IJRAR.ORG E-ISSN: 2348-1269, P-ISSN: 2349-5138

INTERNATIONAL JOURNAL OF RESEARCH AND ANALYTICAL REVIEWS (IJRAR) | IJRAR.ORG

An International Open Access, Peer-reviewed, Refereed Journal

Effect of Digital Storytelling Pedagogical Intervention on the Motivation of Prospective Teachers

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Abstract

Motivation plays a vital role in meaningful learning, active engagement, and the professional development of prospective teachers. Constructivist instruction emphasizes active knowledge construction, inquiry, collaboration, and reflection, while digital storytelling (DST) integrates narrative and multimedia elements into the teaching-learning process. The present study investigated the effect of a digital storytelling pedagogical intervention on the motivation of prospective teachers. A quasi-experimental pre-test–post-test equivalent group design was adopted. The sample comprised 82 prospective teachers enrolled in the Integrated B.Ed.-M.Ed. program at the Central University of Kashmir, with 41 participants each in the experimental and control groups. The intervention was implemented over five weeks while teaching the subject Psychology of Development and Learning. Both groups received instruction through lesson plans based on the 5E constructivist instructional model. The experimental group was taught through digital storytelling, whereas the control group received instruction without digital storytelling. Motivation was assessed using a self-constructed motivation scale. An independent-samples z-test revealed no statistically significant difference between the experimental group ($M = 70.78$, $SD = 6.95$) and the control group ($M = 72.39$, $SD = 6.76$) at the pre-test stage ($z = 1.06$, $p = .291$). At post-test, the experimental group ($M = 73.88$, $SD = 4.41$) obtained a significantly higher mean score than the control group ($M = 70.76$, $SD = 6.95$, $z = 2.43$, $p = .018$). The findings indicate that the experimental group demonstrated higher motivation scores than the control group at post-test. The study highlights the potential of integrating digital storytelling into 5E-based constructivist instruction to support motivation in teacher education.

Keywords: Constructivist Instruction, Digital Storytelling, Pedagogical Intervention, Motivation, Prospective Teachers, and Teacher Education.

1. Introduction

Education in the twenty-first century demands pedagogical frameworks that foster active participation, meaningful learning, critical thinking, and sustained motivation (Shahjalal et al., 2026; Adeoye et al., 2024). Within teacher education, these elements are critical because prospective teachers must acquire not only domain-specific knowledge but also the pedagogical dispositions required for learner-centered teaching. Their intrinsic and extrinsic motivation directly influences academic engagement, task persistence, and their future adoption of innovative practices. Consequently, identifying effective instructional models remains a central priority in contemporary teacher preparation. Motivation is a psychological construct that determines the direction, intensity, and persistence of goal-directed behavior. Self-determination theory emphasizes that satisfying learners' fundamental psychological needs for autonomy, competence, and relatedness is essential for fostering self-determined motivation (Ryan & Deci, 2020; Noels et al., 2019). Learning environments that incorporate meaningful choices, collaborative tasks, and opportunities to build competence encourage deep educational engagement.Constructivism provides a theoretical foundation for such environments, positing that learners actively construct knowledge through experiences, social interaction, and reflection (Saleem et al., 2021; Zajda, 2021). The Biological Sciences Curriculum Study (BSCS) 5E instructional model comprising the Engage, Explore, Explain, Elaborate, and Evaluate phases offers a practical, structured approach for applying constructivist principles in classrooms (Bybee, 2009; Duran & Duran, 2004).To optimize constructivist instruction, educators increasingly rely on multimedia resources that contextualize abstract concepts and stimulate inquiry. Digital storytelling (DST) merges narrative structure with multimedia components such as images, audio, narration, video, and text (Kogila et al., 2020; Robin, 2008). By transforming abstract theories into relatable multimedia narratives, DST bridges cognitive concepts with real-world contexts, facilitating active knowledge construction and emotional connection (Dishari et al., 2025; Tamimi, 2024).Although empirical studies have examined digital storytelling across diverse settings (Yu & Wang, 2025; Parsaiyan & Mansouri, 2024; Nami & Asadnia, 2024), its specific utility when combined with structured constructivist methods in higher-education teacher training requires closer examination. This study addresses this gap by investigating whether integrating digital storytelling into constructivist instruction yields differential motivational outcomes among prospective teachers.

