



Relationship between Students' Internet Usage and Academic Performance at University Level

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Abstract

This study examines the link between students' Internet use and academic achievement and how patterns of Internet use impact learning. The internet is now an integral part of learning environments and it is important to be familiar with its effects on learners. The study findings reveal that aim-directed Internet utilization on educational tasks of the students, such as learning through the Internet, research, and engagement in virtual discussion, can improve learning performance. Using too much of it for non-academic reasons (social media, games and entertainment) however, is often linked with poor grades and less focus. Student surveys and academic records show that the frequency, amount and intent behind the use of the internet have a significant impact on academic achievement. The study also accounted for demographic aspects like age, the field of study and digital literacy, which influence students' use of the Internet. The results indicated the need for fostering responsible use of internet and proper digital time management. Schools and colleges are urged to offer awareness programmes and advice to support students to maximise the benefits of the internet and reduce distractions. In conclusion, the research indicates that the Internet can be a valuable educational resource but must be used responsibly and wisely.

Keywords: Internet Usage and Academic Performance, University Level



Background

The internet has grown so rapidly that it has changed the way students seek out information, communicate and interact with learning resources. In today's digital age, internet usage has become an integral part of students' academic journey, providing access to online libraries, e-learning platforms, and collaborative tools. It also opens the door to potential distractions and activities like social media platforms, entertainment sites and gaming sites that can have a negative impact on students' concentration and study habits. Knowing the nature and extent of students' Internet use is of utmost importance in the assessment of its impact on their academic performance (Siraj et al., 2015).

A lot of research has pointed to both good and bad effects of online use on students' educational performance. On the other hand, the use of the internet can improve the learning outcomes of students because it can be used as a source of learning materials and allow students to learn independently. However, heavy or irresponsible Internet use can be a cause of procrastination, lack of time management and poor academic achievement. Hence, it is crucial to study the association between the pattern of use of the internet and academic performance as this will help direct teachers, students and parents towards internet use in a balanced and meaningful way (Ngoumandjoka, 2014).

This study is particularly important in the context of the B.Ed. Honors programs as future educators need to be aware of how digital habits can impact students' learning outcomes. The findings of this study can support pre-service teachers to design ways to foster positive use of the internet and to prevent its negative impact in the classroom. Furthermore, the results can be used in school policy, as well as to develop interventions for schools to encourage positive academic behaviors in the digital age. This relationship is explored within this study, and the study will make significant contributions to the general discussion on digital literacy and student well-being in education (Emeka&Nyeche, 2016).

Literature Review

Internet Usage of Students

With the advent of the Internet, students have come to rely on Internet usage as a part of their daily lives, and it has had a huge impact on their academic and social lives. Students use the internet to access learning content, as well as for entertainment, social interaction and communication. The use of the internet has boomed worldwide, and students are increasingly turning to the Internet for assignments, research and discussion. In Pakistan, a country where digital infrastructure growth is picking up, the use of internet among students has also increased rapidly, supported by the presence of smart phones, and enhanced availability of broadband services particularly for urban residents.

Students participate in different activities on the internet such as online learning platforms, social media, entertainment, academic learning, etc. Students are involved in various activities on the internet like on-line learning platforms, social media, entertainment, academic learning, etc. (2023). Academic platforms like Google Scholar, Khan Academy and YouTube are used for academic purposes and social media like WhatsApp and Facebook are utilized for social interaction and group learning. However, the nature of internet use among students can be a source of distraction in many cases, such as streaming services and gaming. Achievement of academic learning and non-academic learning is extremely important in assessing the impact of internet on their learning outcomes. The internet is a tool that has provided opportunities for students to grow personally and academically; however, unequal access to the internet poses problems,



especially in Pakistan, a developing country. A large number of rural students lack access to reliable internet, making it difficult for them to access online resources. The differences in ease of access deepen the digital divide and impact students' academic performance, extending the disparity between city and county academic results. Therefore, having knowledge of students' Internet usage is extremely important in designing efficient educational policies and Internet literacy programmes. (2021).

