



## THE ROLE OF CANVA-BASED LEARNING ACTIVITIES IN FOSTERING BEHAVIOURAL, EMOTIONAL AND COGNITIVE ENGAGEMENT AMONG STUDENT-TEACHERS

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### Abstract:

Digital technology has played a critical role in changing teaching and learning processes in the modern era. Canva, which is an online graphic design application, is one of the tools that have revolutionized educational processes through the development of creativity, collaboration, visual communication, and engagement. The current research sought to explore the impact of Canva based learning activities on the creation of behavioural, emotional, and cognitive engagement among student teachers. A descriptive survey research methodology was employed in this study. Information was gathered from 100 student-teachers using a structured Likert scale questionnaire containing 18 questions arranged in terms of behavioural, emotional, and cognitive engagement factors. The use of descriptive statistics such as frequency, percentage, mean, and standard deviation was utilized in the process of data analysis. It was found that Canva had a positive impact on all forms of engagement. Emotional engagement had the highest mean score (M = 4.06), followed by behavioural engagement (M = 3.98) and cognitive engagement (M = 3.96). It was found that Canva had increased classroom participation, self-confidence, motivation, collaboration, creativity, and conceptual understanding. Canva can be viewed as a pedagogical tool for enhancing multi-dimensional engagement in teacher education.

**Keywords:** Active Learning, Behavioural Engagement, Canva, Cognitive Engagement, Educational Technology, Emotional Engagement, Student-Teachers, Teacher Education

## 1. Introduction

The fast development of information and communication technologies has changed the way education takes place all around the world. Today, educational institutions make extensive use of information and communication technologies in order to enrich learning processes, increase learners' participation and foster twenty-first-century skills. Technology in education has led to a transformation from the traditional teacher-centred approach to learning to a more learner-centred approach, which emphasizes collaboration, creativity, communication, and critical thinking.

Teacher education programs play an important role in preparing future teachers for technology-oriented classrooms. Modern teachers are supposed to be technologically literate as well as competent in terms of pedagogy and subject matter. Therefore, modern teacher education institutions are introducing various innovations in the form of digital tools to their curriculum.

Among different types of digital technologies, Canva can be considered one of the most frequently used educational tools. It is a web-based graphic design tool enabling users to create presentations, infographics, posters, lesson plans, worksheets, videos, social media content, and other educational materials via an easy-to-use drag-and-drop interface. The software provides many design templates, possibilities for multimedia inclusion, collaboration features, and many more elements useful for creative work.

The educational value of Canva includes not only the ability to produce quality content but also the potential for active learning through the use of the software. Canva promotes active learning, meaning that students have to design and share their thoughts visually. Thus, when working with Canva, users are not just provided with information; instead, they participate in the process of knowledge construction.

Engagement has become one of the most significant predictors of academic performance, motivation, persistence, and educational success. Engaged students participate more actively in academic activities, put efforts into learning tasks, and have a positive attitude toward education. Thus, promoting student engagement is among the key priorities of educators and educational institutions.

The following three categories can be used for describing student engagement: behavioural engagement, emotional engagement, and cognitive engagement. The first category describes the active participation of students in classroom activities, their punctuality, performance of assignments, collaboration, and compliance with academic requirements. Emotional engagement deals with affective reactions to learning experiences, which include interest, enjoyment, enthusiasm, confidence, and motivation. Cognitive engagement focuses on psychological engagement in learning processes such as critical thinking, self-regulation, problem solving, reflection, and constructive knowledge acquisition.

Canva has features that might help engage participants in all three types of engagement. Collaborative design activities will make learners more active and collaborative, thus engaging them behaviourally. Creative and exciting tasks will motivate, build self-confidence, and give joy, contributing to emotional engagement. Organizing information, creating educational materials, and visualizing ideas will be helpful in developing critical thinking and meaningful learning, which is important for cognitive engagement.

The increasing use of Canva in education has been subject to academic interest. A number of studies found Canva to have a positive effect on creativity, digital literacy, communication skills, and instructional innovations. At the same time, there is a lack of empirical evidence on the ability of Canva-based activities to facilitate behavioural, emotional, and cognitive engagement in student-teachers. It is important to note that the experience of student-teachers with educational technologies affects not only their learning outcomes but also their future teaching practices. A recent empirical study by Sinha and Naaz (2026) investigated the impact of Canva-based learning activities on student engagement in teacher education and reported significant improvements in student interaction, creativity, visual literacy, motivation, and overall engagement. The study highlighted Canva's effectiveness in promoting active

learning and strengthening behavioural, emotional, and cognitive dimensions of engagement among pre-service teachers.

