

Internet Usage and Academic Performance among High School Students

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ABSTRACT

The rapid advancement of information and communication technology has transformed educational practices worldwide. High school students increasingly rely on the internet for educational activities such as completing assignments, accessing digital learning resources, attending online classes and communicating with teachers and peers. However, internet use also presents challenges, particularly when students engage excessively in non-academic activities such as social networking, online gaming and entertainment. The present study investigates the relationship between internet use and academic performance among high school students in Garobadha, Rerapara Block, South West Garo Hills District, Meghalaya. A descriptive survey method was employed, and data were collected from 60 Class X students using an Internet Usage Scale and academic achievement records. The findings revealed that most students demonstrated above-average internet usage levels. Female students performed slightly better academically than male students. The study further revealed a positive relationship between internet use and academic achievement, indicating that students who use the internet effectively for educational purposes tend to achieve better academic results. The study emphasizes the importance of digital literacy, responsible internet use, and proper guidance from parents and teachers.

Keywords: Internet Use, Academic Performance, High School Students, Educational Technology, Digital Literacy.

INTRODUCTION

The twenty-first century has witnessed remarkable technological advancements that have significantly transformed the educational landscape. Among these advancements, the internet has emerged as a powerful medium for communication, information sharing, and knowledge acquisition. It has revolutionized traditional educational practices by providing students with unlimited access to learning materials and educational opportunities beyond the classroom environment.

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The internet serves multiple educational functions. Students use it to conduct research, access e-books, download study materials, watch educational videos, participate in online discussions, and collaborate with peers. Educational institutions increasingly integrate internet-based technologies into teaching and learning processes to enhance students' engagement and academic achievement.

The COVID-19 pandemic further highlighted the importance of internet connectivity in education. During prolonged school closures, online learning became the primary mode of instruction. Students depended heavily on digital platforms such as Google Classroom, Zoom, Google Meet, and YouTube for educational continuity. This experience demonstrated both the potential benefits and challenges associated with internet-based learning.

Despite its educational advantages, internet use can also negatively affect students when not used responsibly. Excessive involvement in social media, online gaming, video streaming, and other entertainment activities can reduce study time, impair concentration, and adversely influence academic performance. Internet addiction has emerged as a growing concern among adolescents worldwide.

Academic performance refers to the extent to which students successfully achieve educational goals. It is commonly measured through examination scores, grades, and overall scholastic achievement. Researchers have long debated whether internet use positively or negatively influences academic performance. While some studies report improved learning outcomes resulting from educational internet use, others suggest that excessive internet use contributes to declining academic achievement.

The present study seeks to understand this relationship among high school students in Garobadha, Meghalaya. As internet access continues to expand in rural and semi-rural regions, understanding how students utilize this resource becomes increasingly important for educators, policymakers, and parents.

NEED AND SIGNIFICANCE OF STUDY

This study on “Internet Uses in Relation to Academic Performance of High School Students” aims to explore how the frequency, purpose and type of internet use influence students' academic achievements. It also seeks to identify whether internet use acts as a supportive learning tool or a source of distraction in students' daily academic life. By understanding this relationship, educators, parents, and policymakers can develop strategies to encourage effective internet use and ensure that students harness its full educational potential.

Frequent internet use greatly affects people's physical, mental, and social well-being. Research shows that excessive use can lead to addiction, causing problems like sleep issues, headaches, and poor eating habits. Teenagers who grow up with constant internet access face challenges such as less face-to-face communication, social isolation and poor real-world interaction skills. While the internet offers many benefits, it also increases risks of over-dependence and distraction.

RESEARCH QUESTIONS

1. What is the level of internet use among high school students?
2. Do male and female students differ in their pattern and frequency of internet use?
3. Are there any differences in academic performance between male and female high school students?
4. Is there any significant relationship between the level of internet use and student academic performance?

OBJECTIVES OF THE STUDY

1. To examine the level of internet use among high school students.
2. To compare the internet uses patterns of male and female students.
3. To compare the academic performance of male and female high school students.
4. To analyse the relationship between the level of internet use and the academic performance of high school students.

REVIEW OF RELATED LITERATURE

Review of related literature provides a theoretical and empirical foundation for understanding the relationship between internet use and academic performance.

