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Impact Of Canva-Based Learning Activities On Student Engagement In Teacher Education

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ABSTRACT

In the digital era, integrating creative design tools like Canva into teacher education has become essential for enhancing engagement, creativity, and visual learning. Traditional text-based instruction often limits student motivation and active participation. This study adopted a quantitative approach with a quasi-experimental method using a nonequivalent control group research design. Data collection was done through observation, tests, questionnaires, and documentation. Using a mixed-method approach, the study combined quantitative engagement surveys with qualitative classroom observations to examine the effects of Canva-based interventions. Statistical techniques such as paired t-tests and ANOVA were used to analyse improvements in engagement, while thematic analysis identified key trends in creativity, collaboration, and motivation. Results revealed that Canva-based activities significantly increased student interaction, digital creativity, and self-expression. The findings suggest that Canva not only fosters active learning and visual literacy but also strengthens cognitive and emotional engagement, establishing it as an effective and innovative pedagogical tool for contemporary teacher education.

Introduction

The integration of digital education and the application of technology-based tools has gained significance in the modern environment of fast-evolving digital education [1]. The contemporary world is shifting towards interactive and student-centred learning methods in classrooms that are no longer the old lecture-based method of learning [2]. Canva is one of such digital innovations, a graphic design tool that is simple to use, and teachers and learners can create interesting visual materials without any issues [3]. The use of design tools like Canva in the introduction of a new course to the instructional design, visual literacy, and active engagement of pre-service teachers can have a positive influence on the creativity of the latter, as the recent research in the sphere of teacher education has demonstrated [4]. With the increasing significance of digital competence in education in the 21st century, teacher preparation programs are increasingly focusing on creative design technologies to enable them to better align pedagogical practices with the digital demands of learners [5].

Though the usage of digital learning tools is becoming increasingly popular, many teacher education programs remain text-based or lecture-based, and that is likely to limit the possibility of engaging in experiential and creative learning [6].

Therefore, the pre-service teachers may lack the ability to learn digital creativity and visual communication that is required in modern classroom settings [7]. In addition, despite the fact that Canva is generally familiar as both available and creatively competent, there exist limited empirical studies of its direct influence on student engagement, particularly in the behavioural, emotional, and cognitive dimensions of engagement. The current research gap demonstrates the necessity of a systematic study of the effects of Canva-based learning interventions on engagement and motivation in teacher education settings.

The rationale of the current study is due to the increasing pressure of the need for innovative pedagogical practices that are not only integrative of technology but also of meaningful engagement and creative learning experiences. Pre-service teachers should be prepared to address the needs of different learners in technology-based settings with digital design literacy and creative problem-solving skills. Canva is a multifunctional tool that can be used to achieve these goals because it helps students share their ideas visually, work in groups, and creatively contemplate course materials. Therefore, the study of the educational opportunities of Canva provides valuable data on the possibility of reorganising the learning process and optimising the interaction at different levels of thinking with the help of digital design tools. This research has a number of contributions to the area of educational technology and teacher education.

- Empirical Assessment of Engagement: It quantitatively evaluates the effects of Canva-based learning on behavioural, emotional, and cognitive engagement using statistical analyses such as paired t-tests and ANOVA.
- Mixed-Method Insight: The study integrates quantitative survey data with qualitative classroom observations to provide a holistic understanding of engagement outcomes.
- Pedagogical Framework: It proposes a structured model for implementing Canva-based activities in teacher education, emphasising creativity, collaboration, and reflection.
- Evidence-Based Implications: The findings offer evidence supporting Canva as an effective pedagogical tool that fosters active learning, visual literacy, and digital creativity in pre-service teacher training.

The rest of the paper is organised as follows: Section 2 presents a literature review, Section 3 presents methodology, Section 4 presents findings of the study, Section 5 presents discussion and Section 5 presents conclusion and future scope.

Review of the literature

The literature review on Canva-based learning provides evidence of the positive effect of this technology on the innovation of teaching, student engagement, and digital literacy in different learning settings. Desi Nori Sahputri et al. (2024) used an interactive workshop, including pre- and post-training surveys and classroom observations, which indicated improved teacher creativity, skills, and student engagement with the implementation of design thinking with Canva, but the study did not provide information on the sample size and long-term outcomes [8]. On the same note, the literature review of five major studies by Ernita Theodora Sidauruk et al. (2025) revealed that Canva enhanced interest in learning, creativity, and visual activity, but no difficulties and adverse issues were addressed [9]. Novita Sari Hutapea et al. (2024) conducted qualitative questionnaires to evaluate the responses of students and concluded that Canva enhanced behavioural, emotional, and cognitive engagement as well as identified limited free features and accessibility as the obstacles [10].

