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Impact of Internet Usage on Learning Achievement and Social Behaviour of Students in Higher Education

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ABSTRACT

The Internet has become an important component of ICT, and its use is rapidly increasing, with no signs of diminishing. It is rapidly infiltrating daily life and has a direct impact on people's ideas and behaviour patterns. Since the Internet is widely used, the study aimed to address the central query about the impact of the Internet on learning. The informants of the study were the students of higher education selected from Ravenshaw University, Odisha. This study employed a descriptive survey design to ascertain the current context of the problem and one hundred fifty students from postgraduate level were selected as a sample via stratified random sampling. The t-test and one-way ANOVA were employed for the analysis and interpretation of the results. The results show that there is no noticeable difference in learning outcomes and social behaviour as a result of internet use between male and female students, as well as between Arts and Science students. Additionally, the findings indicate that 6% of students suffer from internet addiction, with science students being more affected than arts students.

Keywords: Internet usage, learning achievement, social behaviour, higher education.

INTRODUCTION

Over the past two decades, universities have made large expenditures in information and communication technology (ICT). ICT has significantly changed how universities are organised, how they operate, and how they teach and learn. The U.S. Department of Defense invented the Internet, a widely utilised element of ICT, in the early 1960s, largely for military uses. Since then, the ongoing development of Internet technology has made a wide variety of communication tools, including inter-organizational email and data storage, management, and transfer, extraordinarily accessible to the general public (Anderson, 2001). Additionally, the usage of the Internet has grown significantly as a

result of the creation and dissemination of less expensive and more user-friendly computer technology and software (such as portable PCs, Microsoft Word, etc.) (Asdaque, Nasir, & Abbas Rizvi, 2010).

In every area of human understanding, the Internet is a wealth of knowledge. It signalled the creation and adoption of fresh, cutting-edge teaching methods in higher education, which are today "unconditionally" acknowledged as an essential component of our whole higher education system. The Internet has developed into a priceless resource for learning, teaching, and conducting research (Aslanidou, &Menexes, 2008). The advantages are so numerous that there is no aspect of life that does not benefit from an Internet application. For students and educational purposes, the internet is widely utilised to obtain information in order to conduct research or expand their knowledge of any subject. As a result, the internet is the most comprehensive encyclopaedia for people of all ages (Awoleye, & Siyanbola, 2006). The internet chatting systems are the most convenient and effective means of communication, and emails are the most commonly used for maintaining contact with individuals all over the globe (Balakrishnan, 2010).

Not to mention the fact that the internet is a really helpful tool for supplying much of the entertainment these days. As a result, internet usage among students is growing in popularity these days. While some students overuse the internet and become overly dependent on it, this has a negative impact on many aspects of their lives, including learning achievement, social behaviour, professional performance impairments (Cao, & Su, 2007; Chan, & Fang, 2007; and Young, 1998, 2004); physical and mental health problems (Cao, & Su, 2007). The internet is helping to increase the performance of a student and make learning easier and faster (Kuh, & Hu, 2001; and Chou, & Hsiao; and Young, 1998, 2004). For instance, research in psychology has shown that people who use the internet frequently experience various psychiatric illnesses (Yu, 2001; Wu,& Tsai, 2006; & Yang, & Chan, 2007). We cannot ban the internet, despite the numerous problems brought on by students' excessive internet use, because it helps kids form strong bonds with their professors and peers as well as with society at large (Zarqa S. Ali). As a result, the Internet is a vast computer network that enables the transmission of information.

Social Behaviour

Crowder defines behaviour as "any activity that can be observed, recorded, and measured, including first what living beings or organisms do, which is their movement in space." Social behaviour is defined as behaviour that involves more than one person and has the primary goal of establishing, maintaining, or changing a relationship between individuals or in a group (society). The majority of researchers define social behaviour as the behaviour displayed by members of the same species during a given interaction. It is a term used to describe the general behaviour of individuals in a society. It is essentially in response to what a person's peer group considers acceptable. Human social behaviour is primarily responsible for how individuals interact with one another within a group or society.

Learning Achievement

According to the definition of learning achievement, it is "the level of academic performance of the learner in learning the subject matter in schools, reflected in the form of test results on a given subject matter." The result of education is learning attainment, or academic performance, depending on how well a student, instructor, or institution has met its educational objectives. Graduation from educational programmes leading to diplomas like a high school diploma or a bachelor's degree serve as indicators of learning success.