Menon D. L. and Kumar R. H. (2023) studied the impact of internet-based assessment tools on high school students learning outcomes. Using an experimental research design, they divided students into two groups; one using online quizzes and feedback tools. The results showed that the internet-based group achieved better understanding, higher motivation, and improved test performance. The authors concluded that integrating online assessment with classroom learning enhances comprehension and retention.

Das P. (2023) carried out a study on the importance of digital literacy and its link to academic performance. The study involved 300 high school students who were trained in identifying credible online sources, fact-checking, and managing their study schedules with the help of digital tools. The results indicated that students with higher levels of digital literacy scored better in their examinations compared to those with limited skills. The study revealed that misinformation and over-reliance on unreliable sources negatively affected academic outcomes. The researcher concluded that including digital literacy training in the school curriculum is essential for improving student's academic performance in the digital age.

Suresh N. and Harper D. T. (2024) carried out a longitudinal study to explore how purposeful internet use influences student's motivation and confidence. The study found that students who used the internet for self-study, research, and online discussions showed greater academic self-efficacy, better time management, and improved analytical skills. In contrast, those who engaged in unstructured browsing developed poor concentration and low motivation. The study emphasized that training students to use digital platforms effectively can improve their overall academic growth.

Sharma N. (2024) conducted a study to examine mobile internet usage and academic engagement. It was observed that while mobile devices provided quick access to educational material and helped students stay connected to learning platforms, unregulated use for chatting, online gaming, and browsing entertainment content distracted students and reduced their focus. The study highlighted the importance of digital literacy, recommending that schools and families should guide students to use mobile internet as tool for academic enrichment rather than recreation alone.

Carter O. J. and Lyer N. P. (2025) conducted a comprehensive study on post-pandemic internet use and its influence on academic performance among secondary students. The findings revealed that the internet has become an indispensable education tool, supporting hybrid and blended learning methods. Students who used the internet for academic revision, digital collaboration, and participation in online study groups achieved higher grades. However, those who used it excessively for entertainment and social networking showed a decline in academic discipline. The authors recommended that schools adopt digital balance programs to ensure students benefit fully from internet-based learning.

Asante k. and Hiadzi B. (2025) carried out a meta-analysis of more than sixty studies to examine the effects of smartphone addiction, social media use, and online gaming on academic achievement. Their results revealed that smartphone addiction and gaming had a weak but negative impact on performance, while social media use showed no significant effect. The overall influence of internet-related behaviours was small but noticeable. The authors emphasized that although internet use is a powerful educational resource, unbalanced usage habits can undermine learning. They suggested that schools should provide structured guidance to students on how to balance internet activities with academic requirements.

RESEARCH GAP

The relationship between internet use and the academic performance of high school students in Garobadha, South West Garo Hills, Meghalaya, is still not clearly understood. Most previous studies focus on urban regions, leaving rural and semi-rural areas like Garobadha underrepresented. Students here may experience different levels of internet access, digital literacy, and patterns of online use, which are not reflected in existing research. Although the internet can support learning, it can also cause distractions through social media and entertainment and little is known about how these factors specifically affect the academic performance of students in Garobadha. Studying this gap will help provide a better understanding of how internet use influences students' learning and how proper guidance can improve their academic outcomes.

RESEARCH METHODOLOGY

RESEARCH METHOD

The present study adopts the Descriptive Survey Method, which is suitable for studying the existing pattern of internet use and its relationship with the academic performance of high school students. The study focuses on the present status of variables such as internet usage habits and academic performance of high school students. Relevant data are collected through

appropriate tools and are analysed to understand the nature and extent of the relationship between the variables. The study follows a correlational research design, as it aims to examine the relationship between internet use and academic performance without manipulating any variables.

POPULATION OF THE STUDY

The population in the present study involves the students of high schools of Garobadha, Rerapara Block, South West Garo Hills District, Meghalaya. As per the list obtained from the concerned educational authorities of South West Garo Hills District, the high schools in Garobadha, Rerapara Block are coeducational in nature.