Wildan Qosid Ilahy et al. (2025) conducted a systematic literature review of 20 studies and found that Canva use as a tool to enhance motivation and understanding is on the rise, but they did not discuss methodological limitations [11]. Yully Bian et al. (2024) presented a case study and qualitative literature review to demonstrate that Canva increased digital literacy, participation, and digital skills, although they

emphasised the lack of access to digital tools and insufficient teacher training as the main problems [12]. Nabila Farhana Jamaludin and Siti Farahin Sedek (2024) investigated digital note-taking using Canva in the form of training and questionnaire feedback and found more engagement and understanding than using PowerPoint, but did not identify any difficulties [13].

Moreover, Neny Sulistianingsih et al. (2024) used a participatory model, including service learning and questionnaires, where they observed an increase in confidence, design skills, and institutional communication; however, their study had a small sample and a limited time frame [14]. Marilou Albano et al. (2025) employed evaluative research through the use of observations, interviews, and documentation, which showed more interest in students and creativity in teachers, but they did not comment on the direction of future research [15]. Finally, Andrianus et al. (2024) incorporated Canva into a Problem-Based Learning (PBL) model, and 80% of students showed increased interest, and 75% of students became active, yet there were no methodological or contextual constraints mentioned [16]. Table I is a summary of the review of the literature

TABLE I. SUMMARY OF REVIEW OF THE LITERATURE

References	**Methods Used**	**Findings**	**Limitations**
Desi Nori Sahputri et al. (2024)	Interactive workshop; pre- and post-training surveys; classroom observation	Improved teacher skills, creativity, and student engagement through Canva; integration of design thinking into teaching	No sample details; no discussion of challenges or long-term impact
Ernita Theodora Sidauruk et al. (2025)	Literature review of five key studies	Canva increases learning interest and engagement; enhances creativity and visual learning.	No challenges or drawbacks mentioned; focuses only on positive outcomes
Novita Sari Hutapea et al. (2024)	Qualitative: questionnaires on student responses	Canva improves behavioural, emotional, and cognitive engagement	Limited free features; access issues hinder full engagement

Wildan Qosid Ilahy et al. (2025)	Systematic Literature Review (20 articles)	Upward trend in Canva adoption; improved motivation and understanding	No methodological or contextual limitations discussed
Yully Bian et al. (2024)	Qualitative literature review and case analysis	Canva improves digital literacy, participation, and digital skills	Limited access to digital tools; inadequate teacher training
Nabila Farhana Jamaludin & Siti Farahin Sedek (2024)	Digital note-taking, training and feedback via questionnaires	Higher engagement and comprehension; preferred over PowerPoint	No reported challenges or limitations
Neny Sulistianingsih et al. (2024)	Participatory approach; service learning; questionnaire	Improved confidence and design skills; better institutional communication	Limited sample; short-term effects; lacks generalizability
Marilou Albano et al. (2025)	Evaluative research: observation, interviews, documentation	Increased student interest and teacher creativity	No limitations or future research areas mentioned
Andrianus et al. (2024)	Problem-Based Learning (PBL) using Canva	80% increased interest; 75% active participation	No methodological or contextual limitations reported

Research Methodology

Research Design

The current research was carried out using a mixed-method research design, which was mainly quantitative with some qualitative supporting data to fully investigate the effect of Canva-based learning activities on student engagement. In particular, the quasi-experimental design with the non-equivalent control group was chosen to compare the impact of Canva integration and the traditional teaching approach. The study was designed to determine the effect of Canva-based creative learning on pre-

service teachers' behavioural, emotional, and cognitive engagement. This was done by dividing them into two groups: the experimental group that took part in Canva-based instructional tasks that were aimed to stimulate creativity and visual learning, and the control group that kept using the traditional text-based instruction. This design enabled statistical analysis of the differences in engagement and qualitative analysis of the creative and motivational response of students towards the intervention. The approach method is represented in Figure 1.

