

**EXPLORING THE IMPACT OF DIGITAL
LITERACY SKILLS ON STUDENTS'
CREATIVITY AND ACADEMIC
ENGAGEMENT IN SELF-FINANCING
COLLEGES IN PALAKKAD**

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Abstract

The rapid integration of digital technologies in higher education has increased the importance of students' digital competencies for meaningful learning outcomes. The present study examines the influence of Digital Literacy Skills on students' creativity and academic engagement in self-financing colleges in Palakkad. Using an exploratory and descriptive research design, primary data were collected from 150 college students through a structured questionnaire. Mean analysis, multiple regression, and correlation techniques were employed for data analysis. The findings reveal a moderate level of digital literacy among students, with

digital communication skills, information literacy, and technical proficiency emerging as significant predictors of creativity. Regression results confirm that Digital Literacy Skills substantially influence students' creative development, while correlation analysis indicates a strong positive relationship between creativity and academic engagement. The study highlights the pivotal role of digital competencies in fostering innovative thinking and active learning participation. The findings offer practical insights for educators and institutional administrators to strengthen digital skill development and promote engaging learning environments in self-financing colleges.

Keywords: *Digital Literacy Skills, Students' Creativity, Academic Engagement, Digital Communication Skills, Critical Digital Awareness, Self-financing Colleges.*

1. Introduction

The growing reliance on digital technologies in higher education has transformed students' learning experiences, particularly within self-financing colleges where online platforms and technology-enabled instruction increasingly support academic delivery (Haleem et al. 2022; Yumei et al. 2025). In this evolving educational landscape, digital literacy extends beyond basic computer usage and encompasses a broader set of competencies, including information literacy, digital communication skills, technical proficiency, and critical digital awareness (Thelma et al. 2024).

These interconnected abilities enable students to locate and evaluate academic information, communicate and collaborate through digital platforms, operate technological tools effectively, and engage with online content in a thoughtful and responsible manner (Elsa & Hadid, 2024). Collectively, these skills shape how learners interact with educational resources and adapt to digitally mediated learning environments, making digital literacy an essential component of contemporary student development (Eric Meyers et al. 2013; Supratman et al. 2025).

At the same time, creativity and academic engagement represent important outcomes of effective learning. Creativity reflects students' capacity to generate original ideas and approach academic tasks with flexibility, while academic engagement captures their level of involvement, motivation, and sustained participation in learning activities (Conradty & Bogner, 2019; Wu et al. 2025). For students in self-financing colleges in Palakkad, the extent to which digital literacy skills are developed may significantly influence both creative expression and active academic involvement. Variations in access to technology, institutional support, and individual competence can affect how information literacy, digital communication skills, technical proficiency, and critical digital awareness translate into meaningful learning experiences (Pan & Zhu, 2025).

Against this background, the present article examines the impact of digital literacy skills on students' creativity and academic engagement in self-financing colleges in Palakkad, with the objective of generating insights that may support educators and institutions in strengthening digitally supported learning practices.

2. Statement of Research Problem

The increasing use of digital technologies in higher education has reshaped learning environments, especially in self-financing colleges where online platforms and digital resources now form an integral part of academic delivery (Mamdouh, 2023; Yumei et al. 2025). Despite this transition, many students demonstrate uneven development of essential digital literacy skills, including information literacy, digital communication, technical proficiency, and critical digital awareness (Costa & Oliver, 2025). While access to digital tools has expanded, a considerable number of learners continue to face difficulties in evaluating online information, engaging meaningfully through digital platforms, and using technology effectively for academic purposes. These challenges raise concerns about students' readiness to benefit fully from digitally supported learning systems (Haleem et al. 2022; Shahid et al. 2024).

At the same time, issues related to creativity and academic engagement have become increasingly visible. Although digital environments offer opportunities for interactive learning, and innovative thinking, students in several self-financing institutions exhibit limited creative expression and inconsistent academic involvement (Yun-Li et al. 2022; Cojocariu et al. 2024). Teaching practices often remain focused on content transmission and examination outcomes, with less emphasis on developing digital competencies that encourage active participation and independent learning (María et al. 2020). As a result, the potential of digital literacy to enhance students' creative abilities and sustained engagement is not fully realised, leading to passive learning behaviours and reduced motivation (Afam & Omotoyosi, 2025).