SI no.	Name of school	Boys	Girls	Total No. of students
1	ST. Dominic Savio Hr Sec. School	21	28	49
2	Zeal Valley Sec. School	25	36	61
3	Modern Sec. School	28	28	56
4	Garobadha hr. Sec. School	27	30	57
5	Total	101	122	223

Table 1.1 Showing the population of high school students in Garobadha, Rerapara Block

SAMPLE OF THE STUDY

The sample of the present study consists of selected high school students drawn from schools of Garobadha, Rerapara Block, South West Garo Hills District, Meghalaya, using simple random sampling technique.

SI.no	Name of School	Boys	Girls	Total No. of students
1.	Zeal valley Sec. School	15	15	30
2.	Modern Sec. School	15	15	30
Total		30	30	60

Table 1.2 Showing the sample of high schools' students in Garobadha, Rerapara Block

TOOLS OF THE STUDY

The data gathering tools which is selected for the present study is

1. Internet Usage Scale: This standardized scale consists of 20 statements that measure various aspects of internet usage behaviour. Each statement is answered on a five-point rating scale: Rarely, Occasionally, Frequently, Often, and Always. The total score obtained classifies students into different levels of internet usage such as Extremely High Usage, High Usage, Above Average Usage, Average Moderate Usage, Below Average Usage, Low Usage, and Extremely Low Usage, as per the scoring norms of the manual.

2. Academic Performance Measure: The academic performance of the students was assessed on the basis of marks secured in the previous annual examination. The data were collected from the official records of the respective schools with due permission. The marks were converted

into percentages and categorized into five groups: Above eighty percent, eighty to seventy percent, seventy to sixty percent, sixty to fifty percent, and below fifty percent.

VARIABLES OF THE STUDY

The present study involves two major variables. The independent variable is internet use, which refers to the frequency, duration, and purpose of internet usage by high school students. The dependent variable is academic performance, which includes students' achievement in school subjects as reflected through their academic records and performance levels.

ANALYSIS AND INTERPRETATION OF DATA

The analysis and interpretation of data were carried out in accordance with the objectives of the study and were divided into different sections (objective 1, objective 2, objective 3, and objective 4). Each section focuses on a specific aspect of internet usage and its influence on academic performance. This systematic arrangement helped in understanding the overall impact of internet use on high school students and in achieving the objectives of the study in a clear and organized manner.

Objective 1. To examine the level of internet use among high school students.

Research Question 1. What are the levels of internet use among high school students?

Sl. No.	Level of Internet uses	Range of score	Grade	Frequency	Percentage
1	Extremely High Usage	74 and above	A	3	5%
2	High Usage	65 to 73	B	9	15%
3	Above Average Usage	55 to 64	C	26	43.33%
4	Average Moderate Usage	41 to 54	D	19	31.66%
5	Below Average Usage	31 to 40	E	3	5%
6	Low Usage	21 to 30	F	0	0

