

## **Influence of Internet Usage on Academic Performance of Higher Secondary School Students**

**<sup>a</sup>Mitali Baishya, <sup>b</sup>Bibhuti Bhusan Panda**

<sup>a</sup>Research Scholar, Department of Education, Gauhati University, Assam, India

<sup>b</sup>Principal, B. P Chaliha Collage, Nagarbera, Kamrup, Assam & Research Guide, Dept. of Education, Gauhati University, Assam, India

### **Abstract**

In present study attempt has been made to analyze the influence of internet use on academic life of students. The main purpose of this study is to study the influence of internet usage on academic performance among higher secondary students in relation to gender. The study is confined only to 4 Provincialised Co-educational Higher Secondary Schools of Kamrup District (M) of Assam. The sample of the study comprised of 136 students of class XII studying in Higher Secondary Schools. Primary as well as secondary sources of data have been used. Students' responses to the "Internet Usage Scale" and Marks or percentage obtained by the students in the previous final year examination were collected and analyzed by using appropriate statistical techniques. The results suggested that internet use has a significant influence on the academic performance of higher secondary students. Results also revealed gender difference in extent of usage of internet. Male students have higher internet usage score and lower academic performance score than female students, which is not significantly correlated. Female student have lower internet usage score and higher academic performance score than male students and significantly correlated.

**KEYWORDS:** Internet Usage, Academic Performance, Higher Secondary School Students

### **Introduction**

The use of Information and Communication Technologies (ICTs) has shown a very rapid growth for the last decade all over the world. It is affecting people's ideas, habits and behaviour directly or indirectly. Among the technological innovations, the use of internet is spreading rapidly in the daily life of people. The invention of internet has emerged a new channel for communication; information sharing and networking. It has been so excessively used all over world that it has influenced every aspect of student lives such as, personal social academic aspect etc. Furthermore, it has been observed that students especially adolescents boys and girls spend a precious amount of their time on the Internet for various purposes such as for doing school work, gathering information and for communicating with others. Various research studies indicate that use of internet helps students to broaden their academic knowledge by accessing to the information world and also by easy communicating to their academic community. It is important tool for students to retrieve information necessary for their project work and assignments (Tella, 2007). Internet is also a useful media for social interaction and entertainment. By using the social network sites, e-mails, chats, blogs etc. one can interact with others and various online games, songs, videos, and films avail in the internet serve as entertainment means for students.

In field of education, different researchers have investigated the influence of internet usage on students' academic performance. People are of the opinion that internet improves their grades of academic performance and by using appropriate search word they can easily access all the necessary information they needed from different websites. The students access to internet in order to achieve course-related materials and information for completing their assignments, communicating with others and so on.

On the other hand contrary to the options access to internet has make students' academic life easier; it has also brought new challenges threatening their success. If students are unable to restrict their time in accessing internet for these social interaction or entertainment, it may have negative impacts on their academic. There are several other websites also available on the internet which provides unhealthy and anti-social contents to the children. We have evidenced that excessive use of social networking sites lead to the depression and anxiety. Psychologists point out the problems caused by the overuse of network such as lack of attention, difficulty in processing real time information, anxiety and mood changes. It leads to irregular sleeping habits, which can cause other health problems The growing attempt to better understand the excessive use of internet yielded to a number of studies in the wide range of related literature and it indicates negative impact of internet on maintaining daily routines, school performance, and family relationships of students (Akhter, 2013). Since young students are the growing future of tomorrow so they need trained in proper use of internet for their wellbeing.

### **Review of Related Work**

**Austin & Michael (2011)** conducted a study on academic performance and internet usage among high school students in Lafayette USA to examine the negative influence of Internet on academic performance of students. Study results indicate that excessive use of Internet lowers the probability of achieving top grades where as more moderate use has a positive impact on the academic performance.

**Siraj (2015)** conducted a cross sectional study in a Malaysian Public University among medical students to investigate internet usage and academic performance in a Malaysian Public University. The Internet Addiction Diagnostic Questionnaire was used for data collection. From the study results it has been found that students with high internet usage are associated with higher academic performance.

**Talukder, Alam and Islam Apu (2015)** in their study found no significant relation between the use of Internet and the performance of the students but the students who use internet habitually every day (Internet Addiction), their performance is negatively affected by it.

