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A Study on the Role of Digital Literacy in Enhancing Retention among Higher Secondary School Students

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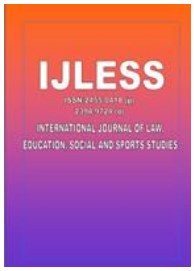

ABSTRACT
The digital era has transformed the way students' access and process information, making digital literacy an essential skill in modern education. This study investigates the role of digital literacy in enhancing retention among higher secondary school students. Retention, defined as the ability to recall and apply learned information over time, is a critical factor in academic success. The study aims to assess the correlation between students' digital literacy levels and their retention abilities in the context of science subject.

A descriptive correlational design was adopted, involving 150 higher secondary school students from diverse socio-economic backgrounds.

Data were collected using a Digital Literacy Scale (DLS) and a Retention Test, which evaluated their knowledge retention across recently covered syllabus material. Statistical analysis, including Pearson's correlation was used to examine the relationship between digital literacy and retention.

The results reveal a negligible positive correlation between higher digital literacy and better retention. The findings highlight the importance of integrating digital literacy into educational curricula to enhance student engagement and learning outcomes. The study concludes with suggestions for further research into the long-term impact of digital literacy on retention across different subjects and age groups.

Key words: Digital literacy, retention abilities, creating content, digital tools.

INTRODUCTION

In the rapidly evolving digital age, the education sector is undergoing significant changes, with technology playing a crucial role in shaping learning experiences. Digital literacy is now an essential skill that allows students to access, manage, understand, evaluate, and create information using various digital platforms. Higher secondary school students, being at a critical stage of their academic journey, are increasingly exposed to digital tools that influence their learning and retention.

Retention refers to a student's ability to remember, recall, and apply knowledge over time. This study seeks to examine how digital literacy impacts the retention abilities of higher secondary school students, with a focus on the potential benefits of integrating digital literacy into the curriculum.

Review of Related Literature

The review of literature highlights key themes regarding digital literacy and its role in education and retention.

Digital Literacy in Education

Bawden (2008) adds that digital literacy also includes critical thinking, problem-solving, and adaptability, all of which are critical for academic success. Gilster (1997), encompasses a range of competencies including accessing and evaluating digital information, using technology responsibly, and creating content.

The Role of Retention in Learning

Ebbinghaus (1985), who conducted pioneering research on the forgetting curve. Memory retention can be enhanced through regular practice, active learning, and retrieval techniques. Educational psychologists have also emphasized the importance of meaningful engagement in improving retention, linking it to deeper understanding and better academic performance.

Impact of Digital Literacy on Retention

Several studies have shown the positive influence of digital tools on student engagement and retention. Gleason (2012) conducted a study that found students with access to digital learning resources demonstrated better retention and understanding of concepts compared to those using traditional methods. This improvement was attributed to the interactive nature of digital learning tools that provide immediate feedback and personalized learning experiences.

Operational Definitions

Digital Literacy: The ability to effectively use digital devices, technologies, and the internet for learning, creating, and sharing information.

Retention: The cognitive ability of students to retain, recall, and apply learned information over time.

Higher Secondary School Students: Students studying in grades 11 and 12, typically aged 16-18 years, in a school setting.

Research Objectives

1. To assess the level of digital literacy among higher secondary school students.

2. To study the relationship between digital literacy and retention among students.

Hypotheses

There is no significant relationship between digital literacy and retention among higher secondary school students.

Methodology

Research Design: This study has adopted a descriptive correlational design to explore the relationship between digital literacy and retention among higher secondary school students.

Population and Sample: The target population will consist of higher secondary school students from three schools (urban, semi-urban). A random sampling technique will be used to select a sample of 150 students (75 males and 75 females) from various socio-economic backgrounds.

Variables:

Independent Variable: Digital literacy level.

Dependent Variable: Retention ability.

Tool for Data Collection

Digital Literacy Scale (DLS): The Digital Literacy Scale is a 40-item questionnaire designed to measure various aspects of digital literacy among students. The scale assesses the following dimensions:

1. Technical Skills (10 items): Measures students' ability to use digital devices, applications, and the internet.
2. Information Evaluation (10 items): Assesses the ability to find, assess, and verify digital information.
3. Content Creation (10 items): Measures students' ability to create and share digital content.
4. Digital Communication (10 items): Evaluates students' use of digital platforms for communication and collaboration.

Retention Test

The Retention Test will consist of 30 items based on recently covered syllabus material in Science subject. The test will include multiple-choice questions, short answers, and problem-solving tasks to evaluate students' ability to retain and apply information over time.

Data Collection Procedure

Students are administered the Digital Literacy Scale and a Retention Test during school hours.

Statistical Analysis and Interpretation

1. To assess the level of digital literacy among higher secondary school students.

Table 1: Level of Digital literacy among higher secondary school students. (N=150)

Sl.no	Level of Digital Literacy	No of Students	Percentage	Status
1	High	29	19.33%	Moderate
2	Moderate	85	56.66%	
3	Low	36	24%	

The level of digital literacy was tested through the questionnaire. It was found that out of the total sample56.66% of the secondary school students had moderate digital literacy and 24% had low digital literacy. But interestingly 19.33% of the students had high digital literacy. This brings into the picture that the digital literacy is more of moderate level.

2. To study the relationship between digital literacy and retention among students.

Table 2: Relationship between digital literacy and retention among students.

Variables	'r' value	Level of Significance
Digital Literacy and Retention	0.41	Moderate positive correlation

From the above obtained 'r' value, it can be interpreted as, the relationship between digital literacy and retention is noticeable, it is not the only factor contributing to retention outcomes. The positive value of the correlation coefficient ($r > 0$) means that as digital literacy scores increase (e.g., familiarity with

technology, ability to use educational tools, understanding of online content), there is a corresponding increase in the retention rates of students (ability to remember and apply what they've learned).

Results

The results will be presented in tables based on the analysis. It is found from the study that 56.66% of the students are having moderate digital literacy. It is found from the study that, there is a moderate positive correlation between digital literacy and retention. The positive value of the correlation coefficient ($r > 0$) means that as digital literacy scores increase (e.g., familiarity with technology, ability to use educational tools, understanding of online content), there is a corresponding increase in the retention rates of students (ability to remember and apply what they've learned).Students with higher levels of digital literacy are likely to exhibit better retention abilities.

Educational Implications

1. While digital literacy appears to contribute to retention, interventions aimed at improving retention should also consider other factors.
2. Digital literacy training, combined with other learning strategies, could optimize student retention.

Conclusion

This study aims to explore the relationship between digital literacy and retention among higher secondary school students. As technology continues to permeate the education sector, digital literacy will remain a critical skill that not only improves academic performance but also enhances students' ability to retain and apply knowledge effectively.

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