Table 1.3 Showing the level of internet uses among high school students

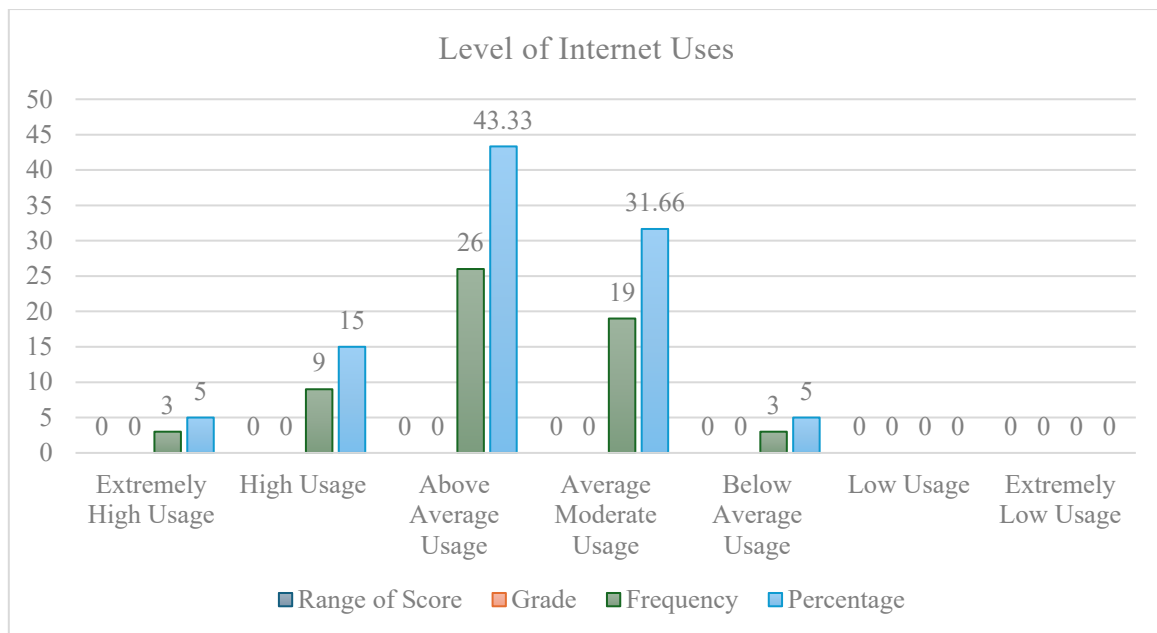


Figure 1.1 Showing the level of internet uses among high school students

From Table no. 1.3 and the Figure no. 1.1, it has been observed that the different levels of internet usage are extremely high, above average, average moderate, below average, low, and extremely low. 5% of overall students use the internet at an extremely high level, 15% use it at a high level, 43.33% use it at an above average level, 31.66% use it at an average moderate level, and 5% use it at a below average level.

It is also found that 0% of the students fall under the low usage level and 0% under the extremely low usage level. This indicates that all students use the internet to some extent, with the majority of them using it at above average and average moderate levels.

On the basis of the research question, most of the students fall under above average usage with twenty-six students followed by average moderate usage with nineteen students. Very few students are in extremely high and below average usage with three students (five percent) each. Overall, internet use among students is generally high.

LEVEL OF INTERNET USAGE	FREQUENCY (Male)	PERCENTAGE	FREQUENCY (Female)	PERCENTAGE
Extremely High Usage	2	6.66%	1	3.33%
High Usage	4	13.3%	5	16.6%
Above Average Usage	16	53.3%	10	33.3%
Average Moderate Usage	7	23.3%	12	40

Below Average Usage	1	3.33%	2	6.66%
Low Usage	0	0	0	0
Extremely Low Usage	0	0	0	0
Total	30	100	30	100