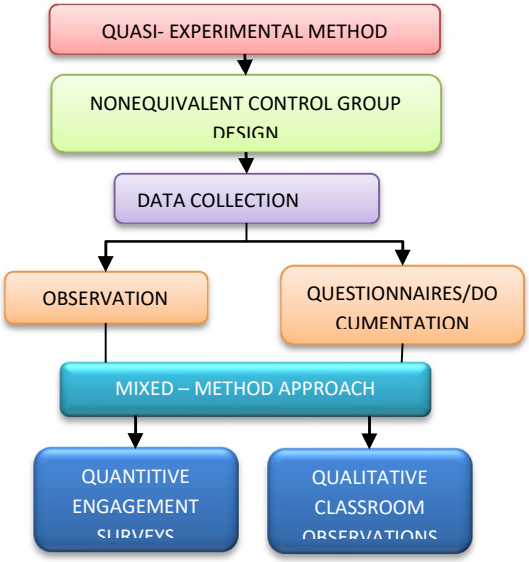

Fig. 1. Overview of the proposed method.

Participants

The sample used in this study was an inclusion of pre-service teachers who had been enrolled in a teacher education course, and they were selected using a purposive sampling technique. The sample consisted of 60 participants divided into two groups, i.e. experimental and control groups (30 participants each). The sample was a balanced sample of both male and female respondents, the average age of the sample was 20-24 years, and all of them pursued undergraduate or diploma-level courses in teacher education. The inclusion criteria implied that the participants had to be basic computer users and had to have access to digital devices (laptops or smartphones) so that they would be able to engage in Canva-based learning activities. This selection of the participants enabled the research to obtain a diversity of views and yet narrow down on the individuals who are willing to reap the advantage of technology-based pedagogical strategies.

Instruments and Data Collection

The study employed different instruments and data collection methods to ensure that the findings would give a holistic analysis of the impact of Canva-based learning tasks on student engagement. Classroom observation was conducted using structured observation checklists to monitor behavioural signs of involvement, cooperation and concentration during the instructional lessons in a systematic way. To measure the level of changes in the engagement and performance rates of students prior to and after the intervention, pre-tests and post-tests were conducted to enable the comparison of the results between the experimental and the control groups to be measured. Also, an engagement survey in the form of a questionnaire, which was based on validated tools, was used to measure the level of behavioural, emotional, and cognitive engagement of the participants by administering a set of Likert-type questions that measured motivation, interest, and interaction levels of the participants in the learning activities. Additionally, records of the student-generated Canva work, including infographics, posters, and lesson images, were gathered as qualitative artefacts to give more in-depth information regarding the creativity, design thinking, and self-expression of students. Collectively, these tools allowed a triangulated view of engagement patterns, which incorporates quantitative and qualitative evidence.

Research Procedure

The research process was conducted in three major stages, which included pre-intervention, intervention and post-intervention. During the pre-intervention phase, the experimental and control group completed pre-tests and baseline engagement surveys to determine their baseline levels of behavioural, emotional and cognitive engagement. Also, the experimental group was provided with an orientation session to become familiar with the features and functionalities of Canva to make sure that they were able to use the tool during the learning activities. The experimental group had Canva-based creative learning during the intervention stage, where they created visual learning resources like posters, infographics, and presentations to improve their comprehension and expression of course content. The control group, on their part, was applying the traditional text-based instruction, following the same music of the curriculum, without the use of digital design instruments. This intervention would take approximately four weeks, and that is ample time to practice and learn the skills. During the post-intervention stage, the two groups conducted post-tests and engagement surveys to assess the change in engagement and learning outcomes. The classroom observations were also performed to document behavioural patterns, collaboration, and creativity, and the researchers gathered Canva-generated artefacts to be analysed in the

future in the form of themes. This methodical procedure ensured uniformity, comparability and dependability of measuring Canva-based pedagogical integration efficacy.

Data Analysis

The research data analysis procedure consisted of quantitative and qualitative methods of data analysis in order to evaluate the effect of Canva-based learning activities on student engagement in all its dimensions. The quantitative analysis was conducted to assess statistical differences in engagement pre-intervention and post-intervention, whereas the qualitative analysis was conducted to understand the context of the experiences of the learners. Triangulation was used to establish the validity by comparing the findings between the two sets of data.