Significance of the Study

Young (2006) concluded from his study of 752 Australian university students that "the Internet is largely utilised for communication and information-seeking reasons after discovering that the usage of the Internet for communication, recreation, information, production, and transaction activities." Mahmud (2011) found that "students had favourable opinions regarding utilising the Internet as a learning aid since it was considered as the quickest way to gain knowledge" in this study. These

assessments indicate that the internet is a huge part of people's everyday lives, but it is also clear that technology is fostering an exceptional environment for learners. It is clear from Edmunds, Thorpe, & Conole, (2010) research that there is a contrast between the amount of time students spend online and their utilisation of academic activities. Once more, Attwell and Battle (1999) looked at the connection between American students' academic achievement and possessing a personal computer. According to their findings, kids who have access to a computer at home for educational purposes perform better academically.

The usage of the internet is supported by some literary works, which also highlight its advantages, although many literary works also present opposing findings. In their report from 2007 on the problematic Internet usage behaviours of Turkish university students, Ceyhan and Ceyhan found that male students use the Internet in a significantly more problematic way than female students and that less successful students use the Internet in a significantly more problematic way than academically successful students. The same study found that as students' average weekly Internet usage grew, so did their problematic Internet use. Furthermore, the reasons why students used the Internet differently had an impact on problematic Internet usage. The same conclusion was expanded upon by Selami (2007), who noted that university students do not all agree that the Internet does not give essential information or that none of them found it to be beneficial. However, they contend that the Internet separates users from reality, encourages addiction, and makes individuals feel lonely. In a similar vein, they contend that socialisation, unrestricted freedom, or lifelong connections are not fostered by the Internet.

The study believes it is essential to look at how internet use affects higher education students' social behaviour and academic success in light of this contradicting review. Nearly all students utilise the internet for a variety of purposes, including obtaining information, reading books, exchanging materials, talking, and other activities since the institution is well equipped with Wi-Fi services. While a university's internet connectivity service aims to enable students and the school to spread knowledge to a broader audience throughout the globe by providing websites, a mechanism to search them, and a way to identify the results. However, it must be evaluated to see whether it is accomplishing its goals and whether students are utilising it meaningfully or not. In order to ascertain how Internet usage affects social behaviour and academic performance, the researcher intends to analyse it among Ravenshaw University students.

Objectives of Study

1. To investigate the impact of internet usage on the learning achievement of postgraduate students with respect to their gender and stream.
2. To explore the effects of internet usage on the social behaviour of postgraduate students based on gender and stream.
3. To explore the difference in learning achievement between three groups of internet users: normal users, at-risk users, and addicted users.
4. To find out differences in social behaviour among three groups of internet users: normal users, at-risk users, and addicted users.

Hypotheses

1. $H0_1$-There does not exist a significant difference in learning achievement of male and female students due to the impact of internet usage.
2. $H0_2$- There does not exist a significant difference in learning achievement of Arts and Science students due to the impact of internet usage.
3. $H0_3$- There does not exist a significant difference in the social behaviour of male and female students due to the impact of internet usage.

4. $H0_4$- There does not exist a significant difference in the social behaviour of Arts and Science students due to the impact of internet usage.
5. $H0_5$- There does not exist a significant difference in learning achievement among three groups of normal users, at-risk users and addicted users of the internet.
6. $H0_6$- There does not exist a significant difference in social behaviour among three groups of normal users, at-risk users and addicted users of the internet.

METHODOLOGY

This study employed a descriptive survey design to ascertain the current context of the problem. The population of the study comprised all postgraduate students of Ravenshaw University, Cuttack of Odisha. In the current study, the investigator studied 150 post-graduate students as the sample, 75 of whom were from the arts stream and 75 from the science stream, and the sample was also divided in such a way that 75 were male and 75 were female. The sample was chosen using a stratified random sampling procedure. Tools such as: Young Internet Addiction Scale (Young, 1998), the UCLA Loneliness Scale (Russel, 1996) and a self-appraisal Performa for analysis of Learning Achievement were used for collection of data.

RESULTS

Learning Achievement of Students in Relation to Their Gender and Stream

Table 1: Summary of male and female students' t-values for learning achievement

Gender	N	Mean	S.D	df	t-value	Remarks
Male	75	71.960	7.039	148	1.003	NS
Female	75	73.160	7.610			

The aforementioned table shows that the mean achievement learning scores for male and female students are, respectively, 71.96 with S.D. 7.03 and 73.16 with S.D. 7.61. The computed "t" value is 1.00, which is lower than the value in the table, which is 1.98 at the. 05 level. Therefore, the null hypothesis “there does not exist a significant difference in learning achievement of male and female students due to the impact of internet usage” is accepted.