Table no. 1.4: Showing internet usage patterns among male and female students

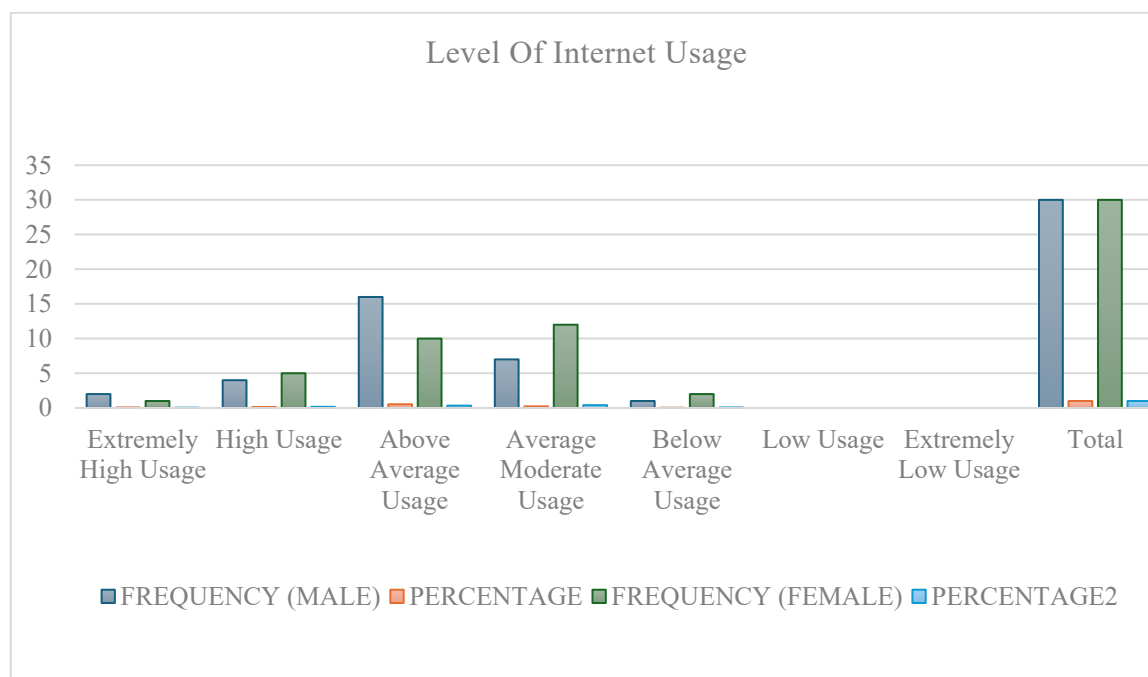


Figure 1.2.: Showing internet usage patterns among male and female students.

From the Table no. 1.4 and Figure no. 1.2, it has been observed that the different patterns of internet usage among students vary from extremely high, high, above average, moderate, below average, low and extremely low levels. Based on the comparison of gender, 6.66% of boys and 3.33% of girls are found in the extremely high level of internet usage. Similarly, 13.3% of boys and 16.6% of girls fall under the high usage category. A majority of boys (53.3%) are seen in the above average usage level, whereas 33.3% of girls are in the same category. In the moderate usage level, 23.3% of boys and 40% of girls are observed. Further, 3.33% of boys and 6.66% of girls fall under the below average usage category. It is also noted that none of the students fall under the low and extremely low usage levels. These findings clearly indicate that there are noticeable differences in internet usage patterns between male and female students.

On the perspective of research question, the male and female students differ in internet use. Male students are higher in above average usage with sixteen students, while female students are higher in average moderate usage with twelve students. Overall, males show slightly higher usage than females.

Objective 3. To compare the academic performance of male and female high school students.

Research Question 3. Are there any differences in academic performance between male and female high school students?

Sl. No.	Level Of Academic Achievement	Frequency (Male)	Percentage	Frequency (Female)	Percentage
1	Above 80%	4	13.3%	5	16.6%
2	80%-70%	6	20%	7	23.3%
3	70%-60%	10	33.3%	11	36.6%
4	60%-50%	8	26.6%	4	13.3%
5	Below 50%	2	6.66%	3	10%

Table no. 1.5: shows the academic performance of male and female high school students.

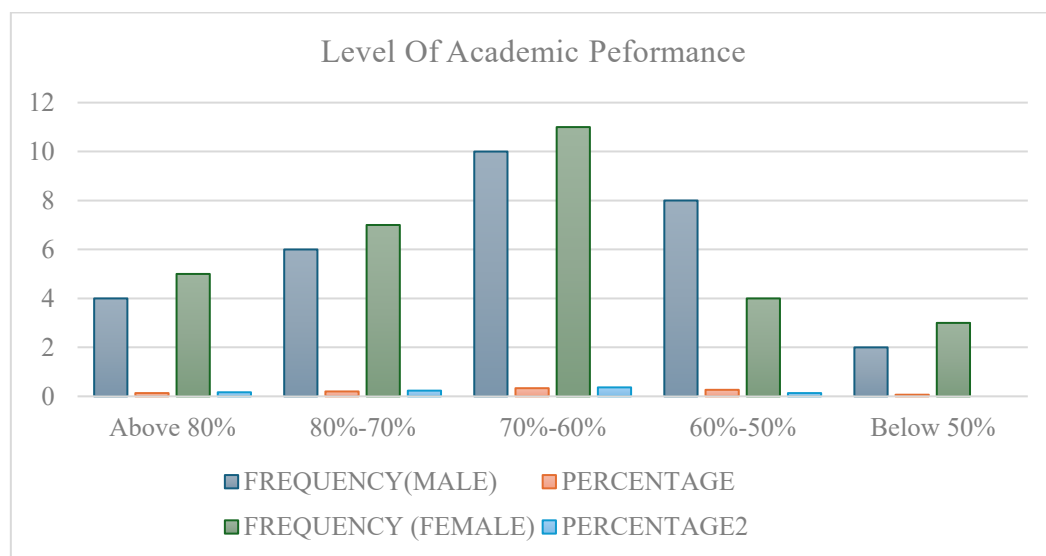


Figure 1.3. Shows the academic performance of male and female high school students.