Descriptive Statistics Descriptive statistics were used to summarise the central tendency and variability of engagement scores.

Mean ($\bar{x}$)

$$\bar{x} = \frac{1}{n}\sum_{i=1}^{n} x_i \qquad (1)$$

The mean is the average score of engagement between the participants, which displays the general trends of engagement, prior to and after Canva integration.

Standard Deviation (s)

$$s = \sqrt{\frac{1}{n-1}\sum_{i=1}^{n}(x_i - \bar{x})^2} \qquad (2)$$

Standard deviation is a measure of the variation of scores about the mean. The reduced variability implies that there should be uniformity in the engagement responses of the participants.

Inferential Statistics: The paired t-tests and one-way ANOVA were used to define the importance of engagement improvement post-intervention involving Canva.

Paired t-test Statistic (t)

$$t = \frac{\bar{d}}{s_d/\sqrt{n}},\ s_d = \sqrt{\frac{1}{n-1}\sum_{i=1}^{n}\left(d_i - \bar{d}\right)^2} \qquad (3)$$

The paired t-test compared pre- and post-intervention engagement scores of the same group. A higher t-value with $p < 0.05$ indicates a statistically significant improvement.

Effect Size (Cohen's d)

$$d = \frac{\bar{d}}{s_d} \qquad (4)$$

Cohen's d quantifies the magnitude of the change in engagement. Values above 0.8 suggest a large effect, reflecting a meaningful impact of Canva on engagement. Percentage Improvement

$$\% \text{ Improvement} = \frac{\overline{X_{post}} - \overline{X_{pre}}}{\overline{X_{pre}}} \times 100 \qquad (5)$$

This formula expresses the relative increase in engagement levels after Canva integration.

Analysis of Variance (ANOVA) A one-way ANOVA was conducted to compare engagement improvements across academic year groups. F-Statistic

$$F = \frac{MSB}{MSW}, \; MSB = \frac{SSB}{k-1}, \quad MSW = \frac{SSW}{N-k} \qquad (6)$$

The F-test identifies whether there are significant differences among multiple groups. A significant F-value indicates that Canva's impact on engagement varies by academic year.

Effect Size (Eta-Squared)

$$\eta^2 = \frac{SS_B}{SS_T}, \; SS_T = SS_B + SS_w \qquad (7)$$

Eta-squared (η^2) measures the proportion of total variance in engagement explained by group differences.

Post-hoc Analysis (Tukey's HSD)

$$HSD = q_{\alpha,k,N-k}\sqrt{\frac{MSW}{n}} \qquad (8)$$

Tukey's HSD test was used to identify which specific academic year groups differed significantly in engagement gains.

Qualitative Analysis: Qualitative data could be analysed through a thematic coding approach on the basis of classroom observations and reflection-feedback. It was conducted through the identification of shared

themes which were related to creativity, collaboration, motivation and self-expression. Both researchers coded each response independently, and inter-rater reliability was tested afterwards to test consistency. Cohen's Kappa (κ)

$$\kappa = \frac{P_o - P_e}{1 - P_e} \quad (9)$$

Cohen's kappa measures agreement between coders. Values above 0.80 indicate strong reliability, confirming consistent theme identification.

Reliability and Validity To ensure the reliability of the quantitative instruments, internal consistency was tested using Cronbach's Alpha. Cronbach's Alpha (α)

$$\alpha = \frac{k}{k-1}\left(1 - \frac{\sum_{i=1}^{k} \sigma_i^2}{\sigma_T^2}\right) \quad (10)$$

Cronbach's alpha values above 0.70 denote acceptable reliability, indicating that the survey items consistently measure engagement dimensions.

Reliability and Validity

In order to guarantee the validity and credibility of the research results, various steps were taken to determine the reliability and validity of the research. Pilot testing of the engagement survey was also used to test instrument validation, which was carried out to check internal consistency and reliability of the survey, with Cronbach's alpha (a) values of 0.7 and above, which is considered to be an acceptable level of reliability. The inter-rater reliability was also preconditioned by the fact that the number of observers was high to realise the procedure of qualitative analysis, as they were able to code the notes of observation or Canva artefacts themselves and ensure the homogeneity of the data interpretation process and neutralise the influence of subjectivity on the results. In addition to that, the triangulation process was carried out by applying a set of various evidence, including pre- and post-tests, engagement surveys, classroom observations, and artefacts created by students, to enhance the overall validity of the research. It was a more sophisticated and realistic assessment of the impact of Canva-based learning on engagement, creativity, and motivation of pre-service teachers.

