Patterns of Technology se among Bru Adolescent Students in Mamit District, Mizoram

Dr. Lalremchhungi*

Prof. Lallianzuali Fanai**

*Assistant Professor, Institute of Advanced Studies in Education Email: khiangteremtei@gmail.com Phone Number: 7085929806

**Professor (Rtd.), Institute of Advanced Studies in Education Email: drzuali@gmail.com Phone Number: 9436141866

Abstract

Adolescence is an important developmental stage during which individuals form habits that influence their future behaviour and academic success. With the increasing availability of digital devices and internet access, technology has become a significant part of adolescents' daily lives. The present study examines the level of technology use among Bru adolescent students of Mamit district, Mizoram, and explores differences based on gender and residential status. A descriptive research design was adopted for the study. The sample consisted of 161 students (90 males and 71 females) selected through multistage stratified random sampling. Data were collected using the Adolescent's Habits Scale (AHS–LVNS) developed by Vijaya Lakhsmi and Shruti Narain. The findings reveal that the majority of students demonstrate a poor level of technology use, with only a small proportion showing high usage. The study also indicates a significant difference in technology use between male and female students, with male students showing higher levels of use. A significant difference was also found between hostellers and day scholars, with day scholars showing greater technology use. The study highlights the importance of improving digital access and providing appropriate guidance to promote balanced and productive technology use among adolescents.

Keywords*: adolescence, technology use, Bru students, digital habits, Mizoram.*

Introduction

Adolescence is the transitional stage between childhood and adulthood, generally defined as the period between the ages of 10 and 19 years (WHO, 2023). It is marked by rapid physical, psychological, emotional, and social changes. Adolescents experience significant cognitive development while adjusting to increasing expectations from peers, family, and society. This stage is usually divided into three phases: early adolescence (10 - 13 years), middle adolescence (14 - 17

years), and late adolescence (18- 19 years). During these stages, individuals go through physical maturation, strengthen their ability to act independently and gradually improve their capability to make decisions and control their impulses.

Habits refer to repeated patterns of behaviour that tend to occur automatically as a result of learning and repetition (Wood & Runger, 2016). Habits play a crucial role in shaping the personality and daily life of an individual. Both positive and negative habits can develop during adolescence, and these habits often influence one's behaviour in the future. The family environment plays a vital role in the formation of habits as it is the primary social setting in which individuals grow and learn behavioural patterns. Research suggests that the habits developed during adolescence significantly affect academic achievement and overall life success (Eccles & Roeser, 2011).

Technology plays an important role in the daily lives of adolescents. The development of mobile phones, the internet and various digital applications has greatly influenced their lifestyles and communication patterns. Social networking platforms such as Facebook, Instagram, Twitter, WhatsApp, YouTube, and others have become an integral part of adolescents' lives. In addition to social media, various mobile applications also attract adolescents' attention and often lead to frequent use or more extremely, dependency.

Technology use has both positive and negative effects. On the positive side, the internet enables adolescents to access information easily, support their learning, maintain relationships and express themselves. Meanwhile, excessive dependence on technology may result in problems such as poor academic performance, reduced attention span, delays in social and emotional development, sleep disturbances and exposure to violence or inappropriate content (Fitton et al., 2013)

Rationale of the Study

Adolescence is a critical stage of development during which individuals require proper care, guidance and understanding. Rapid social and technological changes have significantly influenced the lifestyles and behaviours of adolescents today. The widespread availability of mobile phones, computers and internet services has increased adolescents' exposure to technology, making technology use an important aspect of their daily lives.

While technology offers several benefits, such as easy access to information, communication, and opportunities for learning, excessive or unsupervised use may lead to negative consequences, including reduced academic performance, poor concentration and unhealthy lifestyle habits. Therefore, it is essential to understand how adolescents use technology and how it influences their behaviour and academic life.

Conducting studies on adolescents' habits, particularly technology use, is important for identifying patterns of behaviour and understanding the factors that influence them. Such studies can provide valuable insights for parents, teachers and policymakers to guide adolescents toward responsible and balanced use of technology.