Leaning Achievement of Arts and Science Students

Table 2: Summary of t-value for leaning achievement of arts and science students

Stream	N	Mean	S.D	df	t-value	Remarks
Science	75	72.8137	7.40819	148	0.422	NS
Arts	75	72.3067	7.29304			

The mean achievement learning scores for students studying the arts and sciences are 72.306 with S.D. 7.293 and 72.813 with S.D. 7.408, respectively, according to the above table. The estimated "t" value is 0.422, which, at the .05 level, is less than the number from the table, 1.98. Therefore, the null hypothesis “there does not exist a significant difference in learning achievement of Arts and Science students due to the impact of internet usage” is accepted.

Social behaviour of the students in relation to their gender and stream

Table 3: Summary of t-value for the social behaviour of male and female students

Gender	N	Mean	S.D	df	t-value	Remarks
Male	75	26.68	12.205	148	0.675	NS
Female	75	25.36	11.739			

According to the above data, the mean social behaviour scores for male and female students are 26.68 with a standard deviation of 12.205 and 25.36 with a standard deviation of 11.739, respectively. The calculated "t" value is 0.675, which is lower than the 1.98 value from the table at the.05 level. Therefore, the null hypothesis “there does not exist a significant difference in the social behaviour of male and female students due to the impact of internet usage” is accepted.

Social Behaviour of Arts and Science Students

Table 4: Summary of t-value for the social behaviour of arts and science students

Stream	N	Mean	S.D	Df	t-value	Remarks
Science	75	28.13	12.598			
Arts	75	23.91	10.948	148	2.193	S

According to the aforementioned data, the mean social behaviour scores for students studying the arts and sciences are, respectively, 23.91 with a S.D. of 10.948 and 28.13 with a S.D. of 12.598. The calculated "t" value, which is more than the table value of 1.98 at the. 05 level, is 2.193. Therefore, the alternative hypothesis “there exists a significant difference in social behaviour of Arts and Science students due to the impact of internet usage” was accepted.

Difference in Learning Achievement of Students Belonging to Normal, at-risk and Addicted Internet Users

Table 5: Summary of ANOVA Table on Learning Achievement of Post-Graduation Students Belonging to Normal, at-risk and Addicted Users of Internet

	SS	df	MS	F	Remarks
Between Groups	359.105	2	179.553	3.451	S
Within Groups	7647.702	147	52.025		
Total	8006.807	149			

According to Table 5, postgraduate students' learning achievement has an F-value of 3.451, which is significant at the 0.05 and 0.01 levels of significance with degrees of freedom of 2/147. It shows that there are considerable differences between the average learning achievement of postgraduate students who are regular, at-risk, and addicted internet users. The Post Hoc Test was used to determine whether there was a significant mean score difference in learning achievement between the groups. Table 6 has the outcomes displayed.

Table 6: Multiple Comparison of Learning Achievement of Students belonging to Normal, at-risk and Addicted Users of the Internet through Post Hoc Tests

Dependent Variable: Learning Achievement						
(I) category	(J) category	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Normal Users	at-risk Users	-1.49631	1.23751	.450	-4.4264	1.4337
at-risk Users	Addicted Users	-4.63052	2.46972	.150	-10.4781	1.2170
Addicted Users	Normal Users	6.12683*	2.41598	.033	.4065	11.8471
* The mean difference is significant at the 0.05 level.						

Table 6 shows that the "P-value" is only.033 for addicted users and non-addicted internet users,

which is less than the 0.05 Alpha threshold of significance. It may be inferred from this that there is a sizable mean score difference between the learning achievement of internet addicts and regular users. At-Risk users and hooked users both have P-values that are greater than the.05 Alpha level of significance (.45 and.15, respectively), indicating that they are at-Risk users and normal users. Therefore, there is no discernible difference between at-risk users and addicted users of the internet or between regular users and at-risk users in terms of their ability to learn.