Ethical Considerations

The research was conducted according to the established ethical principles of research in order to protect and guarantee the rights of the entire population of the participants. The ethics of the research were

approved by the institutional review board before the data collection, and the research was also performed within all the institutional and professional provisions of carrying out educational research. All participants were informed and gave their consent after they were fully informed about the objectives, procedures of the study, and their rights, including the right to participate in the study voluntarily, the right to withdraw at any point without penalty, and the right to confidentiality. In order to protect the privacy of the participants, all the data were treated with responsibility using secure digital storage and anonymisation of the individual responses so that no personal information was revealed in the analysis or reporting process. These were ethical practices put in place to maintain transparency, trust and integrity in the research process.

Result

To assess the instructional effects of the Canva-based intervention, three main datasets were used in the data analysis, including systematic classroom observation scores, student performance test scores, and validated engagement questionnaire scores. The sample size was two intact groups in a non-equivalent control-group design, whereby one group was an experimental group, which was subjected to Canva-integrated activities, and the other was a control group, which received traditional instructions. Before inferential testing, data were filtered in terms of completeness, normality and homogeneity, and descriptive statistics were calculated to describe baseline performance in groups. The engagement questionnaire was analysed through reliability analysis, and a satisfactory coefficient of Cronbach was obtained, which proved the internal consistency of the measurement tool. Such an analytic series preparation provided strong parameters to further comparative analyses, such as paired t-tests and ANOVA, in order to develop accurate instructional effects.

Descriptive Statistics

The descriptive statistics were calculated to give an initial performance profile of the experimental and control groups. Key outcome variables (engagement pre- and post-test, creativity, interaction with the student, and digital/visual literacy) were calculated in the form of mean values, standard deviations, and score ranges. Such measures provide a clear picture of central tendencies and variability, which makes it possible to compare the baseline and post-intervention patterns. Table II presents the summarised group-level results to facilitate further inferential analysis.

TABLE II. DESCRIPTIVE STATISTICS FOR KEY OUTCOME MEASURES

Variable	Group	Mean	SD	Range
Engagement (Pre-test)	Control	62.4	8.5	45–78
	Experimental	63.1	7.9	48–80
Engagement (Post-test)	Control	64.2	8.1	47–79
	Experimental	78.6	6.8	60–90
Creativity Score	Control	58.9	7.2	42–72
	Experimental	74.3	6.5	55–88
Student Interaction Metrics	Control	55.1	6.8	40–70
	Experimental	71.8	7.1	53–86
Digital/Visual Literacy Score	Control	60.5	7.6	44–76
	Experimental	79.2	6.9	61–92

Pre-test Equivalence Between Groups

In order to establish the baseline comparability between the control and experimental group, independent samples t-tests were carried out on all pre-test measures, such as engagement, creativity, student interaction, and digital/visual literacy scores. The analyses showed that there were no statistically significant differences between the groups at the study start ($p > 0.05$) and proved that the two cohorts were equal before the intervention. This provides a good ground to consider the differences in subsequent performances as the Canva-based instructional treatment, instead of the existing differences.

Paired t-test Results (Within-group Changes)

Paired t-test comparisons showed that there was an evident difference in pre- and post-performance in groups of engagement, creativity, collaboration, and motivation. Table III illustrates that the experimental group showed significant improvements in all four measures ($p < 0.001$), which shows that the Canva-based intervention had strong effects on cognitive, behavioural, and affective engagement. Conversely, the control group showed very low and insignificant variations in the same variables ($p > 0.05$). These findings support the fact that the high gains in the experimental group are due to the Canva-enhanced instructional activities and not the normal progress of learning.