Moreover, there is limited empirical evidence, particularly in the context of self-financing colleges in Palakkad, that explains how specific dimensions of digital literacy influence students' creativity and academic engagement (Shahid et al. 2024). Existing institutional efforts tend to adopt technology without systematically addressing underlying skill gaps or learning challenges. This lack of context-specific research restricts educators' capacity to design informed strategies that strengthen both creative development and academic participation

(Cojocariu et al. 2024). Hence, the present study addresses this gap by examining the impact of information literacy, digital communication skills, technical proficiency, and critical digital awareness on students' creativity and academic engagement in self-financing colleges in Palakkad.

3. Objectives of the Study

The present study aims to examine the role of digital literacy skills in enhancing students' creativity and academic engagement among college students in self-financing institutions. Specifically, it seeks to analyse the level and contribution of digital literacy skills in shaping students' creative abilities and academic involvement through mean score assessment. Further, the study intends to determine the impact of digital literacy skills on students' creativity using multiple regression analysis, thereby identifying the extent to which these skills predict creative outcomes. In addition, the research endeavours to assess the relationship between students' creativity and academic engagement through correlation analysis, with a view to understanding how creative development is associated with students' participation and commitment to academic activities in self-financing colleges.

4. Literature Reviews and Research Gap

4.1 Literature Reviews

Existing studies consistently highlight the growing importance of digital literacy in shaping students' academic outcomes and learning behaviours. Alaka and Ritamoni (2017) highlighted that digital literacy encompasses not only basic technical skills but also the ability to evaluate, create, and share information across digital platforms, reporting minimal differences across gender, school type, and location.

Building on this, Aavakare (2019) demonstrated that digital literacy significantly influences students' intention to use digital technologies for learning, exerting a stronger effect than information literacy alone. The study further showed that habit and performance expectancy partially mediate this relationship, indicating that behavioural factors shape how digital competencies translate into learning engagement. Together, these studies establish digital literacy as a foundational element in students' academic interaction with technology.

Soeprijanto et al. (2022) found that digital literacy directly contributes to student achievement, with stronger effects observed when combined with self-awareness and career planning. Ravikumar et al. (2024) further reported that digital literacy positively supports academic

performance, particularly by mediating the effects of digital learning, although critical thinking did not significantly moderate this relationship. Extending these findings, Supratman et al. (2025) demonstrated that digital literacy enhances academic success through digital competence, informal digital learning, and self-efficacy, all of which act as partial mediators. These studies collectively confirm that digital literacy operates both directly and indirectly in shaping students' academic outcomes.

More recent investigations have expanded the scope to include engagement, creativity, innovation, and career preparedness. Rahma and Fitriah (2025) revealed that digital literacy significantly improves student engagement and academic achievement. Zhou et al. (2025) identified a strong positive relationship between digital literacy and innovation capability among university students, with differences observed across educational contexts but not gender. Nozimjon (2025) reported a strong association between digital literacy and academic achievement, also highlighting its role in preparing students for future careers. Similarly, Zainul et al. (2025) demonstrated that academic digital literacy training significantly enhances graduates' career adaptability, underscoring the relevance of digital competencies for both academic and professional development.

4.2 Research Gap

Despite these contributions, notable gaps remain. Most prior studies, including those by Alaka and Ritamoni (2017), Aavakare (2019), Supratman et al. (2025), and Rahma and Fitriah (2025), primarily emphasise academic achievement, technology usage, or career readiness, with limited focus on the combined influence of digital literacy on students' creativity and academic engagement. Moreover, existing research largely relies on mediating variables such as self-efficacy, critical thinking, or digital competence, while the direct effects of core digital literacy dimensions—information literacy, digital communication skills, technical proficiency, and critical digital awareness—remain underexplored. In addition, empirical evidence from self-financing colleges, particularly within regional contexts such as Palakkad, is scarce. Addressing these gaps, the present study examines the impact of Digital Literacy Skills on students' creativity and academic engagement in self-financing colleges, offering context-specific insights to strengthen digitally supported higher education.

5. Conceptual Framework

5.1 Digital Literacy Skills

Digital Literacy Skills refer to students' ability to effectively utilise digital technologies for learning, communication, and knowledge creation. In

contemporary educational contexts, these skills extend beyond basic computer operation and encompass information literacy, digital communication skills, technical proficiency, and critical digital awareness (Alaka & Borah, 2017; Meyers et al., 2013; Haleem et al., 2022). Information literacy enables learners to locate, evaluate, and apply digital information appropriately, while digital communication skills facilitate collaboration and academic interaction through online platforms (Oskarita & Arasy, 2024; Rafiq et al., 2024). Technical proficiency reflects students' competence in handling digital tools and educational software, and critical digital awareness promotes responsible, ethical, and reflective engagement with online content (Costa & Oliver, 2025; Alenezi, 2023).