Difference in Social Behaviour of Students Belonging to Normal, at-risk and Addicted Internet Users

Table 7: Summary of ANOVA Table on the social behaviour of post-graduate students belonging to normal, at-risk and addicted users of the internet

	Sum of Squares	df	Mean Square	F	Remarks
Between groups	52.495	2	26.248	0.182	NS
Within groups	21232.445	147	144.438		
Total	21284.940	149			

The F-value for learning achievement among postgraduate students is .182, which is not significant at the 0.05 and 0.01 levels of significance with degrees of freedom of 2/147. This information is presented in Table 7. It shows that there are no noteworthy differences in the average learning success of post-graduate students who are regular, at-risk, and addicted internet users. Therefore, the null hypothesis "*there does not exist a significant difference in social behaviour among three groups of normal users, at-risk users and addicted users of the internet*" is accepted.

FINDINGS AND DISCUSSION

The study's main conclusions concern the knowledge of research scholars towards Internet use. The study's conclusions indicate that the impact of the internet explains why female students' mean learning achievement score, which is 73.16, is greater than male students', which is 71.96. Additionally, there is no discernible difference between male and female pupils' learning outcomes as a result of internet use. These outcomes support the research (Attwell and Battle, 1999).

The study reveals that the average learning accomplishment of science students, which is 72.813, is greater than the average learning achievement of arts students, which is 72.306 due to the influence of the internet. Students' learning outcomes in the arts and sciences were shown to be significantly affected by internet usage. This outcome was in direct opposition to that of (Selami,, 2004), who found that there was a large gap in the learning outcomes of science and arts students.

Male students' mean social behaviour was greater than female students', at 26.68 versus 25.36 respectively. Due to the effects of internet usage, there is a noticeable difference in how male and female students behave in social situations. The researcher deduced from Table 3 that there is no apparent difference between male and female students' social behaviours as a result of the effects of internet usage, although the literature disputes this finding. Researchers Omotayo (2006) describe their investigation into the problematic Internet usage habits of university students. Male students use the Internet in considerably more problematic ways than female students, they find.

The average social behaviour of science students was discovered to be somewhat higher than that of arts students (28.13 vs. 23.91), and there is a substantial difference between the social behaviour of Arts and Science students as a result of internet usage. These results were in direct opposition to those of (Subramanium, 2013), who found that 54% of male students utilised the internet to express their hatred and fury and that 80% of students experienced frustration and loneliness when they couldn't use the internet. According to the study, students who used the internet for an average of 19 hours a week felt socially isolated and spent less time with their friends and families.

Nine (6%) out of 150 students in the sample (six in the sciences and three in the arts) are internet addicts. A total of 5 male students (6.66%) out of a sample of 75 male students overall have internet addictions. Out of a total sample of 75 female students, a total of four individuals (5.33%) had internet addiction. Looking at the overall number of addicted students, 9, we can see that 55.55% of them are male students and 44.44% are female students.

Three categories of internet users—normal users, at-risk users, and addicted users—were shown to have significantly different learning outcomes. The findings of (Scherer, 1997) and (Chou and Hsiao, 2000), two studies that examined Internet addiction (IA) among college students in Taiwan and indicated that Internet addicts faced more unfavourable repercussions in their studies than non-addicts, provided more support for the conclusion. This finding is consistent with research by Young (1996), who discovered that Internet addicts had personal, familial, work, and academic issues, which led to bad grades and, ultimately, expulsion from colleges.

According to the study's findings, there is no significant variance between the three groups of internet users—normal, at-risk, and addicted—in terms of their social behaviour. However, there is a detectable mean score difference between addicted and normal internet users in terms of their ability to learn. The results of this study are in contradiction to those of (Tella, 2007). It was discovered that using the internet might lead to addiction and loneliness. They also believe that the Internet does not foster lifelong relationships, limitless individual freedom, or socialization. (Robinson, 2005) also refuted this conclusion with his findings indicating 13.2% of students use the internet compulsively, and further data revealed considerable variations across different user categories. Compared to the other groups, the addicted group is more isolated. Conversely, (Selami, 2007) discovered that teenagers who had fewer close friends were more likely to utilize the Internet.

EDUCATIONAL IMPLICATION

The findings of the current study assist teachers, administrators, authorities of Ravenshaw University, Cuttack in taking the necessary steps regarding proper internet use. It provides a progress report of students of postgraduate of Ravenshaw University to the authority of this University how much they rely on the internet along with the information to students whether male or female/ arts or science students use the internet more. It informs authorities whether arts students are performing well in terms of learning achievement or science students are performing well because of the internet's impact. It also provides information on problematic behaviour of addicted, at-risk, and normal users, as well as information on the learning achievement of addicted, at-risk, and normal users.

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