

Awareness And Utilization Of Educational Apps In Relation To Digital Skills Among Undergraduate Students

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ABSTRACT

This paper examines Roald Dahl's *The BFG* and *Charlie and the Chocolate Factory* through three distinct yet interconnected lenses: post-colonial, decolonial, and Indigenous perspectives. These stories may seem like light-hearted children's fantasies. They also carry traces of the history and power dynamics of Britain's colonial past.

From a post-colonial perspective, both books demonstrate how British culture once sought to define itself as superior. In *The BFG*, the giant's playful, mixed-up language gently mocks the idea that "proper" English is the only correct way to speak. But the ending, where the Queen steps in to "fix" things, still leans on old colonial habits of control. *Charlie and the Chocolate Factory* also reflect this history. Willy Wonka's vast chocolate empire depends on ingredients from far-off places, and the Oompa-Loompas are described in ways that echo the racial stereotypes and economic exploitation tied to colonial trade.

A decolonial view pushes the discussion further. It asks how these books might question Western ways of thinking altogether. Sophie and the BFG build a relationship based on trust and shared knowledge, suggesting that wisdom can grow from cooperation rather than hierarchy. Charlie's journey to factory ownership might seem to celebrate capitalist success, but the factory's magical inventions hint at other possibilities beyond profit and industry.

Finally, an Indigenous perspective focuses on land, resources, and the more-than-human world. The BFG's dream-catching can be read as a reminder that non-human beings and the natural world hold their own stories. Meanwhile, the chocolate that fuels Wonka's empire raises questions about farming practices, ecological balance, and respect for the earth—concerns central to many Indigenous traditions.

Together, these points show that Dahl's novels don't simply repeat old colonial ideas, but they also open imaginative doors to community, reciprocity, and new ways of seeing the world.

Key Words: Post-Colonial, Decolonial, Perspective, Indigenous, fantasy, Trust, Ownership, etc.,

I. INTRODUCTION

1.1 Background of the Study

The proliferation of digital technologies has significantly reshaped higher education, particularly in how students access, process, and engage with academic content. Educational applications (or "apps") have emerged as essential tools that support various aspects of learning, including communication, collaboration, knowledge acquisition, and personalized learning experiences. The increasing penetration of smartphones and internet connectivity among students, especially in developing countries like India, has further accelerated the integration of these apps into mainstream academic activities (Muthuprasad et al., 2021; Kukulska-Hulme & Viberg, 2022).

Despite their potential, the extent to which students are aware of and utilize educational apps remains varied and influenced by several factors one of the most critical being digital skills. Digital skills encompass the ability to access, evaluate, manage, and create information using digital tools (Vuorikari et al., 2022). Undergraduate students, as digital natives, are often presumed to be technologically adept. However, recent studies indicate disparities in digital proficiency and app adoption, even among this population (Dwivedi et al., 2023; Alamri, 2021).

1.2 Significance of the Study

In the post-pandemic era, where remote and blended learning have become institutional norms, understanding the relationship between students' digital skills and their engagement with educational applications has gained fresh relevance. This study is significant for educators, policymakers, and app developers who aim to foster effective digital learning environments. It seeks to inform strategic interventions that promote equitable access and optimal utilization of educational technologies among undergraduates.

1.3 Statement of the Problem

While educational apps are widely available and increasingly used in academia, their successful adoption hinges on students' ability to navigate digital platforms. Inadequate digital skills may hinder awareness and usage, limiting students' academic development. Therefore, this study aims to investigate the extent of awareness and utilization of educational apps and how these aspects correlate with undergraduate students' digital competencies.

1.4 Objectives of the Study

1. To assess the level of awareness of educational apps and digital skills among undergraduate students.
2. To evaluate the extent of utilization of educational apps by students.
3. To examine the relationship between digital skills and the utilization of educational apps.

1.5 Research Questions

1. What is the level of awareness regarding educational apps and digital skills among undergraduate students?
2. To what extent do undergraduate students utilize educational apps for academic purposes?
3. Is there a significant relationship between students' digital skills and their use of educational apps?

1.6 Definition of Key Terms

- **Educational Apps:** Mobile or web-based software designed to support learning activities, such as Google Classroom, Duolingo, Kahoot, or Microsoft Teams.
- **Digital Skills:** The technical competencies required to effectively use digital devices, software, and the internet for academic tasks.
- **Awareness:** The extent to which students are informed about the availability and functionalities of educational apps.
- **Utilization:** The actual use of educational apps by students for study, assignment completion, collaboration, and assessment.