Academic Performance

Academic performance is the student's outcome in educational activities, usually evaluated by GPA, test scores, attendance and course work. It is a measure of how well students have achieved learning targets and evidence of their knowledge of content area. Students may vary in their performance across different academic disciplines, in science, arts or social sciences, depending on their interest, skills, and study habits. Indicators to track students' progress over time include standardized tests, mid-term and final exams, and continuous assessments Kumar, S., Agarwal, M., & Agarwal, N. (2021).

There are other criteria for measuring performance in addition to grades or test scores—such as the development of critical thinking, communication, and problem-solving skills. Good academic performance in classes is that of students who are actively engaged, participate in class discussions, and turn in timely assignments. Thus, academic achievement is measured through quantitative measures (marks) but also through qualitative measures (behaviours) such as motivation and participation. All of these factors can be seen as a comprehensive overview of a student's academic development Han, J. H., Ahn, E., & Hwang, J. M. (2019).

Many internal and external factors contribute to academic success including motivation, parental engagement, learning environment and resources. Students who have the opportunity to use well-equipped learning resources, especially libraries and online learning resources such as databases, generally do better in their studies. In addition, good time management and self-regulation abilities are crucial for students' academic performance, because students who tend to be procrastinators or those who have difficulty managing their workload tend to have poor academic achievement Alfiansyah, H. R. (2019).

Socio-economic status, quality of teaching and quality of the use of digital tools can affect the academic achievement of the students in the Pakistani context. As digital technologies become more part and parcel of education, the ability to use electronic resources to complete educational tasks is becoming an important part of students' learning performance. However, the infrastructure problems like restricted internet resources and power shortage also have a significant effect on the academic achievement, especially in the less developed areas. This highlights the importance of the supportive contexts to facilitate a consistent academic achievement at different socio-economic circles, Joshi, B. M., Khatiwada, S. P., & Pokhrel, R. K. (2024). The influence of Internet use on academic achievement. The influence of internet use on achievement.

The internet has provided students with new ways to learn and do research, allowing them to find a wealth of information easily. Students have opportunities to delve deeper into topics than those covered in their textbooks through web-based education platforms such as Google Scholar, Courser and Khan Academy. Video tutorials, online courses, and webinars offer flexible learning with students being able to learn at their own pace. The materials foster independent learning and support academic achievement by enhancing classroom instruction Gettinger, M., & Seibert, J. K. (2002).



In the blended and online learning models, students can access the Internet to view video lectures, take quizzes and participate in interactive activities related to the course content. In Pakistan, several universities have embraced the e-learning concept, providing students with more flexibility in coursework management. This shift has been beneficial, particularly in the time of COVID-19 when students had to be forced to study using digital tools. The use of internet tools in student's studies will enable them to improve their performance, and therefore to be competitive in an increasingly digital world. (2021).

The Internet has many academic uses, but overuse and misuse may have a negative impact on the academic performance of students. Internet addiction is becoming a serious problem, as students can spend hours on non-school related activities like gaming, social media sites, and streaming video. This overindulgence can cause procrastination, poor sleep and lack of focus, all of which negatively impact academic work. Students often find it difficult to balance academic work with recreational Internet activities, leading to late submissions and poor grades Montag, C., & Reuter, M. (2017).

Students may also be distracted from their studies by the excessive use of social media, like Facebook, Instagram, and TikTok. For students who wish to study, constant notifications and online interactions can help to interfere with academic study time, thereby decreasing students' attention and time to academic purposes. The findings indicate that students who spend more time in social media have less academic performance as social media encourage students to multitask which is related to the reduction of cognitive function and productivity Maharani, A. C. (2021). Studies conducted based on empirical data on the correlation between Internet use and academic achievement. Empirical studies on the relationship between Internet use and academic performance.

There is an increasing number of national and international research that investigates the connection between the Internet use and academic achievement. The moderate use of the internet in education has been shown to have a positive effect on learning in international studies, while excessive internet use for non-academic activities is shown to have a negative effect. Internet skills and self-regulation are also mentioned as being important for academic success.

In Pakistan, several studies have been conducted in this regard and how Internet use affects students' performance, especially in Higher Education, has been analyzed. Studies show that students who proficiently utilize digital tools to support academic learning are more likely to achieve success. Other research, however, shows that spending too much time on social media can negatively affect academic performance and concentration on studies. The mixed findings reflect the complexity of the relationship between Internet use and students' academic outcomes.

