



Learning Apps For +2 Science Students: Designing the Learning Approach

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ABSTRACT

The integration of technology in education is becoming more common, with educational apps serving as effective tools for learning. The attitudes of grade 12 science students toward these apps are crucial as they prepare for higher education. Understanding their perceptions can offer insights into the effectiveness and challenges of incorporating such tools into the curriculum.

Grade 12 science students exhibit a positive attitude toward learning apps, showing their openness to technology and alternative learning methods as they prepare for further education. This attitude is shaped by factors such as ease of use, perceived usefulness, enjoyment, and alignment with their learning styles.

In India today, challenges in school education have prompted a shift toward technology-based teaching methods to boost students' confidence. Learning apps are gaining popularity among +2 science students globally, offering easy access to education, especially with the rise of smartphones. As a result, these apps are becoming common in classrooms, enhancing learning for new generations.

This paper focuses on the attitude of +2 science students toward learning apps in the urban area of the Davanagere district. The sample consisted of 30 +2 science students at the urban level, and the survey method was used to collect the data. It was found that attitudes toward learning apps differ significantly among +2 science students across all streams.

KEYWORDS: learning apps, attitude, +2 science students.

INTRODUCTION:

Mobile devices are increasingly popular and integrated into our daily lives. Each new version offers innovative features that enhance convenience and affordability, while new apps simplify daily tasks. These advancements motivate educators and researchers to utilize mobile devices for teaching and learning. These devices can transform education by fostering a more interactive and engaging learning

environment, allowing teaching to occur beyond traditional settings (Shen, Wang, & Pan, 2008). They enable learning to continue outside the classroom (Huang, Lin, & Cheng, 2010) and help educators connect with students personally (Ward, Finley, Keil, & Clay, 2013). Additionally, sensing technologies allow for personalized and customized learning experiences (Chu, Hwang, Tsai, & Tseng, 2010). By using learning apps, we can better support secondary +2 science students according to their academic needs.

The rise of mobile devices in education has led to increased research on mobile learning (Hung and Zhang, 2012; Hwang and Tsai, 2011; Wu et al., 2012), with several studies reviewing this field (Cheung and Hew, 2009; Hung and Zhang, 2012; Hwang and Wu, 2014). Some reviews focus on specific aspects such as mobile learning games (Avouris and Yiannoutsou, 2012; Schmitz et al., 2012), collaborative learning (Hsu & Ching, 2013), or mobile apps (Jeng et al., 2010). Trends show that mobile learning is generally motivating for students (Hsu and Ching, 2013; Hwang and Wu, 2014; Schmitz et al., 2012), although some findings contradict this.

The digital revolution is transforming education by utilizing information and communication technologies (ICTs) to improve learning outcomes. While society has evolved significantly in the past 50 years, the educational model has not changed as much. Although internet access, social networks, and mobile devices can negatively impact education, mobile technologies are increasingly being incorporated into learning. However, due to the nature of these devices and a lack of experience among educators, students may face distractions and ineffective methods. Despite this, the digital revolution is reshaping educational models and engaging students, teachers, and institutions in the process.

The effective use of digital technologies and a thoughtful pedagogical approach can improve student learning outcomes. Mobile learning (m-learning) is increasingly integrated into daily activities and is significant in educational research. Mobile device usage is outpacing global population growth; Cisco's Annual Internet Report (2018–2023) predicts that smartphones will be the second-fastest growing connected devices by the end of 2023. In education today, technology is prevalent, and learning apps are becoming vital tools for enhancing learning experiences. +2 Science students have a positive attitude towards these apps, showing their openness to technology and alternative methods. This attitude is influenced by ease of use, perceived usefulness, enjoyment, and compatibility with their learning styles. Research has shown that students' acceptance of learning apps is influenced by perceived usefulness, ease of use, enjoyment, and social influence. Additionally, cultural and contextual factors are essential in shaping these attitudes. Understanding these influences can help developers create more effective and user-friendly educational apps tailored to students' needs.

NEED AND IMPORTANCE OF THE STUDY:

Overall, this research underscores the ongoing need for innovation and adaptation in educational practices to improve academic outcomes. This study examines the attitudes of +2 science students towards learning apps, highlighting their significance in today's education system. As technology becomes increasingly prevalent, understanding students' perceptions of learning apps is essential for shaping effective educational policies. The findings provide insights into students' preferences, emphasizing the benefits of integrating educational apps into the curriculum. By identifying factors like perceived usefulness and ease of use, educators and policymakers can tailor interventions to enhance the effectiveness of these tools. Additionally, the study highlights the importance of considering gender differences and diverse student populations in the design of educational technologies.

