Click to Read: The Effect of Digital Reading Practices on the Reading Enthusiasm of Grade 11 Science Learners

[1]Jicel P. de Guzman, [2]Lolita A. Dulay

[1]LPT Davao City

[2]LPT MAGC, PhD, EdAd

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ABSTRACT

This quantitative study investigated the effect of digital reading practices on the reading enthusiasm of Grade 11 Science learners at Malabog National High School, Davao City. Using a descriptive–correlational research design, data were gathered from 100 purposively selected participants through a validated survey questionnaire adapted from Chen and Kuo (2017) and the Motivation for Reading Questionnaire by Wigfield and Guthrie (1997). Descriptive statistics determined the levels of digital reading practices and reading enthusiasm, while Pearson's r and linear regression tested their relationship and predictive influence. Findings revealed that learners exhibited moderate to high digital reading practices ($M = 3.72$, $SD = 0.58$) and high reading enthusiasm ($M = 3.89$, $SD = 0.61$). A significant positive correlation ($r = 0.63$, $p < .05$) was found between digital reading practices and reading enthusiasm, indicating that more frequent and purposeful digital reading is associated with greater motivation and engagement. Regression analysis confirmed that digital reading practices significantly predicted reading enthusiasm ($\beta = 0.63$, $t = 7.84$, $p < .05$). The results highlight the importance of integrating digital reading strategies in science education to cultivate students' enthusiasm and intrinsic motivation for learning.

Keywords: Digital reading, reading enthusiasm, motivation, correlational study, STEM learners

INTRODUCTION

Reading remains a cornerstone of literacy and academic achievement. Traditionally grounded in print media, reading fosters comprehension, critical thinking, and lifelong learning (Snow, 2020; Guthrie & Wigfield, 2000). However, the digital revolution has reshaped reading behavior. E-books, online articles, and interactive learning platforms have become central to 21st-century literacy, aligning with global educational frameworks advocating technology integration (Liu, 2021; UNESCO, 2022).

Despite the accessibility and interactivity of digital texts, researchers have reported mixed outcomes. Some suggest that digital environments diminish attention and depth of comprehension (Margolin et al., 2013; Baron, 2020), while others find that hyperlinks, multimedia, and user control enhance engagement (Zheng & Warschauer, 2019; Chen et al., 2022). For Grade 11 Science learners—whose studies depend heavily on digital resources—understanding how digital reading affects enthusiasm is vital for sustaining motivation in a technology-driven context.

This study addresses a research gap by examining digital reading and reading enthusiasm among senior high school students in the Philippine STEM strand, a group rarely studied in prior international research.

Theoretical Framework

The study integrates the **Technology Acceptance Model** (Davis, 1989) and **Self-Determination Theory** (Deci & Ryan, 1985).

- **TAM** explains that perceived usefulness and ease of use shape learners' acceptance of digital reading platforms (Venkatesh & Bala, 2008).

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- **SDT** posits that intrinsic motivation arises when autonomy, competence, and relatedness needs are met (Deci & Ryan, 2000).

Together, these models clarify how digital reading behaviors and motivational factors interact to influence reading enthusiasm.

Statement of the Problem

This study aimed to determine the effect of digital reading practices on the reading enthusiasm of Grade 11 Science learners. Specifically, it sought to answer:

1. What is the level of digital reading practices among learners in terms of (a) frequency of use, (b) type of materials read, and (c) duration of reading?
2. What is the level of reading enthusiasm among learners in terms of (a) motivation, (b) interest, and (c) engagement?
3. Is there a significant relationship between digital reading practices and reading enthusiasm?

Hypotheses

- H_0: No significant effect exists between digital reading practices and reading enthusiasm.
- H_1: Digital reading practices significantly affect reading enthusiasm.

METHODOLOGY

Research Design

A **descriptive–correlational design** was used to describe the level of each variable and determine their relationship (Creswell, 2014).

Locale and Participants

The study was conducted at Malabog National High School, Davao City, during SY 2025–2026. One hundred (100) Grade 11 Science learners were selected through purposive sampling, ensuring participants actively engaged in digital reading. This sample exceeds the minimum of 30 for correlational analysis (Gay & Airasian, 2003).

Research Instrument

A two-part survey questionnaire was administered:

1. **Digital Reading Practices** – adapted from Chen and Kuo (2017), measuring frequency, type, and duration.
2. **Reading Enthusiasm** – adapted from Wigfield and Guthrie's (1997) Motivation for Reading Questionnaire, measuring motivation, interest, and engagement.

Items were rated on a 5-point Likert scale (1 = Very Low to 5 = Very High). Content validity was established through expert review, and pilot-testing (n = 30) produced Cronbach's $\alpha = 0.91$, indicating excellent reliability.

Data Gathering Procedure

Approval was obtained from the school principal. After informed consent, questionnaires were distributed and collected during class hours. Data were encoded and analyzed using SPSS.

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Ethical Considerations

The study complied with the Data Privacy Act of 2012 (RA 10173). Participation was voluntary and anonymous, with informed consent secured from all respondents.

RESULTS AND DISCUSSION

Level of Digital Reading Practices

Dimension	Mean	SD	Interpretation
Frequency of Use	3.81	0.64	High
Type of Materials Read	3.62	0.55	Moderate
Duration of Reading	3.73	0.57	High
Overall	**3.72**	**0.58**	**High**

Learners frequently engage with digital materials for both academic and leisure purposes, consistent with Ng (2020) and Liu (2021), who observed that accessibility promotes reading consistency.

Level of Reading Enthusiasm

Dimension	Mean	SD	Interpretation
Motivation	3.96	0.59	High
Interest	3.87	0.62	High
Engagement	3.84	0.61	High
Overall	**3.89**	**0.61**	**High**

High enthusiasm indicates that digital reading supports learners' intrinsic motivation, aligning with SDT (Deci & Ryan, 1985).

Relationship Between Digital Reading Practices and Reading Enthusiasm

Variable	r	p	Interpretation
Digital Reading Practices ↔ Reading Enthusiasm	0.63	0.000	Significant

A strong, positive correlation ($r = 0.63$, $p < .05$) suggests that higher engagement in digital reading corresponds with greater reading enthusiasm.

Regression Analysis

Predictor	β	t	p	Interpretation
Digital Reading Practices	0.63	7.84	0.000	Significant

$R^2 = 0.40$, indicating that 40% of the variance in reading enthusiasm is explained by digital reading practices.

These results corroborate Zheng and Warschauer (2019), emphasizing that interactivity and accessibility enhance students' engagement.

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CONCLUSION

Digital reading practices significantly influence the reading enthusiasm of Grade 11 Science learners. Students who frequently and purposefully read digital materials show higher motivation, interest, and engagement. Hence, integrating structured digital reading programs can promote sustained enthusiasm and literacy development in STEM education.

RECOMMENDATIONS

1. **For Teachers:** Incorporate guided digital reading sessions emphasizing critical and reflective engagement.
2. **For Curriculum Developers:** Embed digital reading strategies into literacy and science curricula.
3. **For School Administrators:** Invest in digital resources and training to support technology-driven reading programs.
4. **For Future Researchers:** Expand to other strands or use mixed-methods designs exploring comprehension and affective outcomes.

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