**Carlos & Díaz, (2016)** in their study internet use and academic success among university students of North America revealed that use of Internet as an entertainment tool during teaching learning process and it has a positive impact on academic achievement. Study results also indicates that students who download audio and video songs for the purpose of entertainment show better academic performance than students who don't use the Internet. Gender difference has also been found regarding predicting the influence of internet usage and academic performance.

**Pardhasaradhi & Goel (2015)** conducted study on 300 adolescents to investigate the influence of access use of internet their academic performance. For collecting data

“Internet Usage Scale” and GPA for the previous year were used and their responses were analyzed accordingly. The study results showed that excess use of internet is negatively correlated with academic performance of adolescent students. It also revealed gender difference in excess usage of internet and it has been found that male adolescents had higher user of internet than female adolescent students.

The analysis of above related studies indicate that different studies show mixed results regarding influence of internet use on the students’ performance. But no study has earlier been conducted on higher secondary level on this topic in Assam. So, present study aims at examining the influence of Internet use on academic performance of the higher secondary students of Kamrup (M) district, Assam. Since, both positive and negative influence may come out; a study on this topic to examine the exact influence of Internet use on academic performance of students may provide the exact conclusion.

### **SIGNIFICANCE OF THE STUDY**

At present Internet has become a great source of knowledge and information. The use of internet and its impact has become an important topic in education sector. As Internet is a great source of information students are spending much times on Internet. It is the easiest and the chief source of information among students. It cannot be denied that the internet has made a significant contribution in students’ life. Nowadays, students are highly depending on the internet to search for information, social networking, entertainment, online shopping, and online gaming, among others. Using the internet wisely for the right purpose is beneficial to the students; such as researching tool, seeking knowledge, enhancing their soft skills, exchanging experience and knowledge with international students and other parties. While the internet has many advantages and proves to increase efficiency, it could also be harmful to the students if they become addicted to it. Students, especially the higher secondary aged who fall in adolescence age group are deemed to be more susceptible to internet addiction Different study result revealed that students who are using the internet excessively are mostly playing online games and browsing social media. The excessive use of internet may also develop low self-esteem, depression, boredom, and attention-deficit hyperactive disorder among students. The side effects of the excessive use of internet may led to anxiety, depression, health problems, school absenteeism, lying, fatigue emotional instability, low academic performance and social isolation.

Studies have also been conducted on the Internet usage among male and female students. Park & Choi, (2007) in their study found that male students use more internet than female students. In this era of technology majority of the students are attracted towards e-learning so it becomes essential to conduct a study to examine the impact of internet on the educational/ academic performance of the students. Very few research studies have been conducted so far in this area and mixed results have been found. Some studies reveal positive impact of Internet usage on academic performance (Park & Choi, 2009) and few studies revealed the negative impact of internet on students as well on their academic life (Nalwa & Anand 2003; Kheirkhah, et al., 2010). Therefore, the investigator felt it necessary that a study on this topic to examine the effect of internet use on the academic performance of higher secondary school students may provide exact conclusion.

The study will be of great significance to the teachers, students and for the researchers as well as for the policy makers of education. This study can be helpful in spreading awareness and information on advantages and disadvantages internet usage which can change the students' perspectives and wrong notion about internet and its use. Moreover it can also serve as a guideline on the usages of internet. Thus, it can help teachers and students to use internet effectively and they can improve themselves in gathering knowledge.

The study will also helpful for the teachers of the school to know the influence of internet usage on their students and the various implications of it among the students. It will also assist and suggest the teachers to create awareness among the students on the rational usages of internet for educational purpose.

This study will be of great importance to the students in realizing the opportunities provided by internet in getting relevant information beneficial for their studies.

It will also be helpful for the researchers with as it provides more information regarding the influence and effects of internet usage on the academic performance of students. This study will be significant in terms of guiding the students in understanding the diverse nature of internet.

## **OBJECTIVES**

- To study the extent of using internet among higher secondary students on the basis of gender.
- To identify the preference of source of internet usage and time spent for accessing internet
- To compare the academic performance of higher secondary students on the basis of gender (male/ female).
- To examine the influence of internet use on academic performance of higher secondary students on the basis of gender (male/ female).

## **HYPOTHESES**

Ho1: There exists no significant difference in the extent of using internet among higher secondary students on the basis of gender (male/ female).