Collectively, these dimensions support active participation in technology-supported learning environments and enhance students' capacity to engage meaningfully with digital resources.

Within higher education, Digital Literacy Skills play a central role in shaping how students approach academic tasks, problem-solving, and independent learning. Students with stronger digital competencies are better equipped to navigate online learning resources, organise academic information, and express ideas through digital media (Romero et al., 2020; Chanda et al.,

2024). These skills also foster adaptability and self-directed learning, enabling learners to respond effectively to evolving educational demands (Zou et al., 2025; Pan & Zhu, 2025). Drawing on the Unified Theory of Acceptance and Use of Technology (UTAUT), digital literacy enhances students' performance expectancy and effort expectancy, thereby strengthening their intention to use digital technologies for learning (Aavakare, 2019). In self-financing colleges, where digital platforms increasingly support instruction and assessment, digital literacy serves as a foundational capability that influences learning experiences, academic performance, and overall engagement (Supratman et al., 2025; Ravikumar et al., 2024).

5.2 Students' Creativity

Students' Creativity refers to their capacity to generate original ideas, explore alternative approaches, and apply imagination in academic contexts. It involves flexible thinking, curiosity, and the ability to connect concepts meaningfully while completing learning tasks. In higher education, creativity supports problem-solving, innovation, and deeper understanding of subject matter (Conradty & Bogner, 2019; Yun Li et al., 2022). Digital environments further enhance creative expression by providing interactive tools and opportunities for experimentation and

collaboration (Cojocariu & Boghian, 2024). Empirical evidence also indicates that digital literacy positively contributes to students' innovation capability and creative performance, particularly when supported by appropriate learning contexts (Zhou et al., 2025; Wu et al., 2025). When students are encouraged to think independently and express ideas freely, creativity becomes a vital contributor to academic growth and personal development.

5.3 Academic Engagement

Academic Engagement represents the extent to which students are cognitively, emotionally, and behaviorally involved in their learning activities. It includes sustained attention, active participation, interest in learning, and commitment to academic responsibilities. Engaged students demonstrate motivation, persistence, and a positive orientation towards their studies. In digitally supported educational settings, academic engagement is influenced by students' ability to interact with learning platforms, collaborate with peers, and manage academic tasks effectively (Uzorka & Odebiyi, 2025; Rahma & Suud, 2025). Research further shows that digital literacy strengthens engagement by improving digital competence, self-efficacy, and informal digital learning practices (Supratman et al., 2025). Consistent with UTAUT, facilitating conditions and social influence also

shape students' sustained participation in digital learning environments (Aavakare, 2019). Hence, academic engagement emerges as a key outcome of digitally mediated learning, closely linked to both digital literacy and creative development.

6. Methodology Employed

The present study adopts both exploratory and descriptive research designs to examine the influence of Digital Literacy Skills on students' creativity and academic engagement in self-financing colleges in Palakkad. A quantitative research approach was primarily employed to obtain measurable insights into students' digital competencies and learning outcomes. The study population comprised college students enrolled in self-financing institutions, from whom a sample of 150 respondents was selected using convenience sampling. Primary data were collected through a structured questionnaire designed to assess digital literacy skills, creativity, and academic engagement.

The collected data were analysed using both descriptive and inferential statistical techniques. Mean analysis was utilised to understand the role of Digital Literacy Skills in enhancing students' creativity and academic engagement, multiple regression analysis was applied to assess the impact of Digital Literacy Skills on students' creativity, and correlation analysis was employed

to examine the relationship between creativity and academic engagement. Through this methodological framework, the study seeks to generate empirical evidence on how digital competencies contribute to students' creative development and academic involvement, thereby offering practical insights for strengthening digitally supported learning practices in self-financing colleges.

7. Data Analysis and Discussion

7.1 Analysis of Role of Digital Literacy Skills in improving Students' Creativity and Academic Engagement of College Students - Mean Analysis

To examine the role of Digital Literacy Skills in enhancing students' creativity and academic engagement, a structured questionnaire was developed comprising 12 statements organised under four dimensions, namely Information Literacy, Digital Communication Skills, Technical Proficiency, and Critical Digital Awareness, as presented in Table 1. Each dimension consisted of three items measured on a five-point Likert scale ranging from "Strongly Agree" to "Strongly Disagree." The instrument was administered to 150 students from self-financing colleges in Palakkad. The collected responses were subjected to mean analysis to assess students' perceived levels of

digital literacy and its role in supporting creative development and academic involvement.