2. Review of Literature

2.1 Constructivist Approach and Motivation

Constructivism posits that learning occurs through active cognitive construction rather than passive reception. Grounded in Piaget’s developmental theory and Vygotsky’s sociocultural framework, constructivist pedagogy emphasizes inquiry, reflection, and socially mediated interaction. The 5E instructional model translates these principles into a structured sequence: Engage, Explore, Explain, Elaborate, and Evaluate that supports cognitive scaffolding and active learning (Bybee et al., 2006).From the perspective of Self-Determination Theory (SDT), constructivist learning environments cultivate self-determined motivation by satisfying learners' basic psychological needs for autonomy, competence, and relatedness (Ryan & Deci, 2020; Reeve, 2012). When learners engage in collaborative problem-solving and reflective dialogue, their intrinsic motivation and academic engagement increase significantly.

2.2 Digital Storytelling as a Pedagogical Strategy

DST combines traditional storytelling with multimedia formats (Robin, 2008). In contemporary teacher education, DST functions as a multimodal learning tool that enables prospective teachers to contextualize abstract concepts and develop 21st-century digital competencies (Radhiani et al., 2026).Recent literature underscores the strong theoretical alignment between digital storytelling and constructivist learning paradigms. Rofiqi et al. (2026) examined DST as a pedagogical bridge between traditional narrative instruction and contemporary multimedia practices in higher education. Their literature review revealed that DST can enhance learner engagement with traditional narratives through visual, interactive, and multimedia experiences. Gita et al. (2025) noted that engaging in digital narrative creation requires students to organize ideas, evaluate information sources, and regulate their own learning processes. Similarly, Yu and Wang (2025) demonstrated that incorporating DST in pre-service teacher training significantly enhanced participants' digital skills, collaborative habits, and critical pedagogical reflection.

2.3 Empirical Evidence on Digital Storytelling and Motivation

Empirical research highlights the positive impact of digital storytelling on learner motivation across diverse educational contexts: Tamimi (2024) conducted an empirical investigation into digital storytelling, finding that multimodal narratives led to significant improvements in student motivation.Yu and Wang (2025) observed that prospective teachers who created digital stories experienced higher intrinsic task interest. In a review of digital storytelling frameworks, Gita et al. (2025) highlighted that multimodal project design fosters sustained behavioral and cognitive engagement by encouraging active problem-solving and reflection. Research by Ajabshir (2024) and Shahjalal et al. (2026) demonstrated that digital storytelling environments increase student participation, reduce anxiety, and promote meaningful learning in tertiary classrooms.

2.4 Constructivist Integration of Digital Storytelling in Teacher Education

When digital storytelling is integrated into a constructivist framework such as the 5E model, it shifts from a simple multimedia tool to a core component of conceptual exploration and reflection (Bybee et al., 2006; Gita et al., 2025; Robin, 2008). Digital stories can serve as anchor media during the Engage phase, stimulate collaborative inquiry during the Explore phase, and act as creative synthesis deliverables during the Elaborate phase. However, previous studies have largely examined digital storytelling as a tool for students to create stories or support language learning, with comparatively less attention given to its integration into constructivist-based instruction for prospective teachers (Ajabshir, 2024; Tamimi, 2024). Systematic reviews have also documented its applications and learning outcomes across educational settings (Yu & Zeng, 2026). Comparing constructivist instruction delivered through digital storytelling with the same instructional approach delivered without digital storytelling can help to assess the additional contribution of digital storytelling to prospective teachers' motivation.

2.5 Research Gap

Existing research on DST has primarily evaluated its impact in general K-12 settings or within specialized language-learning environments (Yu & Zeng, 2026; Metin et al., 2025; Ajabshir, 2024; Tamimi, 2024). In these contexts, digital stories are typically used either as passive consumption tools or as isolated creative assignments without being systematically embedded inside a formal constructivist instructional cycle. Similarly, studies examining constructivist frameworks (such as the BSCS 5E model) often focus on general inquiry strategies or traditional non-digital collaborative activities (Arega & Hunde 2025; Rodrigues, 2025; Bybee et al., 2006; Ryan & Deci, 2020), leaving the specific additive value of multimodal digital delivery unexamined.Moreover, studies that address prospective teachers often rely on descriptive, qualitative, or single-group perception surveys rather than controlled experimental designs (Gita et al., 2025; Yu & Wang, 2024). Therefore, the present study addresses this gap by comparing the motivation of prospective teachers taught through the same 5E-based constructivist framework, delivered either through digital storytelling or through a non-digital mode. This comparison aims to clarify the specific contribution of digital storytelling to motivation in teacher education.