Ho2: There exists no significant difference between academic performance of higher secondary students on the basis of gender (male/ female).

Ho3: There exists no significant influence of using internet on the academic performance of higher secondary students on the basis of gender (male/ female).

## **Limitations of the study-**

The present study has been delimited on following grounds-

- For the present study only Kamrup (M) District of Assam is considered as study area.
- The study includes only Provincialized co-educational Assamese medium Higher Secondary Schools.
- The study is delimited to only internet users

## Methodology and Design of the Study

Keeping in view the objectives of the present study, the investigator has organized the following procedure of the study.

**Methods of the study:** In the present study, descriptive survey method has been used.

**Population:** The population of the present study consists of all the students of Class-XII of Provincialized Co-educational Higher Secondary Schools (Assamese Medium) of Kamrup District (M) of Assam.

### Sampling technique and Sample

In the present study Cluster sampling and stratified random sampling have been used for selecting sample school and sample students respectively. Out of total Provincialized Co-educational Higher Secondary Schools (Assamese Medium) i.e. 13 schools 4 schools have been selected as sample for this study considering the school as cluster.

For selection of sample students and locate the internet user from the 4 selected sample schools investigator has used a personal data sheets and it has been found that all most all the students uses internet. After that total internet users have been stratified based on gender (male/ female) and then out of total internet user ( 225 male + 231 female =456) 30% users from each strata have been taken as sample for conducting the study i.e. 136 (67 male and 69 female).

### Tools Used

- **Information Blank and Personal data sheet:** The personal data sheet and information blank was used to locate internet user, measured their extent and nature of Internet use and percentage of previous examinations and to collect their demographic data.
- **Internet Usage Scale (2017)** developed and standardised by Saini.S and Kour.P has been also used in the study. The split half reliability of the scale is 0.91.The validity of the scale has been determined though Content Validity and Construct Validity.
- **Academic Performance:** For the present investigation, percentage or marks obtained by the higher secondary students in their previous board examinations i.e. class XI final examination conducted by Assam Higher Secondary education Council was treated as academic performance. Marks obtain by students here is taken as index of academic performance. Academic Performance of the students has been taken from the schools records. The marks of previous year final examination is accounted for the academic performance score.

### Statistical techniques used:-

In order to analyse the collected data percentage calculation, Mean, standard deviation, 't' test and coefficient of correlation have been used.

### Analysis and Interpretation

The data collected is tabulated and the results obtained are presented and discussed in following manner

**Table1: Extent of Internet Usage**

Extent of Internet Usage	No. of Students	Percentage %
Extremely High	2	1.5
High	15	11.05
Above Average	30	22.1
Average	39	28.7
Below Average	33	24.3
Low	17	12.5
Extremely Low	0	0
Total	136	100

The above table represents different extent of using internet by the Higher Secondary Students of Kamrup District (M). Study results reveal that 1.5% students fall under category of extremely high, 11.05% students high, 22.1% students' above average, 24.3% students below average and 12.5% students low internet usage group. Most of the students' (28.7%) fall under category of above average internet usage group. Students having extremely low usage have not been found.

**Table 2:'t' test showing significance of Mean in internet usage scores of the higher secondary students on the basis of gender**

Gender	N	Mean	SD	SEM	df	t value	Level of significance
Male	69	53.49	13.381	1.611	134	4.665	Significant at 0.01 level
Female	67	42.97	12.908	1.577			

The above table reflects the mean score of Male students 53.49 is higher than mean score of Female students 42.97. The mean difference is 10.52,  $t=4.665$  and  $df=134$ . The P-value 0.000 indicates that the difference is highly significance (at 1% level). It can be conclude that male students have more and significant internet usage intensity than female students.

**Table3: Sources of Students Access to Internet**

Sources	No. of Students	Percentage %
ICT Laboratory in school	0	0
Internet facility in school	0	0
Personal mobile phone	105	77.21
Having access to public internet	7	5.15
Home	10	7.35
Friends Home	14	10.29
<b>Total</b>	136	100

The above table represents an analysis of sources of students' access to and displays the main internet sources that are available to the respondents. It has been found that majority of students (77.21%) access to internet through their personal mobile phone.