From Table No. 1.5 and Figure 1.3, it has been observed that the academic performance of male and female high school students is distributed across different levels such as above 80%, 80%–70%, 70%–60%, 60%–50%, and below 50%.

In the above 80% category, 13.3% of male students and 16.6% of female students are found. In the 80%–70% category, 20% of male students and 23.3% of female students are recorded. In the 70%–60% category, which has the highest percentage, 33.3% of male students and 36.6% of female students are observed. Further, in the 60%–50% category, 26.6% of male students and 13.3% of female students are found. In the below 50% category, 6.66% of male students and 10% of female students are recorded.

Overall, the data shows that both male and female students are mostly concentrated in the 70%–60% category, with female students slightly higher in the upper categories.

On the basis of the research question, there is a difference in academic performance between male and female students. Female students perform slightly better, with more scoring above eighty percent than males. However, most students in both groups are in the average range.

Objectives 4. To analyse the relationship between the level of internet use and the academic performance of high school students.

Research Question 4. Are there any relationship between the level of internet use and student academic performance?

Level of Internet uses	Level of Academic performance	Frequency	Percentage
Extremely High Usage	Above 80%	9	15%
High Usage	80%-70%	13	21.6%
Above Average Usage	70%-60%	21	35%
Average Moderate Usage	60%-50%	12	20%
Below Average Usage	Below 50%	5	8.33%
Low Usage		0	0
Extremely Low Usage		0	0
Total		60	100%

Table no. 1.6: Shows the relationship between the level of internet use and the academic performance of high school students.

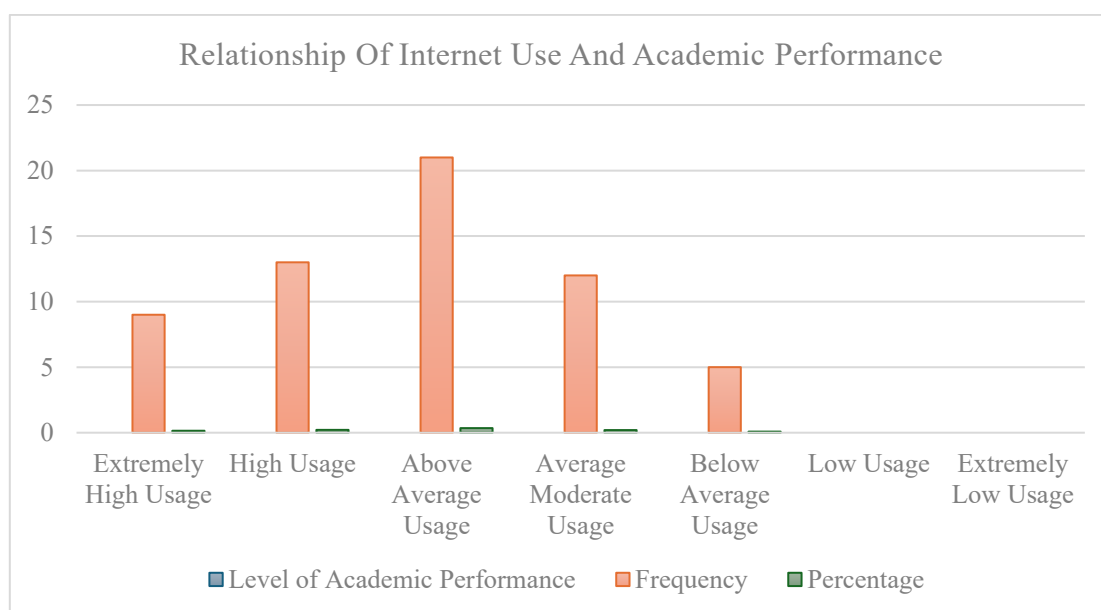


Figure 1.4.: Shows the relationship between the level of internet use and the academic performance of high school students.

The above Table 1.6 and Figure 1.4 shows that no learners are found in the study who use the internet at an extremely low level or low level. 20% of adolescents use the internet at an average moderate level and score between 60%-50% in academics. The learners who scored the highest marks, above 80%, were found to use the internet at an extremely high level, which is 15% of the students. 21.6% of students use the internet at a high level and score between 80%-70%.

