

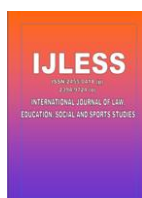


A Study on Educational Apps Awareness Among high school students and Its Relationship with their Academic Achievement

Dr. Vishwanatha K.

Assistant Professor, Acharya Institute of Graduate Studies, Soladevanahalli, Hesaragatta
Main Road, Bengaluru-560 107. Email ID: VishwakgwD@gmail.com

DOI: [10.33329/ijless.12.S1.736](https://doi.org/10.33329/ijless.12.S1.736)



ABSTRACT

The increasing prevalence of a variety of educational applications on mobile devices in the modern classroom at secondary school level raises concerns on their effects on the academic performance of school children. This paper focuses on secondary school students' level of awareness about educational apps and seeks to establish whether there is a correlation between this level and their academic output. Using questionnaires and academic performance records, the study looks into how much students know about the different learning educational applications and if such knowledge helps them to perform well in their investigations. The research looks into the frequency of use, the categories of applications employed, as well as the influence of parents or teachers to the use of applications. The data will be composed from IX standard students from Bengaluru District and self-constructed likert scale will be used to identify the educational apps awareness level among students and the collected data will be analyzed with the help of statistical techniques namely 't' test and correlation and the level of significance was fixed at 0.05 and 0.01 levels. The findings indicate that academic achievement is good among students who are knowledgeable about and actively use educational applications. This research paper ends with suggestions increasing awareness of educational applications among secondary children, overcoming barriers to effective use and making the most out of technology to teach and learn in order to attain desired development in student outcomes and it also suggests that there can be benefits from the use of these learning apps, as long as their use is joined with the engagement and presence of the students.

Keywords: Educational Apps, Awareness, Academic Achievement, high school students.

INTRODUCTION

The use of mobile devices and other learning applications has very much changed the environment of learning, especially among students in secondary schools. Educational apps (applications) now serve as a significant part of learning, which includes personalized learning opportunities, increased student engagement, involvement and improved students' academic performance (Kumar, 2017; Lee, 2018). Technology is most aspects of modern learning and educational applications, including Google Classroom, Zoom, Microsoft Office tools (Word, Excel, PowerPoint), Google Docs, Grammarly and even social media platforms like Facebook, Messenger, YouTube and Telegram, are now integral parts of the learning process. These applications facilitate communication between students as well as educators, support collaborative learning with present resources for remote as well as hybrid learning environments.

Educational applications, in short EAs, are designed to improve teaching and learning in virtual settings and students and teacher educators conduct activities that were previously done in a physical classroom environment condition. The growth of mobile technology has increased the impending for educational apps to supplement or even replace traditional learning strategy, making learning more flexible as well as accessible. In despite the prominent advantages of educational apps, they still face numerous challenges that remain unexploited to ensure one accomplishes their full potential.

This examination identifies some major restricted access impeding the effective usage of educational apps, which encompass technology related issues, under preparation and distractibility. One of the chief aspects was due to the fact that these educational apps were so extensively linked up via entrance that sometimes without a stable internet they themselves became ineffective, hindering students' academic progression as a result. Moreover, teachers' lack of attentiveness, insufficient technical skills and reluctance to adopt technology limits the integration of educational apps in teaching practices (Ozan, 2013) and another issue is the potential for distractions; mobile devices permit students to access not only educational apps but also gaming applications as well as social media apps, which diverts their attention away from academic tasks. Some teacher educators even view mobile devices as disruptive tools that negatively impact students' attention and engagement in learning behaviour.

Despite these challenges, research studies show that the use of mobile devices in education positively influences students' attitudes toward their coursework, boosting motivation along with participation in learning activities (Ozdamar Keskin, 2011; Yilmaz & Akpinar, 2011). The student engagement with mobile learning environments encourages students to be more energetic in their studies, which may lead to enhancement in academic outcomes. Therefore, mobile devices with educational apps are essential tools for both students and teachers in a more interactive with personalized manner.