The results also indicate that 7.35% students' access to internet at home and 10.29% students at friends home. Besides, it revealed that 5.15% of the respondents are having access to public Internet Cafes.

**Table 4: Daily Time Spent on Internet by the Respondents**

Time Spent	Frequency	Percentage (%)
Do not spend	0	0
Less than 2 hours	50	36.76
3 to 5 hours	69	50.74
More than 5 hours	17	12.5
Total	136	100

The above table represents daily time spent by higher secondary students for accessing internet. Out of total respondents only 36.76% students spend less than 2 hours daily on internet where as majority of respondents (50.74%) spend daily 3 to 5 hours on internet and 36.76% students spend more than 5 hours in a day.

**Table 5: 't' test showing significance of Mean in academic performance scores of the higher secondary students on the basis of gender**

Gender	N	Mean	SD	SEM	df	t value	Level of significance
Male	69	48.67	7.093	.854	134	-1.934	Not Significant
Female	67	50.90	6.313	.771			

It has been found that the Mean academic performance score of Male students is 48.67 and Mean academic performance score of Female students is 50.90. Mean difference of both male and female students is 2.23 which indicate that Female students have achieved more academic scores than male. Here; the calculated t-value (-1.934) is lower than critical value at 0.05 and 0.01 levels. So, we can accept the null hypothesis that there exists no significant difference between academic performance of male and female students studying in higher secondary school students.

**Table 6 Correlation analysis for influence of internet usage on academic performance of higher secondary students**

Variables	N	Pearson's Correlation (r value)	p-value	Level of significance
Internet Usage	136	-.297	0.00	Significant at 0.01 level
Academic performance				

Table 5 depicts the relationship between Internet usage and academic performance of the higher secondary students. The Pearson  $r = (-.297)$ ,  $p = 0.00$  reflects that the relationship between internet usage and academic performance have negative

correlation, which is significant at 1% level. So, it states that internet usage has no significant influence on academic performance of higher secondary students is hereby rejected. Hence, it is proved that internet usage has a significant influence on academic performance of higher secondary students. It can be concluded that increase of internet usage reduce the academic performance for the students at higher secondary level.

**Table 7 Correlation analysis for influence of internet usage on academic performance of higher secondary students on the basis of gender**

Academic performance	Internet Usage				
	Gender	N	Pearson's Correlation (r value)	p- value	Level of significance
	Male	69	-.181	.138	Not Significant
	Female	67	-.350	.004	Significant at 0.01 level

The above table represents that the Mean Internet usage and academic performance score of male students is 53.49 and 48.67 respectively. The Pearson's  $r = (-.181)$  indicates that the relationship between Internet usage and Academic performance of male students is negatively correlated.  $P = .138$  indicates that the relationship between the factors is not significant.

The Mean Internet usage and academic performance score of female students is 42.97 and 50.90 respectively. The Pearson's  $r = (-.350)$  indicates that the relationship between Internet usage and Academic performance of female students is negatively correlated.  $P = 0.04$  indicates that the relationship between the factors is significant at 1% level. So here, the null hypothesis that there exists no significant influence of using internet on the academic performance of higher secondary students is accepted for male students and rejected for female students.

#### **Discussion and Conclusion:-**

Internet is playing an important role in our daily activities including the academic activities, so it is the high time we assessed the impact of Internet in our daily life and academic life. We must ensure its positive use as much as possible. In this context, this study reveals that male students and female students studying in higher secondary schools differ significantly in extent of using internet. This finding is in the line with the result of study conducted by Pardhasaradhi & Goel 2015, Hossain, 2018. It has been also observed that majority of the students' access to internet through their personal mobile phone and the habitual use of Internet or use of internet daily more than 4/5 hours may have negative influence on the performance of the students. So it is time to make awareness among the students and this will help them to be benefited by using Internet. Study result also reveals that influence of internet usage has significant association with the academic performance of higher secondary students of Kamrup (M) district. This is in the line with the study result of Hossain, 2018. It has been also found that male students have higher internet usage score and lower academic performance score than female students, which is not significantly

correlated. Female student have lower internet usage score and higher academic performance score than male students and significantly correlated.

The results of this study will provide an understanding to the teachers, parents, school administrators as well to the students regarding effective and rational use of internet. It will also help parents, educators to overview the impact of excessive use of internet, make them aware about its negative consequences and place alarm for them.