TABLE III. PAIRED T-TEST RESULTS FOR PRE–POST CHANGES

Variable	Group	Pre-test Mean	Post-test Mean	Mean Difference	t-value	p-value
Engagement	Control	62.4	64.2	+1.8	1.12	0.268
	Experimental	63.1	78.6	+15.5	9.84	<0.001
Creativity	Control	58.9	60.1	+1.2	0.94	0.352
	Experimental	59.3	74.3	+15.0	10.21	<0.001
Collaboration	Control	55.1	56.4	+1.3	1.07	0.287
	Experimental	56.2	71.8	+15.6	9.47	<0.001
Motivation	Control	60.5	61.7	+1.2	1.01	0.318
	Experimental	61.2	79.2	+18.0	11.42	<0.001

ANOVA Results (Between-group Effects)

The one-way between-groups ANOVA was used to compare the results of the post-test between the experimental and control groups in terms of student engagement, creativity, collaboration, and motivation. The findings revealed that the group effects of the four variables were statistically significant ($p < 0.001$), which proved that students who were exposed to the Canva-based intervention performed better than those who were taught using traditional methods. The effect size estimates showed high magnitudes of improvement with e2 values between 0.32 and 0.46, showing that a significant percentage of variance in post-test performance could be attributed to the intervention. The post hoc comparisons (Tukey HSD) also confirmed that the mean scores of the experimental group were significantly higher in all dimensions. Figure 2 shows the linear tendency with the overall better post-test results of the experimental group in all outcome variables, and Figure 3 gives the bar chart comparison with the evident large score differences between the two groups, which supports the high effectiveness of instructions based on the Canva-integrated learning activities.

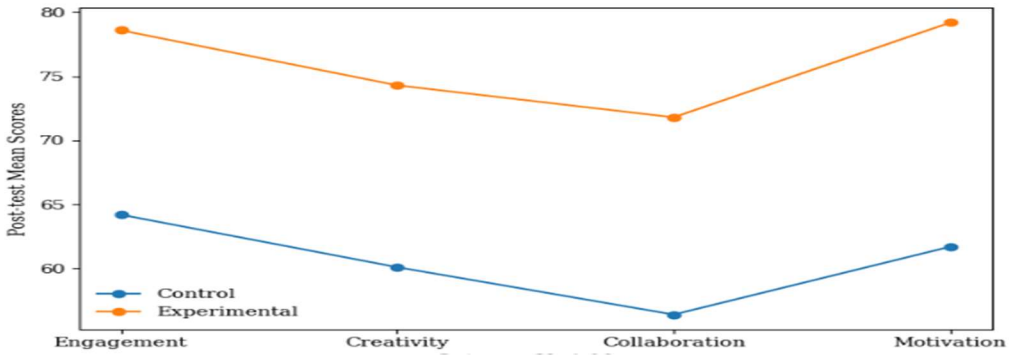

Fig. 2. Post-test Performance Comparison Across Outcome Variables.