Given these considerations, it becomes essential to examine how aware high school students are of educational applications and how usage impacts academic achievement. A study of the relationship of the use of educational apps with students' academic performance would provide valuable knowledge into how these tools can be integrated into the educational process more effectively to raise their effectiveness and it thus investigates awareness about educational applications among students at high school level and assesses whether such a relationship with success at academics does exist.

LITERATURE CITED

Timotheou et al. (2023) studied a thematic review of literature on how digital technologies influence education and the aspects shaping schools' digital capacity and transformation. Their findings highlighted that ICT integration impacts not only students' academic performance but also

other school-related elements and stakeholders and the study highlighted the interconnectedness of various factors influencing the successful digital transformation of schools. Oliveira, Pedro and Santos (2021) investigated the application of mobile applications in higher education, analyzing students' perceptions and real usage by means of a pilot study. Data from 77 undergraduate students concluded that students have significant app usage during theoretical classes, with social networking apps such as Facebook and Instagram being the most accessed and what is surprising is that students underestimate their actual usage, as the findings suggest that apps distracts students during class time. Ababa et al. (2021) examined the role of Educational Apps (EAs) in enhancing academic performance among senior high school students in Bulacan in Philippines. A descriptive correlational study confirmed a significant positive relationship between using EAs and academic achievement and however, the research pointed out the need for improvements in app features to exploit effectiveness.

Ravi and Singh (2020) highlighted the transformative potential of mobile applications in the education sector. The descriptive study, using secondary data, demonstrated the manner in which mobile applications improve interactivity and access in the teaching-learning process. They underlined the promise of mobile applications in democratizing education through quality learning opportunities at any time and from anywhere. Cabaleiro-Cervino and Vera (2020) studied the benefits and challenges of educational technologies in higher education and in that review, they discussed the role of technology in human capital formation while considering difficulties in measuring the quality of outcomes associated with the technological tools.

Klimova (2019) assessed the influence of mobile learning on foreign language achievement and their pilot study showed that personalized smart-phone applications were effective in enhancing students' vocabulary as well as phrases in English. The study emphasized the need to adapt mobile learning to the needs of students with continuous teacher involvement for positive results. Gilavand, Asl and Kameli (2019) conducted a examination on the impact of mobile educational apps on undergraduate radiology students' academic performance. The experimental research showed a significant improvement in academic scores among students who used mobile apps compared to a control group. Gender was not shown to have an effect on the results, indicating that the intervention was applicable to all genders. Demir and Akpinar (2018) studied the impact of mobile learning applications on the achievement and attitudes of undergraduate students and the study established that mobile learning significantly increased motivation, academic performance with positive attitudes toward the learning process among students.

Research Gap: While existing studies have extensively explored the advantages of mobile and educational apps in higher education, there is limited research on their awareness and use among high school students, particularly in relation to their academic achievement and most past examinations focus on university-level interventions, leaving a gap in understanding how mobile educational tools impact younger students in foundational academic stages.

SIGNIFICANCE OF THE STUDY

This research is of great value since it fills a research gap in relation to the awareness of educational apps among secondary school students and their relationship with academic achievement, a demographic under explored compared to the wide focus on higher education (Timotheou et al., 2023; Oliveira et al., 2021). While previous studies have shown the advantages of educational apps in higher education, such as improved learning experiences, better academic performance and increased motivation (Klimova, 2019; Gilavand et al., 2019; Demir & Akpinar, 2018), few studies explore these effects in the context of high school students. This study, therefore builds on evidence that mobile learning applications impact positively on academic outcomes and helps identify factors influencing digital adoption (Ababa et al., 2021; Ravi & Singh, 2020). With this, it delivers actionable insights for educators, policymakers as well as parents as they integrate these tools effectively. It also resonates

with the growing recognition of the transformative role of technology in education and its potential for improving learning outcomes across diverse student populations.