## References

Austin, W. & Michael, W. (2011) Academic Performance and Internet Usage among High School Students In Lafayette USA *Journal of Economics and Economic Education Research*, 12( 1), 41-54. Retrieved from <https://www.alliedacademies.org/articles/high-school-students-academic-performance-and-internet-usage.pdf>

Carlos, J & Díaz, T. (2016) Internet Use and Academic Success among University Students of North America. *Media Education Research Journal*. 24(48), 61-69. Retrieved from file:///C:/Users/admin/Downloads/10.3916\_C48-2016-06-english%20(2).pdf

F. Kheirkhah, A.G., Juibary, A. Gouran (2010) Internet Addiction, Prevalence and Cres Epidemiological Features in Mazandaran Province, Northern Iran. *Iranian Red Medic Journal*, 12( 2), 133-137. Retrieved from <https://www.sid.ir/en/journal/ViewPaper.aspx?id=180783>

Lee, S. (2010). Analysis of college students' online life-styles and their psychological profiles in South Korea. *CyberPsychology, Behavior, & Social Networking*, 13(6), 701-704. Retrieved from <https://pubmed.ncbi.nlm.nih.gov/21142996/>

Nalwa, K. & Anand, P. (2003) Internet Addiction in Students: A Cause of Concern. Cyber of Australian Students: Participation Habits and Prevalence of Addiction. *Australian Journal of Psychology and Behaviour*, 6(6), 653-656. Retrieved from <https://doi.org/10.1089/10949310332272544>

Oskembay, A, Elmira, K., Aliya, T., Maira, K., Saya, B., & Salima, N. (2015). Addictive behavior among adolescents. *Procedia - Social and Behavioral Sciences*, 171, 406-411. Retrieved from <https://www.sciencedirect.com/science/article/pii/S1877042815001706>

Pardhasaradhi, V. & Goel, V (2015) Influence of Access Use of Internet on Academic Performance of Adolescents. *International Journal of Applied and Pure Science and Agriculture*, 1(12) , 57-64. Retrieved from <https://ijapsa.com/published-papers/volume-1/issue-12/to-study-the-influence-of-access-use-of-internet-on-academic-performance-of-adolescents.pdf>

Park, &J Choi, H. (2009). Factors influencing Adult Learners' Decision to Drop Out or Persist in Online Learning. *Educational Technology & Society*. 12 (4) pp. 207-217. Retrieved from <https://pdfs.semanticscholar.org/3b3c/47a09120bcd232369e29ea383593e251b220.pdf>

Siraj, H.H. (2015) Internet Usage and Academic Performance in a Malaysian Public University. *International Medical Journal*, 22(2) pp. 83-86. Retrieved from

[https://www.researchgate.net/publication/275833912\\_Internet\\_Usage\\_and\\_Academic\\_Performance\\_A\\_Study\\_in\\_a\\_Malaysian\\_Public\\_University](https://www.researchgate.net/publication/275833912_Internet_Usage_and_Academic_Performance_A_Study_in_a_Malaysian_Public_University)

Tella A. (2007). University of Botswana undergraduates' use of internet: Implications on Academic Performance. *Journal of Educational Media & Library Sciences*, 45(2) 161-185. Retrieved from <https://web.a.ebscohost.com/abstract?direct=true&profile=ehost&scope=site&authType=crawler&jrnl=1013090X&asa=Y&AN=31208388&h=w8qpHnxyiOTmmIIfolR2oU1Vw6LB>

Thatcher, A., & Goolam, S. (2005). Defining the South African Internet 'addict': Prevalence and biographical profiling of problematic internet users in South Africa. *South African Journal of Psychology*, 35(4), 766-792. doi:10.1177/008124630503500409.

Yeap, J.A.L., Ramayah, T., Halim, H.A., Ahmad, N.H., & Kurnia, S. (2016). Exploring the impact of internet addiction on academic engagement: A preliminary study on undergraduates. *Indian Journal of Management Science*, 6(1), 1-9. Retrieved from <https://www.semanticscholar.org/paper/EXPLORING-THE-IMPACT-OF-INTERNET-ADDICTION-ON-%3A-A-Yeap/cde055bb1fcd4368705ff1c0a43a3923b5b0b39c>