35% of students use the internet at an above average level and score between 70%-60%. The learners who use the internet at a below average level are 8.33% and they score below 50%.

On the perspective of the research question, there is a positive relationship between the level of internet use and student academic performance. Students with extremely high usage scored above eighty percent. Most students had above average usage and scored between seventy to sixty percent. However, students with lower usage scored in lower academic ranges.

FINDINGS OF THE STUDY

Objective 1: To examine the level of internet use among high school students

1. It is found that the majority of students fall under the above average (43.33%) and average moderate (31.66%) levels of internet usages.
2. A smaller percentage of students (15%) are in the high usage level and 5% in the extremely high level.
3. Only 5% of students are in the below average level, while 0% are in low and extremely low levels.
4. This shows that all students use the internet, mostly at moderate and above average levels.

Objective 2: To compare the internet use patterns of male and female students

1. Both male and female students show similar patterns of internet usage, mostly in the moderate and above average categories.
2. There is no major difference observed in the level of internet use between male and female students.
3. However, slight variations may exist in the purpose of use, with both groups actively using the internet in their daily activities.

Objective 3: To compare the academic performance of male and female high school students

1. It is found that the highest percentage of both male (33.3%) and female (36.6%) students fall in the 70%–60% category.
1. Female students have slightly higher percentages in upper categories like above 80% (16.6%) and 80%–70% (23.3%) compared to male students (13.3% and 20%).
2. Male students have a higher percentage (26.6%) in the 60%–50% category than female students (13.3%).
3. This indicates that female students perform slightly better than male students.

Objective 4: To analyse the relationship between the level of internet use and academic performance

1. Students who use the internet at moderate and above average levels tend to have better academic perform

2. Very high or improper use of the internet may not always lead to better results.
3. Balanced and academic-related use of the internet helps improve students' performance.

Thus, there is a relationship between internet usage and academic achievement, depending on how effectively the internet is used.

SUGGESTIONS

Based on the findings of the present study, the following suggestions are offered for future research and practical implementation:

1. Future studies may be conducted on a larger sample size covering different schools and areas to get more accurate and generalised results.
2. Comparative studies can be done between urban and rural students to understand differences in internet usage and academic performance.
3. Researchers may further explore the specific purposes of internet use (educational vs entertainment) and their direct impact on academic achievement.
4. Schools should encourage students to use the internet mainly for academic and learning purposes.
5. Teachers and parents should provide proper guidance and supervision to avoid misuse of the internet.
6. Training programmes and workshops should be organised to create awareness about effective and safe internet use.
7. Students should be motivated to maintain a balanced use of the internet to improve their academic performance.
8. Further research can also focus on the long-term effects of internet usage on students' learning and behaviour.

DISCUSSION

The present study found a relationship between the level of internet use and academic performance among high school students. Students with extremely high internet usage achieved academic scores above eighty percent, while those with below average usage scored below fifty percent. This indicates that higher internet use was associated with better academic performance in this sample. A possible reason is that students may be using the internet for academic purposes such as online classes, research, and accessing study materials. When used for learning, the internet can support better understanding and performance. This finding challenges the common view that more internet use always lowers academic results.

However, this study did not examine the purpose of internet use. If students use the internet mainly for entertainment or social media, the effect could be different. The data also showed no students in the low usage or extremely low usage groups, which suggests that internet access has become essential for school work today. Therefore, the relationship between internet use

and academic performance likely depends on how the internet is used, rather than just the level of usage.

CONCLUSION

As a whole, this study concludes that high school students use the internet at different levels, and this level of use is related to their academic performance. Students with extremely high and high internet usage were found to score in the higher academic ranges, while students with below average usage scored in the lower academic ranges.

This suggests that internet use among these students may not be harmful to their studies. The students who used the internet more were found to have good academic scores. One reason could be that they use the internet for academic purposes like online classes, research, and accessing study materials. No students were found in the low usage or extremely low usage categories, which shows that internet access has become a regular part of student life for academic work.

However, the present study did not examine the purpose of internet use. If the internet is used mainly for entertainment or non-academic activities, the results may differ. Therefore, the effect of internet use on academic performance depends on how students use it, not just the level of usage. The study also shows that internet use is now common among high school students. Hence, proper guidance on using the internet for educational purposes can help students improve their academic performance further.

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