3. Objectives and Hypotheses of the Study

3.1 Objective

To explore the effect of digital storytelling pedagogical intervention on the motivation of prospective teachers.

3.2 Hypotheses

To fulfill the research objective, the following null hypotheses were formulated:

H_{01}: There is no significant difference between the mean pre-test motivation scores of prospective teachers of the experimental and control groups.

H_{02}: There is no significant difference between the mean post-test motivation scores of prospective teachers of the experimental and control groups.

4. Research Methodology

4.1 Research Design

The study employed a quasi-experimental pre-test-post-test equivalent group design involving an experimental group and a control group. Both groups received instruction through lesson plans based on the 5E constructivist instructional model. The difference between the groups concerned the mode of delivering the lessons. The experimental group received 5E-based constructivist instruction delivered through digital

storytelling, whereas the control group received 5E-based constructivist instruction without digital storytelling. Thus, the study did not compare constructivist instruction with traditional or non-constructivist teaching. Instead, it compared two modes of delivering lessons structured around the same constructivist instructional framework. Motivation of prospective teachers belongs to both groups was assessed before and after the instructional intervention. The pre-test comparison examined initial differences between the groups, while the post-test comparison examined differences in motivation following the intervention.

4.2 Sample

The sample consisted of 82 prospective teachers enrolled in the Integrated B.Ed.-M.Ed. program at the Central University of Kashmir, India. The participants were divided into two groups, comprising 41 participants in each group. The participants were paired based on general psychology test scores and randomly assigned to the control and experimental groups.

4.3 Instructional Intervention

The instructional intervention was conducted at the Central University of Kashmir, India, with prospective teachers enrolled in the Integrated B.Ed.-M.Ed. program. The intervention lasted for five weeks and was implemented while teaching the subject Psychology of Development and Learning. The intervention was based on the 5E constructivist instructional model, which comprises five phases: Engage, Explore, Explain, Elaborate, and Evaluate. Lesson plans were prepared according to this framework and used to teach both the experimental and control groups.

Experimental group: The prospective teachers received instruction through 5E-based constructivist lesson plans delivered using digital storytelling. Digital stories were incorporated into the instructional process while retaining the five phases of the constructivist instructional model.

Control group: The prospective teachers received instruction through lesson plans based on the same 5E constructivist instructional model. However, the lessons were delivered without digital storytelling. The intervention was designed to maintain the same broad pedagogical structure across both groups while differentiating the mode of lesson delivery.

4.4 Measurement Instrument and Instructional Materials

The study employed 5E-based constructivist lesson plans integrated with digital storytelling for the experimental group and corresponding 5E-based constructivist lesson plans without digital storytelling for the control group. Motivation was assessed using the self-constructed and standardized Prospective Teachers' Motivation Scale (PTMS), developed by Asmat Ilahi and Dr. Harish Mittu (2026). The scale was specifically contextualized for teacher education environments to evaluate multidimensional academic motivation. The scale was administered twice as a pre-test to establish baseline comparability, and as a post-test following the conclusion of the 5-week intervention.

4.5 Statistical Techniques

Descriptive statistics, including the mean (M), standard deviation (SD), and standard error of the difference (SE_D), were calculated for the pre-test and post-test scores of both groups. Independent-samples (z)-tests were conducted to examine between-group differences at the pre-test stage and the post-test stage. Inferential statistical test i.e., z-test was evaluated at a significance level of ($\alpha = .05$).