LITERATUREREVIEW:

The results showed that e-learning has a greater impact on these areas compared to face-to-face learning. Furthermore, the impact is more pronounced in higher education than in basic, mid-level, and upper-secondary education (Lizzeth Navarro-Ibarra et al., 2023).

It was revealed that faculty members primarily used videos, lectures, images, and website links. Among the most frequently used OER repositories were YouTube (specifically YouTube Edu and YouTube School), TED Talks, TED-Ed, and Khan Academy. The results indicated that the majority of faculty members intend to adopt OER (Llanda, 2023).

The study discovered that faculty members frequently use class presentations, images, and videos as OER content, highlighting their effectiveness in enhancing instructional materials. Teachers incorporated OER into their class plans as supplementary materials for students, as well as in coursework and research, as demonstrated by studies conducted by Karipi (2020), Bharti & Leonard (2021), and Al-Zahrani (2023).

This study explores the perceptions and preferences of +2 science students regarding learning apps. Results indicate a varied spectrum of attitudes, influenced by factors such as prior experience with technology, learning styles, and individual preferences. The study underscores the need for customizable and adaptive learning apps to cater to diverse student needs and preferences (Khan & Ali, 2022).

It also examines the impact of learning app integration on classroom dynamics and student engagement. Educators reported positive outcomes, including increased student participation, personalized learning experiences, and enhanced teacher-student interactions. However, challenges such as technical issues and resource constraints were also noted, emphasizing the importance of adequate support and training for effective implementation (Anderson & Wilson, 2021).

Additionally, the study explores the factors influencing the attitude of +2 science students toward learning apps. Through survey data analysis, factors such as perceived usefulness, ease of use, and social influence were identified as significant predictors of attitudes toward learning apps. The study highlights the importance of addressing these factors to promote positive attitudes and effective usage of learning apps (Patel & Shah, 2021).

OBJECTIVES OF THE PRESENT STUDY:

Objectives of the Study

The following objectives are framed for the present study:

1. To study the overall level of attitude among +2 science students toward learning apps.
2. To study the difference between male and female +2 science students regarding their attitude toward learning apps.
3. To study the difference between urban and rural +2 science students regarding their attitude toward learning apps.

Hypotheses of the Study

The following hypotheses have been framed based on the objectives:

1. There is no significant difference in the overall level of attitude among +2 science students toward learning apps.
2. There is no significant difference between male and female +2 science students regarding their attitude toward learning apps.

- There is no significant difference between urban and rural +2 science students regarding their attitude toward learning apps.

METHODOLOGY: The researcher employed the descriptive survey method.

POPULATION: The study population included 1600 +2sciencestudents studying in various Pre-University (+2science) colleges in the Davanagere District.

SAMPLE: The study's representative sample included 30 students from two Pre-University (+2science) colleges in the Davanagere District: Karnataka State, India for the present study. The researcher used the stratified random sampling technique.

TOOL USED: The tool used in the study, Attitude of LearningAppsamong+2ScienceStudents constructed by Girish T H & Patil S. S.