STATEMENT OF THE PROBLEM

“A Study on Educational Apps Awareness among High School Students and its Relationship with their Academic Achievement”

PURPOSE OF THE STUDY

The purpose of this research is to examine the level of awareness about educational applications among high school students and its relationship with their academic achievement and the study seeks to discover how the awareness with usage of educational apps influence academic performance and whether demographic factors namely gender and type of institution have any significant influence on these variables.

OBJECTIVES OF THE STUDY

1. To know the level of awareness about educational applications of high school students.
2. To find out the relationship between educational apps awareness and academic achievement of high school students.
3. To examine the differences in academic achievement based on gender among high school students.
4. To compare the academic achievement of students educating in government, private aided and private unaided schools.
5. To provide suggestions for increasing awareness and effective utilization of educational applications in high schools.

HYPOTHESES OF THE STUDY

1. There is no significant relationship between educational apps awareness and academic achievement among high school students.
2. There is no significant difference in academic achievement between high school boys and girls.
3. There is no significant difference in academic achievement between students studying in government and private aided schools.
4. There is no significant difference in academic achievement between students studying in private aided and private unaided schools.
5. There is no significant difference in academic achievement between students studying in government and private unaided schools.

METHODOLOGY

This research utilized a descriptive correlational research design to investigate the relationship between awareness of educational apps and academic achievement among high school students and the sample comprised 96 IX standard students from Bengaluru City, selected through stratified random sampling. Data collection was carried out using two major tools: a self-constructed Likert scale for assessing awareness of educational apps and academic performance records obtained from school offices. Karl Pearson's coefficient of correlation and independent 't' test techniques were used to analyze the data and the results were found to be reliable at a significance level of 0.05 and 0.01 level of significance and the results were got with the help of SPSS Package and MS Excel application.

ANALYSIS AND INTERPRETATION OF DATA

Table-1: Showing mean, standard deviation, 'r' value and level of significance on scores of Academic Achievement and Educational Apps awareness of high school students.

Variable	Mean	Standard Deviation	Obtained 'r' value	Level. of Sig.
Academic Achievement (DV)	78.118	14.373	0.439	**
Educational Apps Awareness (IV)	69.145	16.164		

**Significant at 0.01 level (N=96; df=94; Table Value=0.267)

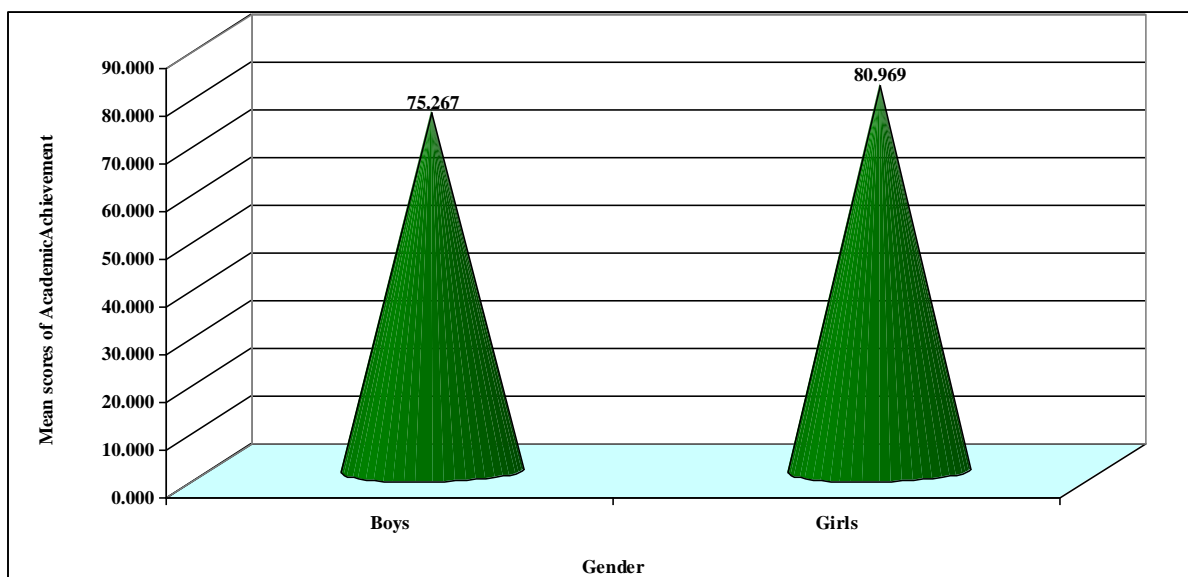
The obtained 'r' value of 0.439 are greater than table value 0.267 at 0.01 level which shows significant positive relationship between Academic Achievement and Educational Apps Awareness among students. Hence, the stated null hypothesis is **rejected** and alternative hypothesis has been formulated that "there is a significant positive relationship between Academic Achievement and Educational Apps Awareness of high school students."