II. RESEARCH METHODOLOGY

This study employed a quantitative descriptive survey method to investigate the relationship between awareness and utilization of educational applications and digital skills among undergraduate students in Salem District, Tamil Nadu. The normative survey design was chosen as it is well suited for examining existing conditions, behaviors, and attitudes in educational contexts through numerical data (Creswell 2014). The target population included undergraduate students enrolled in 18 arts and science colleges, comprising government, government aided, and private institutions. A sample of 1500 students was selected using a stratified random sampling technique, ensuring proportional representation based on demographic variables such as gender, stream of study, type of institution, locality, birth order, and family type. Three primary variables guided the research: awareness and usage of educational apps, digital skills, and heutagogy. The first two were treated as independent variables, while heutagogy, the practice of self-determined learning, served as the dependent variable. Data collection was carried out using three self-developed, validated, and reliable instruments: the Awareness and Usage of Educational Apps Scale (27 items, Cronbach's alpha = 0.859), the Digital Skills Scale (35 items, Cronbach's alpha = 0.864), and the Heutagogy Scale (30 items, Cronbach's alpha = 0.847). Each tool was based on a five-point Likert scale and was piloted on 110 students to ensure clarity, internal consistency, and item relevance. Items showing poor discrimination ($r < 0.30$) were excluded through item analysis, thus enhancing the psychometric properties of the tools.

Data collection was conducted in classroom settings after obtaining institutional permissions. The researcher personally administered the instruments to ensure uniform instructions and resolve any participant queries, thereby maintaining procedural integrity. Students were assured of anonymity and the voluntary nature of their participation, adhering to ethical research standards. The collected data were analyzed using SPSS version 25. Descriptive statistics such as mean, standard deviation, and percentages were computed to summarize data patterns, while inferential statistics, including t tests, ANOVA, Pearson's correlation, and

regression analysis, were applied to test hypotheses and explore relationships among the study variables. Overall, the adopted methodology ensured methodological coherence and statistical robustness, offering valid insights into how digital competencies influence educational technology adoption and heutagogy engagement among undergraduate learners. The following section presents a detailed analysis of the data and interpretation of the results.

III. DATA ANALYSIS AND INTERPRETATION

This section presents the statistical analysis and interpretation of the data collected from 1,500 undergraduate students in Salem District, Tamil Nadu. The data were analyzed to examine the levels of awareness and utilization of educational apps and digital skills, along with the influence of demographic variables. The analysis was conducted using both descriptive and inferential statistical methods through SPSS version 25.

Descriptive Analysis

Descriptive statistics including mean and standard deviation were used to describe the awareness and utilization of educational applications and the digital skill levels of the respondents. The results indicated that male students had slightly higher awareness of educational apps, whereas female students demonstrated stronger digital skills. Urban students and those from private institutions showed higher mean scores for app usage, particularly in dimensions such as performance expectancy and facilitating conditions. Among streams of study, students in the management and commerce streams demonstrated greater awareness and usage patterns. In terms of digital skills, female students and those from government institutions displayed better performance in creative and operational digital competencies. Stream-wise analysis revealed that arts and commerce students scored higher in communication and information navigation skills. Students from nuclear families exhibited slightly stronger performance in digital skills compared to those from joint families.

Table 1: Descriptive Analysis of Awareness and Digital Skills by Demographic Variables

Demographic Variable	Awareness of Educational Apps	Digital Skills	Remarks
Gender	Males slightly higher	Females higher in creative and info skills	Significant for digital skills
Locality	Urban slightly higher	Urban higher in creative & communication skills	Significant for digital skills
Type of Institution	Private > Govt-aided	Private > Govt-aided	Significant for both
Stream of Study	Management stream highest	Commerce and Science streams better	Significant for both
Birth Order	No major differences	Last-born slightly better in creative	Not significant
Family Type	Nuclear > Joint in voluntariness	Nuclear > Joint in creative	Marginal significance

Percentage Analysis

Percentage analysis showed that a majority of the students had moderate to high awareness levels regarding educational applications. High awareness was recorded in areas such as social influence (82.87%), facilitating conditions (74.8%), and performance expectancy (65.53%). However, dimensions like voluntariness of use and perceived playfulness scored comparatively lower, suggesting a lack of intrinsic motivation among some users. With respect to digital skills, creative skills had the highest percentage of students in the high proficiency category (47.33%), followed by communication and mobile usage skills. On the other hand, information navigation skills had the highest proportion of students with low proficiency (41.53%), indicating a gap in the ability to search, filter, and evaluate online information.