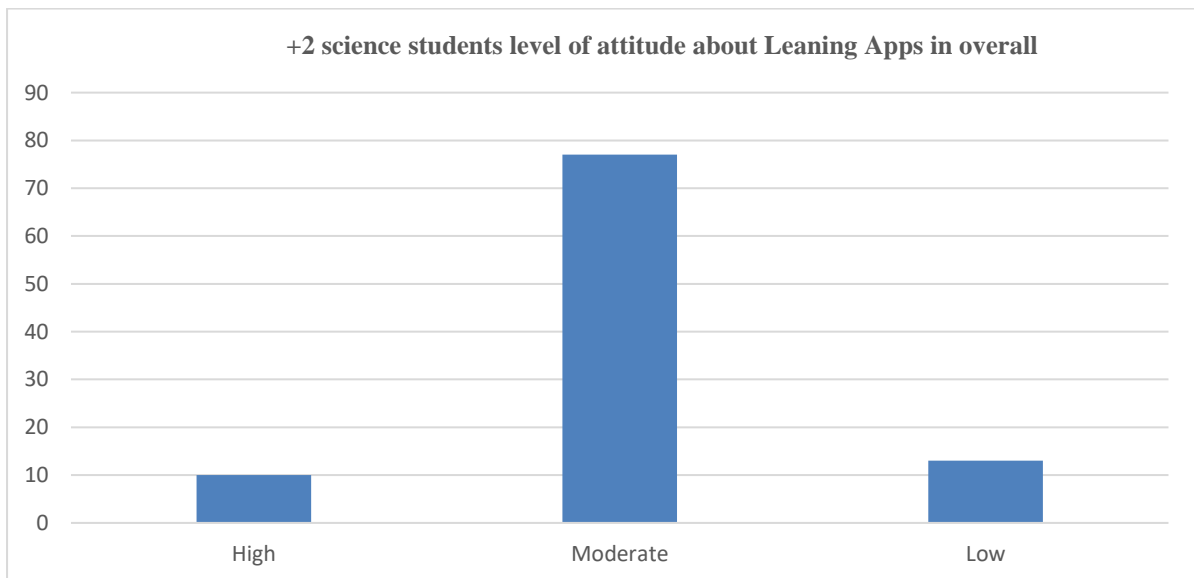
STATISTICAL TECHNIQUE: The data is analysed by using the statistical techniques of Percentage analysis.

TABLE -01

+2Sciencestudents'level of attitude about Learning Appsin overall

LEVEL OF ATTITUDE	Total (30)	
	N (30)	%
High	03	10
Moderate	23	77
Low	04	13

Figure - 01



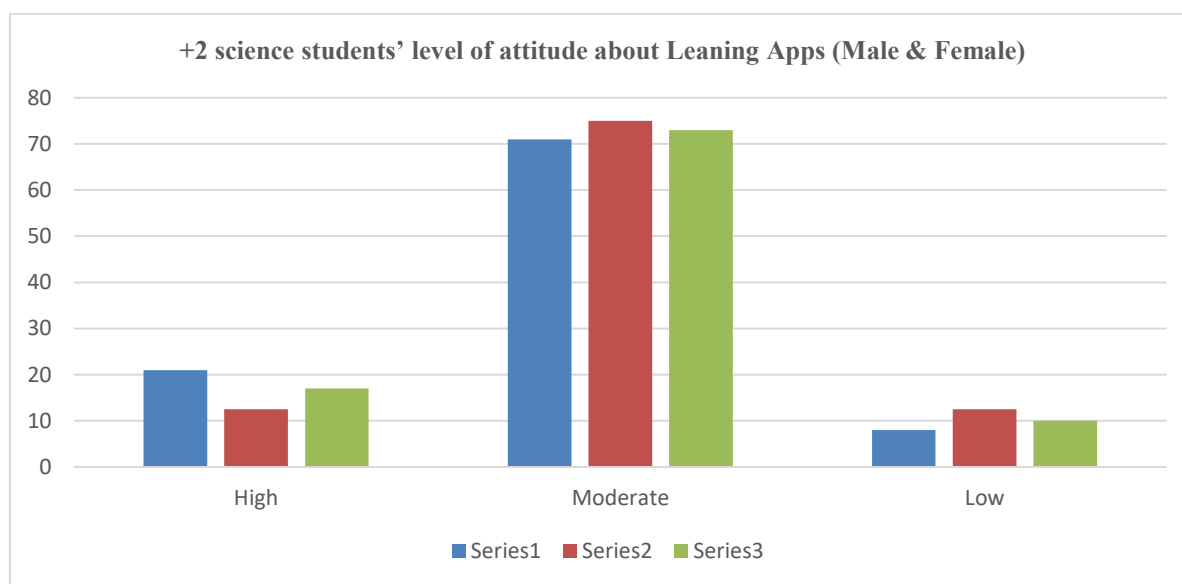
The data has been analysed by using percentage analysis. It has been found from Table -01 that there is a moderate attitude among+2sciencestudents in overall. The table depicts overall moderate attitude (77 %) among +2sciencestudents followedby high (10 %)&low (13 %) attitude levels.