In Mizoram, particularly among Bru adolescent students of Mamit district, very limited research has been conducted regarding adolescents' habits and technology use. Hence, there is a need for systematic investigation in this area. Understanding the technology use habits of these students will help educators and parents provide better guidance, promote healthy digital practices, and support adolescents in achieving improved academic performance and overall development.

Review of Related Studies

Shashaani and Khalili (2001) conducted a study among 375 Iranian undergraduate students (155 males and 220 females) and examined gender differences in attitudes toward computers. The findings revealed significant gender differences in terms of confidence in using computers and stereotypical perceptions of computer users. Female students strongly supported the idea that both genders possess equal ability and competence in using computers; however, they reported lower confidence in their own computer skills compared to male students. The study found no significant gender differences in students' interest in computers or in their perceptions of the usefulness of computers. Both male and female participants held similar views regarding the positive impact of computers on individuals and society. The results were also interpreted in relation to factors such as parents' perceived attitudes and behaviours, as well as their socioeconomic status (SES).

Warschauer, Knobel and Stone (2004) in their study which was titled "Technology and equity in schooling: Deconstructing the digital divide" highlighted that unequal access to computers at home significantly influences how technology is used for learning in schools. In high-SES schools, almost all students had computers and internet access at home, allowing teachers to assign technology-based homework and focus class time on more advanced academic tasks. In contrast, lower-SES schools had fewer students with home computer and internet access. As a result, teachers often avoided assigning computer-based homework to prevent disadvantaging students without access and instead used class time for basic computer-related tasks. This difference in home access shaped how technology was integrated into teaching and learning.

Selwyn (2008) conducted a study which was titled "An investigation of differences in undergraduates' academic use of the Internet" to examine differences in undergraduate students' academic use of the internet and the factors influencing their engagement with digital technologies for learning. The study highlighted that students' patterns of technology use are shaped not only by

individual interest and skills but also by the availability and accessibility of institutional technological resources. Selwyn emphasized that access to computers, internet facilities, and other digital infrastructure within educational institutions plays a significant role in determining the frequency and nature of students' technology use. Students who have greater access to such resources are more likely to use the internet for academic purposes, including searching for information, completing assignments, and supporting their learning activities. The study further suggested that institutional environments, such as residential campuses or hostels where technological facilities are readily available, can encourage more frequent engagement with digital tools for educational purposes. These findings highlight the importance of providing adequate technological infrastructure within educational institutions to promote effective and meaningful use of technology in students' academic work.

Yau, H., & Cheng, A. (2012) examine gender difference regarding confidence toward using technology (e.g., AutoCAD, SPSS, Compiere, Arena and programming language, such as C, Java, Visual Basic, etc.) for learning in higher educational institutions in Hong Kong. The study employed a survey methodology collecting 211 questionnaires from one specific university in Hong Kong. The findings confirmed that male students have more confidence in using technology for learning than do female students because gender imbalances in computing are socially constructed and not related to a learner's innate ability. It is recommended that the universities should set up training courses for female students so these students can build confidence in using technology for learning.

Objectives

1. To study the technology use level of Bru adolescent students of Mamit district, Mizoram.
2. To study the differences on technology use of Bru adolescent students with reference to gender.
3. To study the differences on technology use of Bru adolescent students with reference to their residential status.

Hypotheses

1. There is no significant difference in the use of technology between male and female Bru adolescent students.

2. There is no significant difference in the use of technology between hosteller and day scholar Bru adolescent students

Methodology

Research design

For the present study a descriptive type of research has been used.

Sample

A sample of 161 students (90 male and 71 female) were selected. For the present study, multistage stratified random sampling technique was employed. In the first stage, schools in Mamit district with Bru adolescent students were selected randomly. In the second stage, students were stratified based on gender and residential status. Finally, respondents were selected randomly from each stratum to obtain the required sample.

Tool

Adolescent's Habits Scale (AHS – LVNS) developed by Dr. (Mrs.) Vijaya Lakhsmi and Dr. Shruti Narain was used.