This paper aims to fill the gap in the existing literature by investigating how Canva-based learning activities promote behavioural, emotional, and cognitive engagement among student-teachers.

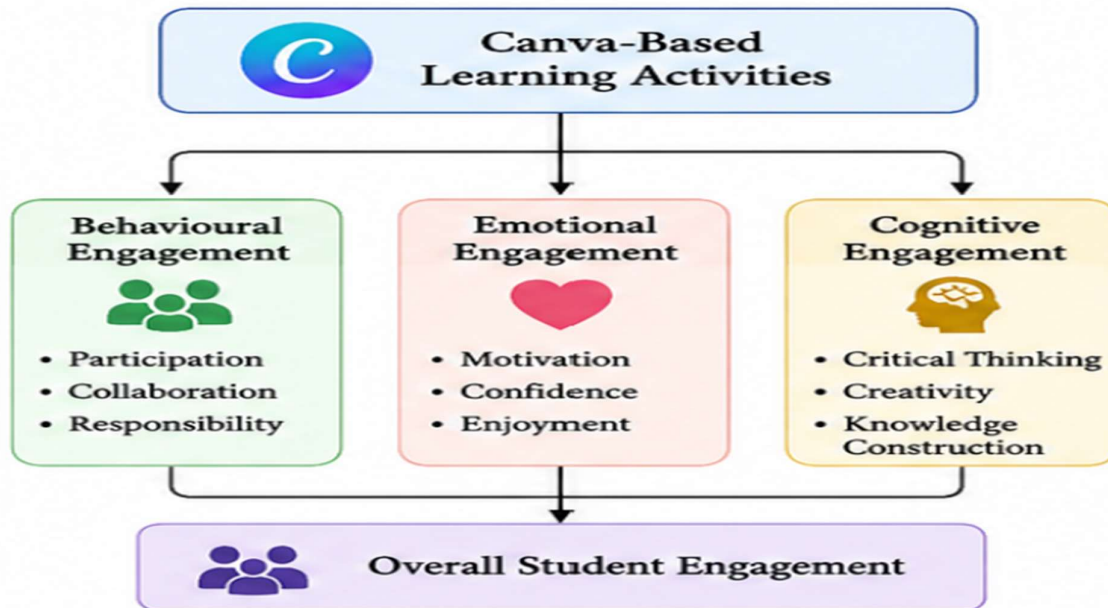


Figure 1. Conceptual Framework of the Study

## 2. Review of the Related Literature

The application of digital technology in education has risen due to the effectiveness of the technology in making the teaching and learning process more enjoyable. One of the most popular educational tools that have been used is Canva. This is attributed to the user-friendly nature of the technology, as well as its attractive visual nature. Through Canva, users are able to make engaging presentations, infographics, posters, and other learning materials.

The study by Ng et al. (2023) focused on highlighting the increasing relevance of digital competence for teachers. They argued that incorporating technology-rich teaching experiences is necessary in teacher education programs.

Jamaludin and Sedek (2023) discovered that learners favoured using Canva for presentations than other conventional presentation tools because of its appealing design and ease of use. The study revealed higher levels of engagement and better comprehension of course materials.

In their study on how Canva helps build digital literacy, Bian et al. (2024) showed that Canva helped increase creativity, visual communication, and technology skills among learners. The researchers highlighted the potential role of Canva in facilitating active learning.

Hutapea et al. (2024) analyzed the effect of Canva on students' engagement and academic achievement. The findings indicated an increase in behavioral, emotional, and cognitive engagement among the participants. Students

experienced higher motivation and interest in learning activities because of the use of Canva In their research on Canva as a digital learning platform.

The study by Sahputri et al. (2024) examined the use of Canva in the development of teacher training workshops, resulting in improvements in creativity, technology competence, and instructional innovation.

According to Sulistianingsih and Martono (2024), the influence of Canva training has led to an improvement in confidence, communication skills, and visual design skills.

Habibah (2025) conducted a study to analyze the perceptions of pre-service teachers about the use of Canva as a collaborative learning tool. It was found that Canva facilitated teamwork, creativity, communication, and active involvement in educational activities. Learners reported good learning experiences and better engagement through collaborative design activities.