Table 1
Digital Literacy Skills in improving Students' Creativity and Academic Engagement - Mean Analysis

DIGITAL LITERACY SKILLS	N	Mean	SD
Information Literacy	150	11.19	2.897
Digital Communication Skills	150	12.02	2.014
Technical Proficiency	150	10.41	3.521
Critical Digital Awareness	150	9.16	4.382
Role of Digital Literacy Skills in Improving Students' Creativity and Academic Engagement	150	42.78	4.896

Source: Primary Data

The results in Table 1 reveal clear variations across the four dimensions of Digital Literacy Skills. Digital Communication Skills recorded the highest mean score (12.02), indicating that students are relatively more confident in interacting, collaborating, and exchanging academic information through digital platforms. This is followed by Information Literacy (11.19), suggesting a moderate ability to locate, evaluate, and utilise online learning resources. Technical Proficiency obtained a mean score of 10.41,

reflecting basic operational competence but also indicating scope for improvement in handling educational technologies. Critical Digital Awareness registered the lowest mean value (9.16), pointing to limited critical evaluation of digital content and a need to strengthen responsible and reflective technology use.

The overall mean score for the role of Digital Literacy Skills in improving students' creativity and academic engagement is 42.78, with a standard deviation of 4.896. Considering the maximum possible score of 60, this corresponds to 71.30 per cent, reflecting a moderate level of digital literacy among the respondents. This percentage suggests that while students demonstrate reasonable engagement with digital tools, existing gaps, particularly in technical proficiency and critical digital awareness, may constrain the effective translation of digital competencies into creative outcomes and sustained academic participation. The findings highlight the importance of strengthening all dimensions of Digital Literacy Skills to support higher levels of creativity and academic engagement among students in self-financing colleges in Palakkad.

7.2 Analysis of Impact of Digital Literacy Skills on Students' Creativity in Self-financing Colleges - Multiple Regression Analysis

H1: Digital Literacy Skills have significant impact on Students' Creativity in Self-financing Colleges.

A multiple regression analysis was employed to examine the extent to which the four dimensions of Digital Literacy Skills, Information Literacy, Digital Communication Skills, Technical Proficiency, and Critical Digital Awareness, predict students' creativity in self-financing colleges. Students' creativity was treated as the dependent variable, while the four dimensions of digital literacy served as independent predictors. The analysis aimed to determine both the collective and individual contribution of each digital literacy component to creative development among college students.

Table 2

Impact of Digital Literacy Skills on Students' Creativity in Self-financing Colleges - Multiple Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.889	.798		1.215	.268
	Information Literacy	.251	.126	.212	4.214	.008**
	Digital Communication Skills	.548	.118	.354	5.775	.000**
	Technical Proficiency	.205	.140	.187	2.451	.031*
	Critical Digital Awareness	.102	.147	.091	1.036	.156

Dependent Variable: Students' Creativity in Self-financing Colleges (0.01 and 0.05 Level of Significance)

The regression results presented in Table 2 indicate that the overall model is statistically significant, with an F value of 351.147, confirming the robustness of the regression equation. The Adjusted R^2 value of 0.756 reveals that approximately 75.6 per cent of the variance in students' creativity is explained by the combined influence of Information Literacy, Digital Communication Skills, Technical Proficiency, and Critical Digital Awareness. This substantial explanatory power demonstrates that Digital Literacy Skills play a major role in shaping creative outcomes among students. Consequently, the stated hypothesis (H1) is accepted and supported, establishing that Digital Literacy Skills significantly impact students' creativity in self-financing colleges.

Among the individual predictors, Digital Communication Skills emerged as the strongest contributor to students' creativity ($\beta = 0.354$, $p < 0.01$), indicating that active digital interaction and collaborative engagement substantially enhance creative expression. Information Literacy also shows a significant positive influence ($\beta = 0.212$, $p < 0.01$), suggesting that students who effectively search, evaluate, and apply digital information are

more likely to demonstrate creativity in academic tasks. Technical Proficiency exhibits a meaningful effect at the 5 per cent significance level ($\beta = 0.187$, $p < 0.05$), highlighting the importance of operational competence in supporting creative learning activities. However, Critical Digital Awareness does not display a statistically significant impact ($\beta = 0.091$, $p > 0.05$), implying that reflective and responsible digital engagement, while essential, does not directly translate into creative outcomes within the present sample.