Analysis and interpretation of data

The data were analysed based on the objectives and are presented as follows:

1. To study the technology use level of Bru adolescent students of Mamit district, Mizoram.

Table 1

Level of Bru Adolescent Students' Technology Use

Sl. no	Level	No. of students	Percentage
1	**High**	6	3.73
2	**Average**	47	29.19
3	**Poor**	108	67.1

From the table, it can be seen that 67.1% of the Bru adolescent students of Mamit district have poor level of technology use, 29.19% have average level, and only 3.73% of the students have high level of technology use.

2. To study the differences on technology use of Bru adolescent students with reference to gender.

Table 2

Comparison of Bru Adolescents' Technology Use with Regards to their Gender.

Gender	N	DF	Mean	SD	SED	t. value	Sig. Level
Male	90	159	13.49	5.69	0.79	2.23	Significant
Female	71		11.73	4.31			0.01

The data presented in Table 2 indicate a difference in the use of technology between male and female Bru adolescent students. The mean score of male students is 13.49 with a standard deviation of 5.69, while the mean score of female students is 11.73 with a standard deviation of 4.31. This suggests that male students tend to use technology slightly more than female students.

To determine whether this difference is statistically significant, a t-test was conducted. The calculated t-value is 2.23, which is higher than the critical value at the required level of significance. This indicates that the difference between the two groups is statistically significant. Therefore, the hypothesis stating that there is no significant difference in the use of technology between male and female Bru adolescent students is rejected.

3. To study the differences on technology use of Bru adolescent students with reference to their residential status.

Table 3

Comparison of Bru Adolescent Students' Technology Use with Regards to their Residential Status

Residential Status	N	Degree of Freedom	Mean	SD	SED	t. value	Sig. Level
Hosteller	53	159	7.53	1.49	0.47	16.45	Significant
Day scholar	108		15.26	4.39			

The data presented in Table 3 show a clear difference in the use of technology between hosteller and day scholar Bru adolescent students. The mean score of hostellers is 7.53 with a standard deviation of 1.49, whereas the mean score of day scholars is higher at 15.26 with a standard deviation of 4.39. This indicates that day scholars tend to use technology more frequently than hostellers. To test the significance of this difference, a t-test was applied. The calculated t-value is 16.45, which is higher than the critical value at the required level of significance. This shows that the difference between the two groups is statistically significant.

Therefore, the null hypothesis stating that there is no significant difference between hostellers and day scholars in their use of technology is rejected. The findings suggest that residential status influences the level of technology use among Bru adolescent students, with day scholars showing greater engagement with technology.

Major findings

a) The study reveals that 67.1% of the Bru adolescent students use technology at a low level, while 29.19% demonstrate a moderate level of technology use, and only a small proportion (3.73%) actively use technology at a high level. These findings indicate that although Bru adolescent students show some variation in their engagement with technology, the majority still demonstrate limited use of technological resources. This suggests that the Bru adolescent population remains relatively disadvantaged in terms of effective access to and utilization of technology.

b) The findings of the study indicate that male and female Bru adolescent students differ significantly in their habits of using technology. The analysis shows that male students tend to use technology more frequently and actively than female students. Thus, the observed difference in technology use is in favour of male students, suggesting the presence of gender-based disparities in access to or engagement with technological tools.

c) The study also reveals a significant difference between hosteller and day scholar Bru adolescent students in their use of technology. The results show that day scholar students demonstrate higher levels of technology use compared to hosteller students. Therefore, the difference is in favour of day scholars, which may be attributed to greater access to technological resources, internet connectivity or digital devices in their home environments.

Discussion

a) The investigation reveals that the Bru adolescent students of Mamit district have a very poor level of technology use habit. Majority falls under the level of poor, and a very tiny fragment of the whole sample population uses technology regularly. The rural setting of the study area may explain the limited access to technological devices, internet connectivity and digital infrastructure. Neil Selwyn (2011) also observed that students in rural and marginalized communities often face restricted access to digital technologies, which lowers their engagement compared to urban peers. Still, some research shows that limited technology use does not always harm academic achievement. Conrad (1997), for example, found that while internet use increased students' enjoyment of learning, it did not lead to significant gains in academic performance.