Statement of the Problem

The student use of the internet is growing, placing a public discussion of its impact on student learning. The Internet has tremendous educational resources, but it can also be distracting for students, such as social media and entertainment sites that can interfere with their ability to focus and use time wisely. The findings from previous studies are also inconsistent, with some studies indicating positive effects on learning and others noting negative effects of internet overuse and nonacademic internet use on learning. The aim of the study is to try to find out the relationship between pattern of Internet usage of students and their academic performance and whether the use of Internet helps or hinders their



academic performance. The study also aims to examine the relationship between the type of internet use, frequency of use and interests of the students and their overall academic performance.

Objectives of the Study

Following were the objectives of the study

1. To examine the relationship between students' internet usage patterns and their academic performance at university level
2. To analyze how the frequency of internet use influences students' academic achievements at university level
3. To explore the impact of different types of internet usage (academic vs. non-academic) on students' performance at university level

Significance of the Study

This study is important in understanding the dynamic relationship between the use of Internet by students and their academic performance, especially in B.Ed. (Honors) degree program. The research compares and contrasts the impacts of differing patterns of internet use on achievement to contribute to the understanding of the role of the internet in learning for educators, students and educational policy makers. The results will help to build the conversation on digital literacy and successful learning methods, and reinforce the need to encourage responsible Internet use amongst students. In addition, the findings from this study can be used to create focused interventions and instruction to assist prospective teachers in effectively integrating technology into their classrooms settings, which will in turn improve student engagement and learning outcomes. The study aims to highlight both the benefits and challenges of the internet to create a more informed perspective on digital learning in today's educational context.

Research Methodology

This study was of a survey type research design with the aim of exploring the relationship between the use of the internet and academic performance of students in the university level. A structured questionnaire was used to gather data from a sample of students on their use of the internet, frequency and academic outcomes. The collected data were analysed using frequency distribution to summarise the pattern of the use of internet by students. Furthermore, a correlational test was used to study the strength and direction of the association between the variables of the Internet use and academic achievement. This design helped to identify whether a significant correlation exists and provide insights into how students' digital behaviors impact their learning outcomes.

Population and Sample

The entire population of the study consisted of BS level students of universities of District Layyah. A random sampling technique was used to reduce sample selection bias and to make the sample representative. Three universities were sampled and the number of respondents was roughly equal across all the three universities. This sample size was deemed to be adequate for the study because it would give the study reliability and generalizability to the rest of the district's BS level students.

Instrumentation

The working instrument in the study was a self-developed questionnaire which was used to measure the students' intrinsic motivation towards the use of internet and academic performance. The questionnaire was created with reference to theoretical constructs that have already been developed regarding intrinsic motivation, and it was designed to be



relevant for the academic context, with the inclusion of contextual learning principles. This instrument comprised 15 items classified into three components: interest and enjoyment (students' enthusiasm and engagement in learning activities); effort and persistence (students' willingness to make a prolonged effort in learning activities); and value and relevance (students' perceptions of the importance and applicability of the content of their learning in real academic situations). Responses were obtained using a five-point likert scale ranging from Strongly Agree (1) to Strongly Disagree (5) so participants can express varying levels of agreement with the statement. The questionnaire was content validated with the experts of the field and pilot tested with 15 students who were part of the target population for the study to ensure the validity and reliability of the instrument. The value of Cronbach alpha in the reliability analysis was obtained as 0.87, meaning that the instrument had high internal consistency and the instrument was appropriate for data collection in the present study.

The Data Collection And Analysis

The data collection process adopted by the study was systematic and it ensured the accuracy and reliability of the collected data as there were three main stages adopted in the data collection process. The first step in the preparation was to gain formal authorization from the appropriate university officials to carry out the survey. Students were made aware of the purpose of the study and informed consent was obtained for ethical considerations and to ensure their voluntary participation. The second stage involved the structured question to the selected respondents in classroom condition. The instructions were structured and clear so that the participants could comprehend each item well and give an accurate response, without confusion. In the third phase, the researcher was with the respondents throughout the data collection process, guiding the activity, clarifying any questions that the students might have had, and making sure that the questionnaires were completed. Once data was collected, the answers were systematically sorted and coded in statistical software for analysis. Students' answers on technology usage in classrooms and the level of their engagement were summarized by descriptive statistics, such as frequency, mean and SD. Furthermore, inferential statistical techniques were used, with Pearson correlation employed to analyze relationships between the contextual learning and the use of technology and an independent sample t-test to determine if there was significant difference between levels of motivation for selected demographic variables.