Table-2: Showing Independent 't' test technique results related to Academic Achievement scores of high school boys and girls.

Gender	Sample	Mean	Std. Deviation	't' Value	Sig. level
Boys	48	75.267	16.050	1.97	NS
Girls	48	80.969	11.973		

^{NS}Not Significant level ['t' Table Value for N=96; df=94 is 1.99]'

The independent 't' value for Academic Achievement of high school boys and girls is found to be 1.97 which is not significant even at 0.05 level of significance. This means 'there is no significant difference in the Academic Achievement between high school boys and girls.' It was concluded that both the students (boys and girls) from high schools had similar academic achievement. The same has been graphically presented in Graph 1.



Graph 1: Comparison of mean academic achievement scores between school boys and girls.

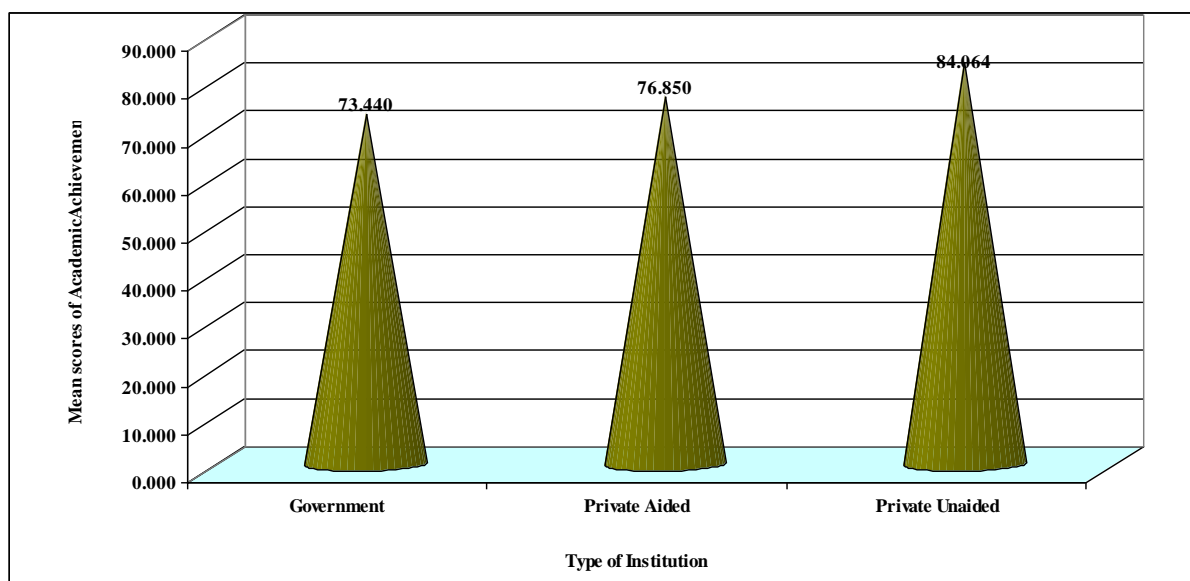
Table-3: Showing Independent ‘t’ test results related to Academic Achievement scores of high school students studying in government, private aided and private unaided schools.