5. Results

5.1 Pre-Test Baseline Motivation Analysis

To examine whether a significant difference existed in the pre-test motivation scores of prospective teachers in the experimental and control groups, motivation was assessed before the implementation of the intervention. The experimental group comprised 41 prospective teachers who received 5E-based constructivist instruction through digital storytelling, while the control group comprised 41 prospective teachers who received instruction based on the same 5E constructivist model without digital storytelling. An independent-samples (z)-test was applied to compare the mean pre-test motivation scores of the two groups. The data were recorded as scores obtained by prospective teachers on the self-constructed Prospective Teachers' Motivation Scale (PTMS), and the means and standard deviations were calculated to examine baseline comparability between the groups.

Table 1

Significance of Difference between Mean Pre-Test Motivation Scores of Experimental and Control Groups

Group	N	Mean (M)	Standard Deviation (SD)	SE_D	z-value	p-value	Remarks
Experimental	41	70.78	6.95	1.51	1.06	.291	p > .05
Control	41	72.39	6.76				

Interpretation

As detailed in Table 1, the experimental group recorded a mean pre-test motivation score of 70.78 (SD = 6.95), while the control group recorded a mean score of 72.39(SD = 6.76). The mean pre-test motivation score of the control group was higher by 1.61points. The resulting z-value was 1.06(p-value = .291 > .05), the observed difference between the groups at pre-test is statistically non-significant. Consequently, null hypothesis (H_{01}) was not rejected. These statistical parameters confirm that both cohorts demonstrated statistically equivalent baseline levels of motivation before instructional implementation.

5.2 Post-Test Motivation Analysis

Following the five-week intervention, post-test motivation scores were obtained from the experimental and control groups to examine the effect of integrating digital storytelling into 5E-based constructivist instruction. An independent-samples (z)-test was applied to compare the mean post-test motivation scores of the two groups. The means and standard deviations were calculated to determine whether a significant difference existed in the motivation of prospective teachers taught through 5E-based constructivist instruction with and without digital storytelling.

Table 2

Significance of Difference between Mean Post-Test Motivation Scores of Experimental and Control Groups

Group	N	Mean (M)	Standard Deviation (SD)	SED	z-value	p-value	Remarks
Experimental	41	73.88	4.41	1.29	2.43	.018	p< .05
Control	41	70.76	6.94903				

Interpretation

As shown in Table 2, the experimental group achieved a mean post-test motivation score of 73.88 (SD = 4.41), whereas the control group obtained a mean post-test score of 70.76 (SD = 6.95). The experimental group outperformed the control group by an average margin of 3.12scores. The z-value of 2.43(p-value =.018 < .05) revealed that the difference in mean post-test motivation scores of the two instructional delivery modes is statistically significant at the 5% alpha level. Therefore, null hypothesis (H_{02}) was rejected.

6. Discussion

The statistical findings of the present study demonstrate that integrating digital storytelling as an instructional tool within a 5E constructivist framework significantly enhances the motivation of prospective teachers compared to standard constructivist instruction alone. The pre-test baseline analysis (z = 1.06, p = .291) confirmed that both experimental (M = 70.78, SD = 6.95) and control (M = 72.39, SD = 6.76) groups possessed statistically equivalent baseline motivation prior to the intervention, thereby validating the comparability of the two intact cohorts. Following the five-week instructional intervention, the experimental group achieved a statistically significantly higher post-test mean motivation score (M = 73.88, SD = 4.41) than the control group (M = 70.76, SD = 6.95), as confirmed by the independent-samples z-test (z = 2.43, p = .018). Because both groups were taught using the exact same BSCS 5E constructivist learning cycle (Bybee et al., 2006) and covered identical syllabus units in Psychology of Development and Learning, the observed post-test motivational gain can be directly attributed to the integration of digital storytelling as the delivery mechanism. These empirical results strongly align with the core tenets of SDT (Ryan & Deci, 2020), which posits that learning environments that satisfy psychological needs for autonomy, competence, and relatedness foster higher levels of intrinsic and self-determined motivation. Digital storytelling enriches the 5E framework by converting abstract psychological constructs into humanized, emotionally resonant, and contextualized