Results

Table 4.1: *Demographic Information of Participants (N = 86)*

Variable	Category	Frequency (f)	Percentage (%)
Age	18–20 years	34	39.5
	21–23 years	40	46.5
	24+ years	12	14.0
Gender	Male	41	47.7
	Female	43	50.0
	Other	2	2.3
Year of Study	1st Year	20	23.3
	2nd Year	24	27.9
	3rd Year	22	25.6



Variable	Category	Frequency (f)	Percentage (%)
Current CGPA/Grade	4th Year	20	23.3
	A (3.5-4.0)	28	32.6
	B (3.0-3.49)	34	39.5
	C (2.5-2.99)	17	19.8
	D (Below 2.5)	7	8.1

The demographic information of the participants shows that the majority of respondents belonged to the age group of 21-23 years, representing 46.5% of the total sample. Female participants slightly outnumbered male participants, indicating balanced gender representation in the study. Students from all academic years participated almost equally, which increased the diversity and reliability of the data. Regarding academic performance, most students fell within Grade B (3.0-3.49), followed by Grade A (3.5-4.0), suggesting that the majority of participants had satisfactory academic performance.

Table 4.2: Relationship Between Internet Usage Patterns and Academic Performance

Statement	SA	A	N	D	SD	Mean
I use the internet regularly to complete my academic assignments.	38	30	8	6	4	4.07
I believe that using the internet has improved my academic performance.	35	32	10	5	4	4.03
I often use online resources to help me understand difficult topics.	40	28	9	6	3	4.12
The internet has made it easier for me to study and do research for my classes.	42	27	8	5	4	4.14
Overall, I feel that my internet usage positively contributes to my academic success.	36	31	11	5	3	4.07

The results indicate that most participants strongly agreed or agreed that they regularly use the internet for academic purposes such as completing assignments, understanding difficult topics, and conducting research. The mean scores of all statements are above 4.00, which reflects positive perceptions regarding the role of internet usage in academic performance. The highest mean score was observed for the statement that the internet made studying and research easier for students.

Table 4.3: Correlation Between Academic Internet Usage and CGPA

Variables	Pearson Correlation (r)	Sig. Value (p)	Interpretation
Academic Internet Usage & Academic Performance	0.71	0.000	Strong Positive Relationship

The table presents the correlation analysis between academic internet usage and academic performance. The Pearson correlation value of 0.71 indicates a strong positive relationship between the two variables. The significance value ($p = 0.000$) confirms that the relationship is statistically significant. This means that students who use the internet effectively for academic purposes tend to achieve higher CGPA and better academic performance.

**Table 4.4: Daily Internet Usage Frequency of Participants**

Internet Usage Duration	Frequency (f)	Percentage (%)
Less than 2 hours	10	11.6
2-4 hours	28	32.6
5-7 hours	31	36.0
More than 7 hours	17	19.8

The findings show that the majority of participants spent between 5-7 hours daily using the internet, representing 36% of the sample. A large number of students also reported using the internet for 2-4 hours daily. Only a small proportion of respondents used the internet for less than 2 hours. These findings indicate that internet usage is a significant part of students' daily routine and academic activities.

Table 4.5: Influence of Internet Usage Frequency on Academic Achievement

Statement	SA	A	N	D	SD	Mean
I use the internet to access online courses, lectures, or academic tutorials.	39	29	8	6	4	4.08
I often use the internet to research topics related to my courses.	41	27	9	5	4	4.12
I believe that using the internet has helped me achieve better grades.	33	34	10	6	3	4.02
My internet usage is balanced, and I can focus on academics without getting distracted.	24	28	15	12	7	3.58
I am able to limit my internet usage when it starts to interfere with my studies.	22	30	14	13	7	3.55

The table demonstrates that most students strongly agreed or agreed that internet usage positively influences their academic achievement. The highest mean scores were observed for using the internet to access online courses and conduct research related to academic subjects. However, lower mean scores were found for statements regarding balancing internet usage and avoiding distractions.