Type of Institution	Sample	Mean	Std. Deviation	‘t’ Value	Sig. level
Government	32	73.440	16.889	0.88	NS
Private Aided	32	76.850	14.099		
Private Aided	32	76.850	14.099	2.41	*
Private Unaided	32	84.064	9.396		
Government	32	73.440	16.889	3.11	**
Private Unaided	32	84.064	9.396		

^{NS}Not Significant level [‘t’ Table Value for N=64; df=62 is 2.00(*); 2.66(**)].

The above table 3 presents that variable, sample, mean, standard deviation, ‘t’ value and significance level related to Academic Achievement scores of high school students due to variations in type of institution. The obtained ‘t’ value for Academic Achievement of government and private aided high school students is found to be 0.88 which is not significant even at 0.05 level of significance and this means ‘there is no significant difference in the Academic Achievement of high school students studying in government and private aided schools.’

The obtained ‘t’ value for Academic Achievement of private aided and private unaided high school students is found to be 2.41 which is significant at 0.05 level of significance and this means ‘there is a significant difference in the Academic Achievement of high school students studying in private aided and private unaided schools.’ and the obtained ‘t’ value for Academic Achievement of government and private unaided high school students is found to be 3.11 which is significant at 0.01 level of significance and this means ‘there is a significant difference in the Academic Achievement of high school students studying in government and private unaided schools.’ It was concluded private unaided school students had more achievement in academics when compared with private aided and government school students and the same has been graphically presented in Graph 2.



Graph 2: Comparison of mean academic achievement scores between government, private aided and private unaided high school students.

RESULTS

1. There was a significant positive relationship between Academic Achievement and Educational Apps Awareness of high school students.
2. There was no significant difference in the Academic Achievement between high school boys and girls.
3. There was no significant difference in the Academic Achievement of high school students studying in government and private aided schools.
4. There was a significant difference in the Academic Achievement of high school students studying in private aided and private unaided schools.
5. There was a significant difference in the Academic Achievement of high school students studying in government and private unaided schools.

DISCUSSION OF RESULTS

The results show a significant positive correlation between educational apps awareness and academic achievement with an 'r' value of 0.439. This finding is consistent with previous studies (Ababa et al., 2021; Ravi & Singh, 2020), which have reported that familiarity with educational apps enhances students' academic performance through better engagement and personalized learning opportunities.

The gender-based analysis indicated that there was no statistical difference in academic performance between boys and girls, although girls' mean scores were a bit higher. This would mean that gender is not an essential variable in the educational app usage-performance relationship and therefore agrees with similar studies like Gilavand et al. (2019). Type of Institutional analysis indicated that the students of private unaided schools outperform students in private aided and government schools. The possible reasons for this may be because private unaided schools provide better access to resources, infrastructure and support systems, thus effectively helping the students make proper utilization of educational apps. In the case of government schools and private aided schools, the mean values were not significantly different, thus signifying a similarity in educational surroundings and access to digital resources.

CONCLUSION

Awareness of educational apps correlates positively with the academic performances of high school students. Students with a higher degree of awareness and usage had better academic performances. However, the study also states that there are no major differences in the academic output of boys and girls and emphasizes the variations in outcomes in terms of the types of institutions. Private unaided schools have better student outputs.