Overall, the findings confirm that Digital Literacy Skills, particularly digital communication, information literacy, and technical proficiency, significantly contribute to enhancing students' creativity in self-financing colleges. These results emphasise the need for educational practices that strengthen practical and collaborative digital competencies to foster creative development among college students.

7.3 Assessment of the Relationship between Students' Creativity and Academic Engagement in Self-financing Colleges - Correlation Analysis

H2: Students' Creativity has significant relationship with Academic Engagement of students in Self-financing Colleges.

A Pearson product-moment correlation analysis was applied to examine the relationship between students' creativity and academic

engagement in self-financing colleges. Both variables were measured among 150 respondents, and the analysis aimed to determine whether creative abilities are associated with students' level of involvement and participation in academic activities.

Table 3
Relationship between Students' Creativity and Academic Engagement in Self-financing Colleges - Correlation Analysis

Variable	N	'r' value	P - value	Relationship	Remarks	
					Significant	Result
Students' Creativity and Academic Engagement	150	0.789**	0.000	Positive	Significant	Accepted

(Source: Primary Data). Correlation is significant at the 0.01 level (2-tailed).**

The results presented in Table 3 reveal a strong and positive correlation between students' creativity and academic engagement ($r = 0.789$), which is statistically significant at the 0.01 level ($p = 0.000$). Since the p-value is less than 0.01, the stated hypothesis (H2) is accepted and supported, confirming that a significant relationship exists between creativity and academic engagement among students in self-financing colleges. The positive direction of the correlation indicates that higher levels of creativity are associated with

increased academic involvement, suggesting that students who demonstrate greater creative capacity tend to show stronger engagement in their learning processes.

These findings highlight the close association between creative development and academic participation, emphasising that creativity serves as an important driver of students' motivation, attention, and commitment to academic activities. The strong correlation underscores the need for educational practices that nurture creativity as a means of enhancing overall academic engagement. Strengthening learning environments that encourage idea generation, flexible thinking, and innovative expression may therefore contribute to more active and meaningful student participation in self-financing colleges.

8. Suggestions and Recommendations

Based on the findings of the present study, it is recommended that self-financing colleges place greater emphasis on strengthening students' Digital Literacy Skills through structured training programmes, hands-on workshops, and curriculum-integrated digital activities. Institutions may introduce targeted initiatives to enhance information literacy, digital communication, technical proficiency, and critical digital awareness, thereby enabling students to utilise digital resources more effectively for creative and

academic purposes. Faculty members can be encouraged to adopt interactive teaching strategies that promote collaboration, problem-solving, and creative thinking using digital platforms.

In addition, providing regular access to updated technological infrastructure and learning support services can help students overcome operational challenges and improve engagement. Creating learning environments that encourage experimentation, independent inquiry, and reflective digital practices may further enhance students' creativity and academic involvement. Collectively, these measures can support holistic student development and contribute to more meaningful learning experiences in self-financing colleges.

9. Conclusion

The present study highlights the significant role of Digital Literacy Skills in shaping students' creativity and academic engagement in self-financing colleges in Palakkad. The findings indicate that students demonstrate a moderate level of digital literacy, with digital communication skills, information literacy, and technical proficiency emerging as key contributors to creative development. The regression results further confirm that Digital Literacy Skills exert a substantial influence on students' creativity, while the correlation analysis reveals a strong positive

relationship between creativity and academic engagement. These outcomes suggest that students who possess stronger digital competencies are more likely to engage creatively with academic tasks and participate actively in their learning processes. However, comparatively lower levels of critical digital awareness point to the need for greater emphasis on reflective and responsible use of digital technologies.

Although the study offers valuable insights, it is confined to students from self-financing colleges in Palakkad and is based on a limited sample, which may restrict the broader applicability of the findings. Future research may extend this investigation to other regions and institutional contexts, while also incorporating additional variables such as learning motivation, digital access, or instructional practices.

From an academic perspective, the study adds to the growing body of literature linking digital literacy with creative and engagement outcomes in higher education. Practically, the results provide useful guidance for educators and institutional administrators to design targeted digital skill development initiatives, promote interactive learning environments, and integrate creativity-focused digital activities into the curriculum. Strengthening these areas can contribute to more engaging and innovative learning experiences,

supporting the holistic development of students in digitally evolving academic settings.

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