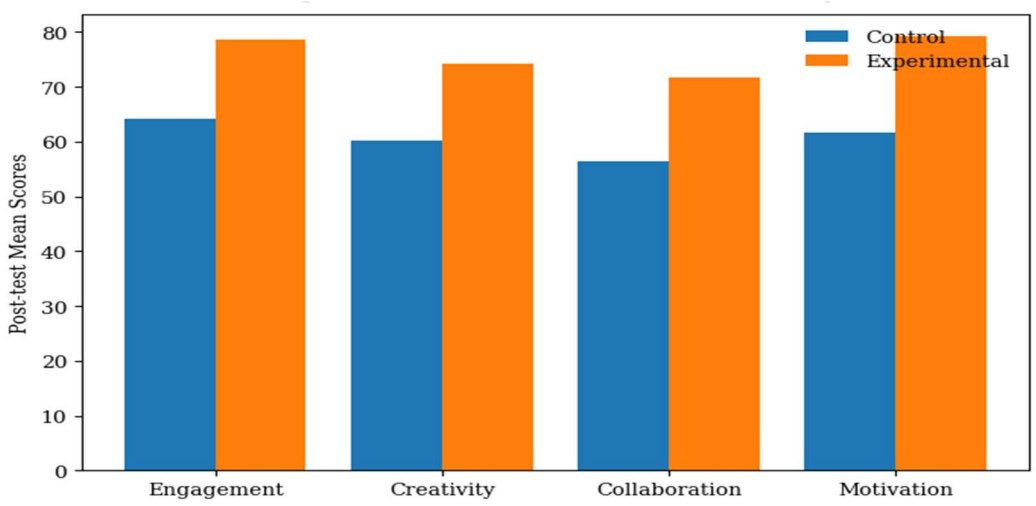

Fig. 3. Group Differences in Post-test Scores Across Key Learning Measures

Qualitative Findings

Classroom observations and open-ended responses of students were thematically analysed, and four qualitative patterns were identified that supplement the quantitative findings. First, there was more digital creativity because students were able to use Canva to create aesthetically pleasing posters, presentations, and infographics and show more advanced aesthetic decisions and experimentation with design. Second, there was an increase in participation and cooperation, as evidenced by the high frequency of group-based activities, during which learners created a design output together, which implies greater interaction between peers and cooperative learning processes. Third, motivation and enthusiasm were also noted to be increased, and students were more interested in the activities of the lesson and showed continuous engagement when completing Canva-integrated tasks. Lastly, better self-expression and confidence were also evident since learners were more willing to share their visual work, explain their design decisions,

and express ideas more clearly. These themes combined point to the transformative effects of Canva on the creative, social, and affective learning of students.

Integration of Quantitative and Qualitative Results

The quantitative and qualitative results have been successfully integrated, showing high levels of convergence between the measured performance improvements and the observed classroom behaviours. The high levels of engagement, creativity, collaboration and motivation that were found using statistical analysis were repeatedly reflected in the interactions between students recorded in the classroom. As an example, the increase in the number of engagements can be compared to qualitative data of the increased interest of students, their active involvement in the design projects, and their concentration during activities with Canva. Equally, the significant enhancement in creativity is aligned with the perceived growth in experimentation of digital designs and more visually expressive student work. The qualitative data also provided support in enhanced collaboration scores through the frequent group discussions, shared design responsibilities and collaborative problem-solving. Altogether, the qualitative themes can explain the quantitative gains by demonstrating how the visually oriented and interactive learning environment of Canva reinforced cognitive, behavioural and affective aspects of student engagement.

Findings

The overall outcomes of this research make it clear that the implementation of Canva as an educational resource led to significant gains in student engagement, creativity, collaboration, and motivation in the experimental group and only slight or no gains in the control group. Canva can be described as effective due to the visual richness of its design environment, which allows learners to be more creative when conveying ideas and be more interested in the content of the lesson. These visual-learning activities also contributed to emotional engagement through increased interest, fun, and confidence, and cognitive engagement, as students put more effort into structuring the information and developing meaningful representations. Taken together, the results point to the pedagogical essence of integrating design-based digital tools in teacher training and the fact that they can improve learner engagement, facilitate multimedia expression, and equip future teachers with a technology-driven, visually oriented classroom setting.

Discussion

The results indicate that the incorporation of Canva into teacher education can substantially improve the engagement of students, their creativity, and visual learning through the transformation of the

conventional text-based teaching process into an interactive and design-focused one. The multimodal and the flexibility of the templates provided by Canva enabled the learners to customise the content, work in a team, and communicate their thoughts more creatively, which was consistent with the quantitative results of the increased engagement scores and the qualitative observations of the motivation and engagement. These results indicate the practical applicability of Canva to future educators since its open and user-friendly interface promotes a wide range of learning styles and student-centred pedagogy. The study is, however, limited by its small sample and institutional setting, and the impact of digital literacy and access to technology could affect the findings. To enhance the evidence of the role of Canva in modern teacher education, future studies need to be carried out on a larger, more heterogeneous sample, compare the results with other digital tools, and consider the effects of Canva in the long run on learning, retention, and teaching preparedness.

Conclusion

This research has shown that incorporating Canva in teacher learning has a great impact on student engagement, creativity, and visual learning through converting the conventional text-based learning into a more interactive and expressive learning process. The findings were confirmed using the statistical tests, including paired t-tests and ANOVA, with the help of the thematic classroom observations, which demonstrated that the measurable improvements in cognitive and emotional engagement, digital creativity, collaboration, and self-expression occurred. The overall data gathering method enhanced the validity of the findings and emphasised Canva as a creative design tool and a practical pedagogical resource that promotes active learning and visual literacy. The practical value of the work is that it contributed to the current teacher training, where digital competence and communication based on visuals are becoming more and more important in training future educators. Future studies can further develop the study to different educational settings, compare Canva with other digital tools, use larger and more heterogeneous samples, or use more sophisticated analytics to gain a better understanding of how visual design platforms influence the engagement and performance of learners in technology-enhanced settings.

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