multimedia narratives (Robin, 2008). During the Engage phase, short digital stories serve as narrative anchors that trigger situational interest and piques curiosity, thereby lowering initial cognitive resistance and creating an immediate affective hook that satisfies the need for relatedness (Ryan & Deci, 2020). During the Explore and Elaborate phases, presenting content multimodally, combining recorded auditory narration with visual contextual illustrations, operates in harmony with Cognitive Load Theory and Cognitive Theory of Multimedia Learning (Mishra, 2025). By distributing information processing across dual verbal and visual working memory channels, digital storytelling minimizes extraneous cognitive load, enhances conceptual clarity, and self-efficacy of prospective teachers'.Furthermore, the post-test motivational significance observed in this study resonate directly with contemporary empirical research in digital pedagogy and pre-service teacher training. The significant post-test gain is in line with the findings of Temel and Yılmaz (2025), who documented statistically significant enhancements in student motivation following digital storytelling implementations in higher education contexts. Similarly, Tamimi (2024) demonstrated that multimodal digital stories significantly improve learners' task engagement, critical thinking, and overall motivation by contextualizing abstract subject matter. In teacher preparation programs, prospective teachers often struggle to bridge theoretical developmental models with actual classroom practices; in this regard, Yu and Wang (2025) showed that engaging pre-service teachers with digital storytelling cultivates agency, collaborative engagement, and digital literacy, enabling them to connect academic theories with real-world pedagogical applications. Additionally, a comprehensive review by Gita et al. (2025) confirmed that digital storytelling encourages self-regulated learning strategies by fostering active conceptual organization, synthesis, and reflection during project cycles. The findings are further supported by investigations such as Ajabshir (2024) and Shahjalal et al. (2026), who demonstrated that digital storytelling fosters multidimensional engagement spanning affective, cognitive, and behavioral dimensions.

7. Conclusion

The study highlights the potential of integrating digital storytelling into 5E-based constructivist instruction to support motivation among prospective teachers. By combining structured inquiry with narrative and multimedia resources, this approach can make the teaching–learning process more meaningful, engaging, and relevant to teacher education. The findings underscore the importance of considering not only the instructional framework but also the mode through which learning experiences are delivered. Integrating digital storytelling into teacher preparation programs may therefore offer a promising pedagogical approach to enrich prospective teachers' learning experiences. Further research across diverse educational settings is needed to establish the broader applicability and sustained motivational benefits of this approach.

8. Educational Implications

- Teacher educators need not replace established constructivist models, such as the 5E instructional model, with digital storytelling. Instead, digital stories can be integrated into relevant phases, particularly *Engage* and *Elaborate*, to contextualize concepts and enrich learning experiences.
- Exposure to digital storytelling during teacher preparation can help prospective teachers understand how digital technologies can be meaningfully integrated into instruction. This experience may encourage them to adopt learner-centered and technology-enhanced teaching practices in their future classrooms.
- Teacher education institutions, particularly those offering Integrated B.Ed.–M.Ed. programs, may incorporate digital storytelling into foundational courses such as *Psychology of Development and Learning*. Developing and using relevant digital story repositories can provide prospective teachers with contextualized, multimedia learning resources.
- Digital stories should be designed in accordance with clearly defined learning objectives rather than used merely for visual entertainment. Their narratives, visuals, audio, and other multimedia elements should support conceptual understanding, sustain learners' interest, and complement the intended instructional outcomes.