b) Regarding technology use, there is a significant difference between the male and female students. Although the overall level technology use is poor, the comparative view reveals that the difference is highly in favour of the male students. When looking for a rationale behind this result, the research of Yau, H., & Cheng, A. (2012) can be cited. Their findings confirmed that male students have more confidence in using technology for learning than do female students because gender imbalances in computing are socially constructed and not related to a learner's innate ability. It is recommended that the universities should set up training courses for female students so these students can build confidence in using technology for learning. Also, Shashaani and Khalili (2001), in their study of 375 Iranian undergraduate students, reported significant gender differences in confidence in using computers. Their findings showed that female students tended to express lower confidence in their computer abilities compared to male students, even though they believed that both genders possess equal capability in using computers. Such findings suggest that the gap may be related more to perceptions and social influences than to actual ability.

c) The study highlights a significant difference in technology usage between hostellers and day scholars among Bru adolescent students. Day scholars exhibit significantly higher engagement with digital devices compared to their hostel-residing peers, suggesting that residential context strongly shapes access to and interaction with technology. One likely reason for this gap lies in institutional rules governing hostel life. Many residential schools impose restrictions, or sometimes even completely ban the use of mobile phones and digital devices to maintain discipline and minimize distractions from academics. Hence, hostellers often have fewer opportunities to use smartphones which results in inability to access the internet or engage with other digital platforms. Day scholars, on the other hand, live at home where personal devices, internet connectivity and family-owned technological resources are more readily available. This environment enables them to use technology more frequently for communication, entertainment and learning. The absence of strict institutional restrictions further supports their higher levels of technology use.

Conclusion

The present study examined the level of technology use among Bru adolescent students of Mamit district, Mizoram and explored differences based on gender and residential status. The findings revealed that the overall level of technology use among the students is relatively low, with the majority falling under the poor level of technology usage. While no significant difference was found between male and female students in the statistical analysis, descriptive results indicated slightly higher technology use among male students. A significant difference was found between hostellers and day scholars, with day scholars demonstrating higher levels of technology use, possibly due to greater access to technological devices compared to hostellers. These findings highlight the influence of access and environment on adolescents' technology habits. The study emphasizes the need for appropriate guidance, awareness and balanced opportunities for technology use so that adolescents can benefit from its educational potential while avoiding negative consequences.

References

Conrad, C. A. (1997). *Computers and pedagogy: Lessons from other disciplines*. Paper presented at the Allied Social Science Association Meetings.

Eccles, J. S., & Roeser, R. W. (2011). Schools as developmental contexts during adolescence. *Journal of Research on Adolescence, 21*(1), 225–241. https://doi.org/10.1111/j.1532-7795.2010.00725.x

Fitton, V. A., Ahmedani, B. K., Harold, R. D., & Shifflet, E. D. (2013). The role of technology on young adolescent development: Implications for policy, research and practice. *Child and Adolescent Social Work Journal, 30*(5), 399–413. https://doi.org/10.1007/s10560-013-0296-2

Selwyn, N. (2008). An investigation of differences in undergraduates' academic use of the Internet. *Active Learning in Higher Education, 9*(1), 11–22. https://doi.org/10.1177/1469787407086744

Selwyn, N. (2011). *Education and technology: Key issues and debates*. Bloomsbury Academic.

Shashaani, L., & Khalili, A. (2001). Gender and computers: Similarities and differences in Iranian college students' attitudes toward computers. *Computers & Education, 37*(3–4), 363–375. https://doi.org/10.1016/S0360-1315(01)00059-8

Warschauer, M., Knobel, M., & Stone, L. A. (2004). Technology and equity in schooling: Deconstructing the digital divide. *Educational Policy, 18*(4), 562–588. https://doi.org/10.1177/0895904804266469

Wood, W., & Rünger, D. (2016). Psychology of habit. *Annual Review of Psychology, 67*, 289–314. https://doi.org/10.1146/annurev-psych-122414-033417

World Health Organization. (2023). *Adolescent health*. https://www.who.int/health-topics/adolescent-health

Yau, H. K., & Cheng, A. L. F. (2012). Gender difference of confidence in using technology for learning. *Journal of Technology Studies, 38*(2), 74–79.