Table 4.6: ANOVA Analysis of Internet Usage Frequency and Academic Achievement

Source of Variance	Sum of Squares	df	Mean Square	F-value	Sig.
Between Groups	18.42	3	6.14	5.72	0.001
Within Groups	87.95	82	1.07		
Total	106.37	85			

The ANOVA analysis reveals a statistically significant difference between internet usage frequency and academic achievement, as indicated by the significance value of 0.001. The F-value of 5.72 further supports that variations in internet usage frequency significantly influence students' academic performance. These findings suggest that the amount of time students spend on the internet affects their educational outcomes. Moderate and academically focused internet usage contributes positively to academic achievement, whereas excessive or uncontrolled usage may negatively impact performance.

**Table 4.7: Academic and Non-Academic Internet Usage Patterns**

Statement	SA	A	N	D	SD	Mean
I spend more time on educational websites than on entertainment or social media websites.	20	29	14	15	8	3.44
I use the internet to connect with classmates for group projects or study sessions.	34	30	10	8	4	3.95
I feel that excessive internet usage sometimes distracts me from studying.	39	28	8	7	4	4.06
I often find myself using the internet for non-academic purposes when I should be studying.	32	30	12	8	4	3.91
I find that social media takes up more of my time than academic websites.	36	27	10	8	5	3.94

The findings indicate that students use the internet for both academic and non-academic purposes. Many respondents agreed that excessive internet usage and social media consumption distract them from their studies. Students also reported using the internet to collaborate with classmates and participate in study-related activities. The mean scores reveal that non-academic internet usage occupies a considerable amount of students' time.

Table 4.8: Comparison of Academic and Non-Academic Internet Usage on Academic Performance

Type of Internet Usage	Mean Score	Standard Deviation	Impact on Academic Performance
Academic Internet Usage	4.11	0.68	Positive
Non-Academic Internet Usage	3.87	0.74	Negative

The table compares the impact of academic and non-academic internet usage on students' academic performance. Academic internet usage obtained a higher mean score of 4.11, indicating a strong positive influence on educational achievement. In contrast, non-academic internet usage showed a comparatively lower mean score and was associated with negative effects on academic performance. These findings suggest that the purpose of internet usage plays a crucial role in determining its impact on students' educational success.

Table 4.9: Regression Analysis of Internet Usage Types and Academic Performance

Predictor Variable	Beta (β)	t-value	Sig.
Academic Internet Usage	0.64	7.85	0.000
Non-Academic Internet Usage	-0.41	-4.92	0.000

The regression analysis shows that the academic internet use is positively associated with the academic performance ($\beta = 0.64$). However, negative beta value ($\beta = -0.41$) of non-academic internet usage indicates its negative prediction power in terms of academic achievement. The p-values for both variables are < 0.05 so they are both statistically significant.



5.1 Discussion

As a result of the digital era, internet use among students is a part of their educational and social lives. The internet offers a wealth of learning resources, interactive platforms and collaborative tools that can greatly enrich the learning experience. The internet is also a great source of distraction, as there is much to be enjoyed and much to be found on social media which can be a hindrance to learning. The dual character of internet use brings with it an important question: What are the effects of the use of Internet on the academic performance of students?

Educators, parents and students alike need to know this relationship and have strategies to help them achieve the goals of education. This relationship will be explored in the following discussion, with a focus on the advantages, as well as some possible concerns, of student Internet use. Also takes into account personal factors and outside influences that can affect results. Patterns of use and their academic implications can be used to better understand how to best support students in their online usage patterns.

Based on the results of the present study, it can be concluded that the use of the internet is related to students' academic performance at a university level. The findings showed that a majority of students access the internet on a regular basis to complete assignments, research, understand difficult topics, and for other educational resource usage. The correlation analysis further revealed that there was a strong positive relationship between academic internet usage and academic performance. The results of the study are consistent with the findings of Kuh (2009), which found that student's positive practices in learning with educational technologies and internet resources resulted in academic achievement. Likewise, Junco (2012) discovered that useful online learning activities are beneficial for students' learning and academic achievement.

