students playing them. In addition, it can enhance numerous skills, which include the ability to make immediate decisions, adapting to time limits, which is crucial within an educational setting, and predicting the outcomes of multiple decisions within real time scenarios.

Online Games and the Academic Achievements of Students: Participation and Conscientiousness

Table 9 presents the online games and the academic achievements of the students in terms of participation and conscientiousness. The table reveals an overall mean of 3.24, indicating "fairly practiced." Three indicators scored "Moderately Practiced," namely: "Even when I'm always playing online games, I still try hard to do well in school" (4.03); "Even when I'm playing online games, I still actively participate in every discussion in class" (4.00); "Having the attitude of conscientiousness when playing online games taught me that when I do my homework, I should also do it conscientiously" (3.50). And five indicators scored "Fairly Practiced," namely:



"Playing online games helps boost my confidence, which makes me more participative and gives me the courage to answer questions and raise my hands every time" (3.09); "Staying up too late at night playing online games causes me to be sleepy during class and can't participate at all" (3.03); "Playing online games causes me not to be conscientious at school" (3.00); "If your teacher is in the middle of discussing your lessons, you pretend to listen to them, but you think about gaming half of the time" (2.69); and "Even when I'm always playing online games, I still try hard to do well in school" (2.69). The result of the study implies that the respondents are neutral when it comes to the effects of online games on their participation and conscientiousness in school.

Table 9
Online Games and the Academic Achievements of Students in Terms of Participation and Conscientiousness

Indicators	Mean	Descriptive Rating	Qualitative Interpretation
Even when I'm always playing online games, I still try hard to do well in school.	4.03	Agree	Moderately Practiced
Even when I'm playing online games, I still actively participate in every discussion in class	4.00	Agree	Moderately Practiced
Having the attitude of conscientiousness when playing online games, taught me that when I do my homeworks I should also do it conscientiously.	3.50	Agree	Moderately Practiced
Playing online games help be boost my confidence that made me more participative and give me the courage to answer questions and raise my hands every time.	3.09	Not Sure	Fairly Practiced
Staying up too late at night playing online games caused me to be sleepy during class and can participate at all.	3.03	Not Sure	Fairly Practiced
Playing online games cause me not to be conscientious at school.	3.00	Not Sure	Fairly Practiced
If your teacher is in the middle of discussing your lessons, you pretend to listen to them, but you think about gaming half of the time.	2.69	Not Sure	Fairly Practiced
Even when I'm always playing online games, I still try hard to do well in school.	2.69	Not Sure	Fairly Practiced
Overall Mean	3.24	Not Sure	Fairly Practiced

Based on the data gathered and the respondents being assessed, it is obvious that online gaming affects their academic achievement in terms of attendance, oral participation, and performance tasks. As a result of the findings, the oral participation and performance task scored an overall mean of "fairly practiced," which was not most likely affected despite their involvement in online gaming. A recent study measured the difference between students who played online games and those who did not, and found out that students who play online games can still participate and do well in school the same as non-players (Adair & Luna-Rose, 2022).

Summary of the Findings for the Effects of Online Games

Table 10 presents the summary of the findings in three dimensions: the online games and the academic achievements of the students. The combined scores of all the dimensions in the online games and the academic achievements of the students are 3.25, indicating "moderately practiced" in the dimensions, namely: retention and recall (3.10), reasoning (3.43), and participation and conscientiousness (3.24). Only addition, retention, and recall scored "fairly practiced" among the dimensions. This implies that online games have no huge effects or impacts on students' academic achievements. According to Cabrillos et al. (2022), it is possible to conclude that playing online games has no substantial association with the respondents' academic success, as evidenced by their probability value.

Table 10
Summary of the Findings for Online Games and the Academic Achievements of the Students

Dimensions	Mean	Descriptive Rating	Qualitative Interpretation
Retention and recall	3.10	Not Sure	Fairly Practiced
Reasoning	3.43	Agree	Moderately Practiced
Participation and Conscientiousness	3.24	Agree	Moderately Practiced
Overall Mean	3.35	Not Sure	Fairly Practiced

CONCLUSION AND RECOMMENDATIONS

Conclusion

The students' attitudes as exposed to online games in terms of entertainment were moderately practiced, respectively, among the high school students of Paramount School of Arts, Languages, Management, and Sciences Inc. Most of the students have more or less the same attitude as those exposed to online games. While the effect of online games on the academic achievements of the students in terms of addition, retention, and recall was fairly practiced by the high school students, most of the high school students were in denial about whether or not online games were affecting their retention and recall skills by responding "not sure" during the dissemination of survey questionnaires. On the other hand, reasoning was moderately practiced among the high school students. Most of the students have shown that online games contribute to their reasoning skills. Participation and conscientiousness were also fairly practiced, respectively, among the high school students, showing that they are neutral when it comes to the effects of online games on their participation and conscientiousness in school.



Recommendations

The students must discover hobbies other than online games in which they can participate. Parents should be aware of the consequences of online gaming on their children's academic performance, and suitable guidance and supervision of their extracurricular activities should be monitored. The teachers need to monitor student-centeredness in their academic pursuits. The teacher may involve interactive platforms to stimulate students, such as recreational activities and visual effects, to increase enjoyment in the class. There is a need to innovate the strategies promoting retention and recall in class activities.

There must be teacher and parent coordination to evaluate and teach students how to manage their time when playing online games in order to prevent addiction. Enhanced communication and clear instruction are the most efficient ways to attain good teacher support in class. Teachers may establish an active interaction between students where they can raise their questions,

concerns, and reactions about the activities. Furthermore, providing a clear aim for the activities and the task deliverable will assist students in increasing their motivation to complete the activities and experiments. There is a need to improve in terms of participation in class. With this, teachers should anchor their instruction and activities according to the students' abilities, rates of learning, and interests. In order for the students to participate in class and have the courage to answer questions.

For the curriculum makers, they need to consider the significant relationship between the online games and the academic achievement of the students when formulating objectives, doing need analysis, designing classroom activities, and using appropriate assessment methods.

For future studies, they may use other dimensions for online games and the academic achievement of the students as variables. A similar study can be conducted where an in-depth analysis can be done.

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