TABLE -02

+2Sciencestudents’ level of attitude about Leaning Apps (Male & Female)

LEVEL OF ATTITUDE	Male (14)		Female (16)		Total (30)	
	N	%	N	%	N	%
High	03	21	02	12.5	05	17
Moderate	10	71	12	75	22	73
Low	01	08	02	12.5	03	10

Figure - 02



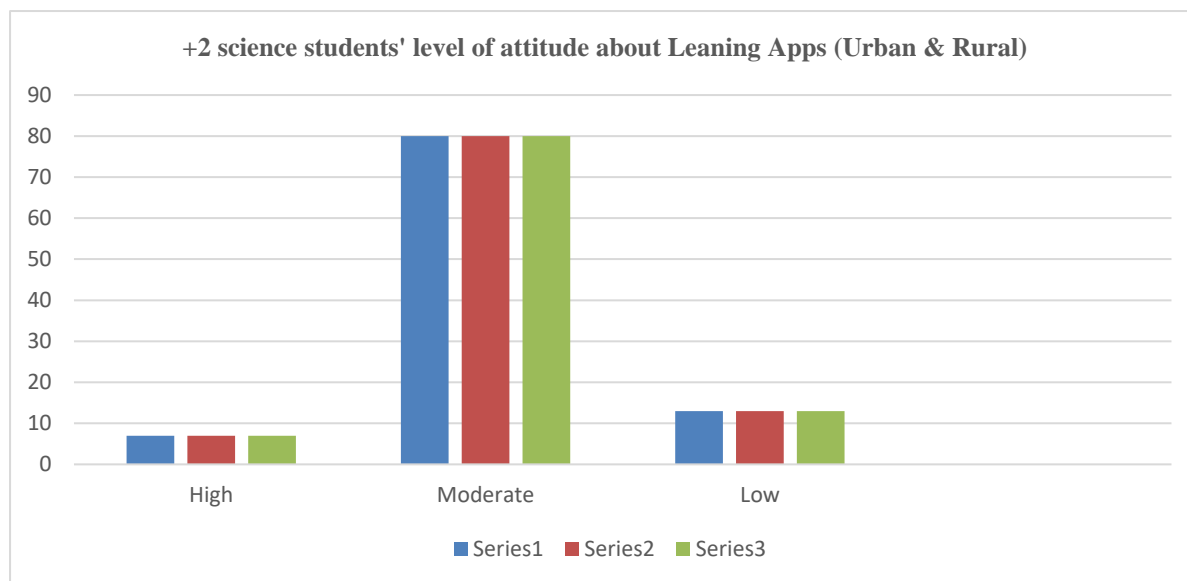
The data has been analysed by using percentage analysis. It has been found from Table -02 that there is a moderate attitude about among Male & Female +2sciencestudents. The table depicts an overall moderate attitude (73 %) among +2sciencestudents. Further, it was found that female +2sciencestudents have higher levels of moderate attitude (75 %) compared to male +2sciencestudents (71 %) followed by high & low attitude levels. It has been found that the male +2sciencestudents have a high level of attitude (21%) compared to the low level of attitude, which is 08 %. However, among female teacher educators have the same high and low attitude which is 12.5 %.

TABLE -03

+2Sciencestudents' level of attitude about Leaning Apps (Urban & Rural)

LEVEL OF ATTITUDE	Urban (15)		Rural (15)		Total (30)	
	N	%	N	%	N	%
High	01	07	01	07	02	07
Moderate	12	80	12	80	24	80
Low	02	13	02	13	04	13

Figure - 03



The data has been analysed by using percentage analysis. It has been found from Table -03 that there is a moderate attitude about among Urban&Rural +2science students. The table depicts the overall same level of moderate attitude (80 %) followed by high & low attitude among +2science students. It has been found that the urban +2science students have a low level of attitude (13%) compared to a high level of attitude, that is 07 %. However, among rural +2science students have a low level of attitude (13%) compared to a high level of attitude, that is 07 %.

FINDINGS OF THE STUDY:

The study found a moderate level of +2science students' attitude towards learning apps in total. Except these, the following are the other findings of the present study.

1. There is a moderate level of attitude among +2science students in overall.
2. The female +2science students have a higher level compared to the male +2science students about their attitude towards learning apps.
3. The urban&rural +2science students have the same level about their attitude towards learning apps.

CONCLUSION:

The study examined the use of learning apps by +2 science students and found that most students have a moderate attitude towards the learning apps in overall with gender & location type. Comparatively, urban and rural levels have the same attitude, while female students have a high tendency of attitude to male students. Some students struggle due to a lack of resources and technical support. Educational apps can facilitate learning, but it's essential to prioritize effective design, usability, relevance, and equal access.

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