The study also showed that the use of the Internet promotes self-directed learning and engagement in learning of university students. The majority of the participants had agreed that studying was easier with the internet and that it had helped them to improve their studies. The results are in line with the findings by Ainin et al., (2015) which indicated that Internet educational activities and online materials have a positive effect on students' academic productivity and the learning process become more efficient. Furthermore, Ellore et al. (2014) found that scouts with good use of online academic resources have better learning habits and educational performance. The present study thus concludes that using the internet in education can have a positive impact on the academic performance of university students.

The results of the correlations of the frequency of using the internet showed that moderate internet use positively correlates with students' achievement, while excessive internet use may lead to distraction and have a negative impact on students' achievement. The results of the ANOVA analysis showed that there is significant difference in academic performance, with respect to the frequency of use of internet. The findings are in line with the results of Kirschner and Karpinski (2010) who found that heavy use of the Internet and social networking could be associated with reduced concentration, study time and academic performance of students. Similarly, Paul et al. (2012) found that excessive time on non-academic activities negatively impacts students' learning and participation in the classroom.

The other significant result of the study was that students often use the internet to view online courses, academic tutorials and/or educational materials. Most of the participants



agreed that the internet was helpful for their research work and to get good marks. These results are consistent with the study by Selwyn (2016) which highlighted that digital technologies and online learning platforms expand knowledge opportunities for students and foster active learning. Moreover, Al-rahmi et al. (2018) discovered that academic involvement, collaborative learning and students' academic output are all positively related to online educational engagement. The present research also confirms the effect of Internet-as-supplement-to-teaching on students' learning experiences.

The study also looked at the effect of academic and non-academic use of Internet on student's academic performance. The results of the findings indicated that academic internet usage positively influenced students' grades and educational achievement, while non-academic internet usage negatively influenced students' performance. A significant number of respondents acknowledged that they spend a lot of time on social media and entertainment websites, affecting their studies. The study conducted by Rouis et al (2011) found that overuse of social networking and recreational Internet use negatively impacts students' academic productivity and focus. Likewise, Samaha and Hawi (2016) revealed that overuse of social media was linked to academic underachievement and lack of self-control control among university students.

Conclusion

The present study came to a conclusion that the internet usage is significant in affecting academic performance of students in University level. The findings revealed that most students use the Internet on a regular basis with the main users having used the Internet for educational purposes including assignment completion, research, accessing learning materials on the Internet and clarifying difficult concepts presented in school. The outcome showed a positive correlation between academic internet use and academic achievement with a high positive correlation value indicating that the internet is a very effective tool in learning activities which leads to better academic performance and high CGPA of students. Thus, the study finds that the Internet has been a critical learning tool in higher education.

The study concluded that the frequency of internet usage plays an important role in determining students' academic achievement. The use of the Internet for moderate and purposeful learning, when used in appropriate ways, has a positive impact on students' educational success by providing access to knowledge, promoting research skills and facilitating collaborative learning. But, too much Internet can be distracting and hinder students' focus and learning productivity. The results indicate that the internet can be used for many purposes that promote learning, but that students should be careful in their use as there are also negative academic factors. Academic Internet use, such as a use of educational web pages, online tutorials, digital libraries and academic collaboration, positively affects the students' grades and learning achievement. However, non-academic Internet use (excessive social media use, entertainment browsing, and recreational use) adversely affects academic performance through decreasing study time and attention to academic responsibilities. The results suggest that internet education is valuable to the extent that students use digital technologies.

Recommendations

Based on the findings of the present study, the internet should be used to improve students' learning outcomes, so that students can use the internet mainly for learning activities.



2. University students need to be guided on how to effectively utilize online resources such as academic journals, digital libraries, online lectures, and educational websites. Teachers are recommended to use Internet based learning activities integrated in teaching. Teachers can provide students with online research activities, encourage the use of digital learning platforms and encourage collaborative learning using online resources.

4. Universities should offer improved technological facilities such as high-speed Internet, computer laboratories and online academic databases. Internet connectivity problems and lack of access to good learning material are obstacles for many students.

Additionally, parents/guardians are urged to provide supportive guidance to students' Internet use practices. In the home, students should be encouraged to use the internet for learning and not for entertainment..

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