References

1. Adeoye, M. A., Prastikawati, E. F., & Abimbowo, Y. O. (2024). Empowering learning: Pedagogical strategies for advancing 21st century skills and quality education. *Journal of Nonformal Education*, *10*(1), 10-21.
2. Ajabshir, Z. F. (2024). Empowering EFL writing through digital storytelling: A quasi-experimental assessment of CALF measures and multidimensional engagement. *Acta Psychologica*, 250, 104564.
3. Arega, N. T., & Hunde, T. S. (2025). Constructivist instructional approaches: A systematic review of evaluation-based evidence for effectiveness. *Review of Education*, 13(1), e70040.
4. Bybee, R. W. (2009). The BSCS 5E instructional model and 21st century skills. *Colorado Springs*, *24*.
5. Bybee, R. W., Taylor, J. A., Gardner, A., Van Scotter, P., Powell, J. C., Westbrook, A., & Landes, N. (2006). The BSCS 5E instructional model: Origins and effectiveness. *Colorado Springs*, Co: BSCS, 5(88-98).
6. Dishari, S., AlAfnan, M. A., & Levidze, M. (2025). Storytelling Pedagogy in Higher Education: Impacts on Student Engagement and Perceptions. *Eurasian Journal of Educational Research*, (116), 119.
7. Duran, L. B., & Duran, E. (2004). The 5E instructional model: A learning cycle approach for inquiry-based science teaching. *Science Education Review*, *3*(2), 49-58.
8. Gita, D. U., Ferede, B., & Tondeur, J. (2025). Exploring the association between digital storytelling and self-regulated learning: A review of claims. *Computers and Education Open*, 100267.
9. Kogila, M., Ibrahim, A. B., & Zulkifli, C. Z. (2020). A powerful of digital storytelling to support education and key elements from various experts. *International Journal of Academic Research in Progressive Education and Development*, *9*(2), 408-420.
10. Metin, Ş., Kalyenci, D., Başaran, M., Relkin, E., & Bilir, B. (2025). Design-based digital story program: Enhancing coding and computational thinking skills in early childhood education. *Early Childhood Education Journal*, 53(6), 2255-2274.
11. Mishra, D. (2025). Mayer's cognitive theory of multimedia learning: An overview. *Technology Driven Language Learning: Innovations and Applications*, 7-16.
12. Nami, F., & Asadnia, F. (2024). Exploring the effect of EFL students' self-made digital stories on their vocabulary learning. *System*, 120, 103205.
13. Noels, K. A., Lascano, D. I. V., & Saumure, K. (2019). The development of self-determination across the language course: Trajectories of motivational change and the dynamic interplay of psychological needs, orientations, and engagement. *Studies in Second Language Acquisition*, *41*(4), 821-851.
14. Parsaiyan, S. F., & Mansouri, S. (2024). Digital storytelling (DST) in nurturing EFL teachers' professional competencies: a qualitative exploration. *Technology Assisted Language Education*, *2*(4), 141-167.
15. Radhiani, A., Sriayu, S., Arqam, M., Abouseada, F., & RS, A. H. (2026). A systematic literature review of 21st-century digital learning trends and teachers'technology integration. *Scientific Journal of Applied Sciences, University of Jambi*,10(1).

16. Reeve, J. (2012). A self-determination theory perspective on student engagement. In *Handbook of Research on Student Engagement*(pp. 149-172). Boston, MA: Springer US.
17. Robin, B. R. (2008). Digital storytelling: A powerful technology tool for the 21st century classroom. *Theory into Practice*, *47*(3), 220-228.
18. Rodrigues, I. (2025). Integrating the 5ES model in inquiry-based learning: A framework for developing 21st-century skills and advancing global goals. *In INTED2025 Proceedings* (pp. 3413-3418). IATED.
19. Rofiqi, Muin, A., Rosyid, M. Z., Rahman, H., & Mansyur, M. (2026). Digital storytelling pedagogy in higher education: bridging traditional narratives and contemporary media practice for millennial learners. *Media Practice and Education*, 1-22.
20. Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology*, *61*, 101860.
21. Saleem, A., Kausar, H., & Deeba, F. (2021). Social constructivism: A new paradigm in teaching and learning environment. *Perennial Journal of History*, *2*(2), 403-421.
22. Shahjalal, M., Serajuddin, M., & Akter, R. (2026). Exploring digital storytelling for enhancing learner engagement in English language classrooms. *International Journal of Social Science Research and Review*, *9*(3), 55-66.
23. Tamimi, M. A. M. A. (2024). Effects of Digital Story-Telling on Motivation, Critical Thinking, and Academic Achievement in Secondary School English Learners. *Research in Social Sciences and Technology*, *9*(1), 305-328.
24. Temel, T., & Yılmaz, C. (2025). Investigating the impact of digital storytelling on EFL learners' language motivation levels. *Journal of Educational Technology and Online Learning*, 8(2), 164-189.
25. Yu, B., & Wang, W. (2025). Using digital storytelling to promote language learning, digital skills and digital collaboration among English pre-service teachers. *System*,*129*, 103577.
26. Yu, B., & Zeng, Y. (2026). A systematic review of digital storytelling in English language learning and teaching. *Educational Studies*, 1-28.
27. Zajda, J. (2021). Constructivist learning theory and creating effective learning environments. In *Globalisation and Education Reforms: Creating Effective Learning Environments*(pp. 35-50). Cham: Springer International Publishing.