EDUCATIONAL IMPLICATIONS

The findings highlight the need for educational apps to be incorporated into the teaching-learning process to recover academic achievement. Educators should encourage the use of these tools and align their curriculum with app-based resources to provide interactive and engaging learning experiences. Policymakers must prioritize digital literacy programmes for students as well as teachers to maximize the potential of educational technologies, especially in government and private-aided schools. The role of parents in facilitating their children's use of educational apps cannot be overemphasized; it is by creating a learning environment at home. Equitable access to resources in all institutions would ensure that students have the same academic outcomes. Lastly, teacher training programmes should focus on the integration of educational apps into classroom activities, so teachers are adequately equipped to guide students effectively in leveraging these tools for academic success.

REFERENCES

- [1]. Ababa, J. E. A., Joven, C. S. M., Santiago, J. B., Mostajo, Y. J. O., Pascual, S. T., Bucasas, J. C., Javillonar, J. D. D., De Vera, S. J., Bocao, J. M., & Francisco, C. D. C. (2021). The use of educational applications on the student's academic performance. *International Journal of Academic Multidisciplinary Research (IJAMR)*, 5(1), 92–99. Retrieved from www.ijeais.org/ijamr
- [2]. Cabaleiro-Cervino, G., & Vera, C. (2020). The impact of educational technologies in higher education. *Gist Education and Learning Research Journal*, 20, 155–169.
- [3]. Demir, K., & Akpınar, E. (2018). The effect of mobile learning applications on students' academic achievement and attitudes toward mobile learning. *Malaysian Online Journal of Educational Technology*, 6(2), 48–59. Retrieved from www.mojet.net
- [4]. Gilavand, A., Asl, J. F., & Kameli, M. (2019). Investigating the effect of using the mobile educational app as an appropriate method of study and learning on students' educational achievement. *Future of Medical Education Journal*, 25–29.
- [5]. Klimova, B. (2019). Impact of mobile learning on students' achievement results. *Education Sciences*, 9(2), 90. <https://doi.org/10.3390/educsci9020090>
- [6]. Kumar, A. (2017). Impact of mobile apps on learning outcomes. *Journal of Educational Technology*, 14(2), 1–12.
- [7]. Lee, S. (2018). The effects of educational apps on student engagement. *Journal of Educational Research*, 11(1), 1–15.
- [8]. Oliveira, D. M. D., Pedro, L., & Santos, C. (2021). The use of mobile applications in higher education classes: A comparative pilot study of the students' perceptions and real usage. *Smart Learning Environments*, 8, 14.
- [9]. Ozan, O. (2013). Directive support in connectivist mobile learning environments [Unpublished master's thesis]. Graduate School of Social Sciences, Anadolu Universitesi, Eskisehir.
- [10]. Ozdamar Keskin, N. (2011). Developing and assessing a mobile learning system for academicians [Unpublished master's thesis]. Graduate School of Education, Anadolu Universitesi, Eskişehir.
- [11]. Rao, K. (2020). Mobile learning in India: A review of the literature. *Journal of Educational Technology*, 16(1), 1–18.
- [12]. Ravi, S., & Singh, E. (2020). A study on mobile applications in education. *IITM Journal of Management and IT*, 11(1), 91–97.
- [13]. Sharma, R. (2019). Educational apps and academic achievement: A systematic review. *Journal of Educational Technology Development and Exchange*, 11(1), 1–20.
- [14]. Timotheou, S., Miliou, O., Dimitriadis, Y., Sobrino, S. V., Giannoutsou, N., Cachia, R., Martínez Mones, A., & Ioannou, A. (2023). Impacts of digital technologies on education and factors influencing schools' digital capacity and transformation: A literature review. *Education and Information Technologies*, 28, 6695–6726. <https://doi.org/10.1007/s10639-022-11431-8>
- [15]. Yılmaz, Y., & Akpınar, E. (2011). Mobile technologies and mobile activities used by prospective teachers. In I. A. Sanchez & P. Isaisas (Eds.), *Proceedings of IADIS International Conference Mobile Learning 2011* (pp. 144–150). Avila, Spain