Table 2: Percentage Analysis of Awareness and Digital Skills Levels

Variable	Low (%)	Moderate (%)	High (%)	Key Findings
Performance Expectancy	15.20	19.27	65.53	High awareness overall
Social Influence	5.00	12.13	82.87	Very high awareness
Facilitating Conditions	8.47	16.73	74.80	Strong institutional support
Voluntariness of Use	32.27	36.53	31.20	Lower intrinsic motivation
Perceived Playfulness	28.47	41.40	30.13	Moderate engagement
Creative Skills	12.00	40.67	47.33	Strongest digital skill
Information Navigation	41.53	35.33	23.13	Weakest skill area
Communication Skills	19.80	39.13	41.07	Good digital literacy
Mobile Usage	14.60	42.00	43.40	Generally high competency

Inferential Analysis

Inferential statistics were applied to assess the significance of differences in awareness and digital skills across various demographic variables. For awareness and usage of educational apps, no significant gender differences were found. However, significant differences were observed in effort expectancy, voluntariness of use, and facilitating conditions between students from private and government-aided institutions. Students in the management stream scored significantly higher in effort expectancy, perceived playfulness, and overall awareness. Locality-wise, no major differences were observed, although urban students had slightly higher usage levels.

In the case of digital skills, significant gender differences were noted in creative and information navigation skills, with female students outperforming males. Urban students exhibited significantly higher proficiency in creative and communication skills. Institution-wise analysis revealed significant differences in communication, information navigation, and social skills, particularly favoring private institution students. Stream-wise comparison showed significant differences across most skill areas, with commerce and science students performing better. Birth order and family type had minimal effect, although nuclear family students showed marginally better creative skills.

Table 3: Inferential Analysis Summary (Significant differences across Groups)

Variable	Demographic Group	Significant Differences Found In	Remark
Awareness and Utilization of Apps	Institution Type	Effort expectancy, voluntariness, facilitating conditions	Private > Govt-aided
Awareness and Utilization of Apps	Stream of Study	Effort expectancy, playfulness, total awareness	Management > Others
Digital Skills	Gender	Creative, Information Navigation	Female > Male
Digital Skills	Locality	Creative, Communication	Urban > Rural
Digital Skills	Institution Type	Communication, Navigation, Social	Private > Govt-aided
Digital Skills	Stream of Study	Most skill areas	Commerce & Science > Others

III. CONCLUSION AND RECOMMENDATIONS

This study investigated the awareness and utilization of educational applications among undergraduate students and examined the influence of their digital skills on app usage. The analysis revealed that while overall awareness of educational apps is high in certain functional areas such as social influence and facilitating conditions, intrinsic factors like voluntariness of use and perceived playfulness are less developed. These findings suggest that while students recognize the utility of such tools, their voluntary and enthusiastic engagement remains limited.

Digital skills among students were found to be moderate, with higher proficiency in creative and mobile usage skills and lower competency in information navigation. Female students and those from urban areas or private institutions tended to demonstrate stronger digital skills, highlighting a persistent digital divide that exists across gender, geographic, and institutional lines. Furthermore, stream wise differences in both awareness and skill levels were notable, with management and commerce students exhibiting higher usage and competence. The study confirmed a positive relationship between digital skills and the effective utilization of educational applications. This supports the foundational assumption that technological proficiency enhances both the perceived ease of use and actual adoption of digital learning tools. Consequently, the findings reinforce the relevance of models such as the Technology Acceptance Model and the Digital Competence Framework in contemporary educational research.

Based on these insights, the following recommendations are proposed:

1. Strengthen digital literacy training within undergraduate programs through curriculum integrated modules that enhance operational, navigation, and critical evaluation skills.
2. Increase institutional support by providing access to reliable infrastructure, digital tools, and user-friendly applications, especially in government and rural colleges.
3. Raise awareness about less utilized but pedagogically valuable educational apps through workshops, orientation sessions, and peer demonstrations.
4. Incentivize voluntary engagement with educational applications by integrating gamification elements and student driven learning initiatives that make app usage more interactive and meaningful.
5. Bridge demographic disparities by offering targeted support programs for students from rural areas and joint families, and ensuring equitable access to digital learning resources.
6. Encourage interdisciplinary digital adoption by embedding app-based learning strategies across all streams, not just management and commerce, to promote inclusive technological engagement.

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