Sinha and Naaz (2026) conducted a quasi-experimental study involving pre-service teachers to examine the impact of Canva-based learning activities on student engagement. Using engagement surveys, classroom observations, paired t-tests, and ANOVA, the researchers found significant improvements in engagement, creativity, collaboration, motivation, and digital literacy among students exposed to Canva-integrated instruction. The findings demonstrated that Canva-based learning activities foster active participation, visual learning, self-expression, and collaborative knowledge construction, establishing Canva as an effective pedagogical tool in teacher education.

Despite consistent findings of positive impacts on learning when using Canva, the current body of literature largely concentrates on such aspects as creativity, digital literacy, creation of instructional media, and technology acceptance. Few researchers have attempted to study all three types of engagement together

Table 1. Summary of the Review of the Related Literature

<b>Authors &amp; Year</b>	<b>Research Focus</b>	<b>Methodology</b>	<b>Major Findings</b>	<b>Limitations</b>
<b>Jamaludin &amp; Sedek (2023)</b>	Canva as a digital learning tool for higher education	Training and feedback survey	Students preferred Canva over conventional presentation tools due to its visual appeal and ease of use.	No comparison with other digital learning platforms.
<b>Ng et al. (2023)</b>	Digital competencies among teachers	Survey and framework analysis	Highlighted the importance of digital tools in developing twenty-first-century teaching competencies.	Did not specifically focus on Canva integration.

Authors & Year	Research Focus	Methodology	Major Findings	Limitations
Hutapea, Manullang, & Hartati (2024)	Impact of Canva on student engagement and academic performance	Qualitative questionnaire-based study	Canva enhanced behavioural, emotional, and cognitive engagement and improved motivation toward learning.	Limited sample and accessibility issues related to digital resources.
Bian et al. (2024)	Canva for digital literacy development	Literature review and case analysis	Canva improved digital literacy, visual communication, participation, and creativity.	Challenges related to technological access and teacher preparedness.
Sulistianingsih & Martono (2024)	Impact of Canva training on communication skills	Participatory approach and questionnaire	Improved confidence, communication skills, and visual design competencies among participants.	Small sample size and short duration of intervention.
Sahputri et al. (2024)	Canva-based teacher training for innovative learning media	Workshop and observation	Enhanced creativity, instructional innovation, and technology integration skills among teachers.	Lack of long-term assessment of learning outcomes.
Habibah (2025)	Pre-service teachers' perceptions of Canva as a collaborative learning tool	Survey research	Canva promoted collaboration, creativity, communication skills, and active participation among pre-service teachers.	Limited to perception-based analysis and a specific educational context.
Sinha & Naaz (2026)	Impact of Canva-based learning activities on student engagement in teacher education	Quasi-experimental mixed-method study	Canva significantly improved engagement, creativity, collaboration, motivation, and visual literacy among pre-service teachers.	Limited sample size and institutional setting.

### **3. Research Gap**

The literature review identifies some critical gaps:

1. The bulk of literature deals with creativity, instructional design, and digital literacy rather than multidimensional engagement of students.
2. Few studies explore the interplay of behavioural, emotional, and cognitive engagement in learning.
3. Some empirical research needs to be conducted for student-teachers within teacher education programs.
4. Sparse evidence exists regarding quantitative effects of Canva on engagement factors.
5. Some additional research is needed to assess Canva's impact on promoting active learning among future teachers.

This study addresses the above gaps through exploring the use of Canva-based learning activities in stimulating behavioural, emotional, and cognitive engagement among student-teachers.

### **4. Objectives of the Study**

1. To study the significance of Canva-based learning activities in promoting behavioural engagement among student-teachers.
2. To study the significance of Canva-based learning activities in promoting emotional engagement among student-teachers.
3. To study the significance of Canva-based learning activities in promoting cognitive engagement among student-teachers.
4. To measure the level of engagement in relation to Canva-based learning activities.

### **5. Hypotheses of the Study**

H1: Learning activities based on Canva significantly contribute to the behavioural engagement of student-teachers.

H2: Learning activities based on Canva significantly contribute to the emotional engagement of student-teachers.

H3: Learning activities based on Canva significantly contribute to cognitive engagement of student-teachers.

H4: Learning activities based on Canva significantly affect overall engagement of student-teachers.

### **6. Methodology**

Research Design

The study employed a descriptive survey research design.

Sample

The research was conducted on 100 student-teachers who were undergoing training to become teachers and had previous experience using Canva in their academic and teaching assignments. Following data screening and validation, 100 usable responses remained for analysis.

#### Sampling Technique

In this study, purposive sampling technique was employed in order to determine the respondents of the research. The respondents were selected because of their past experience in using Canva as a tool for learning. Student-teachers who have utilized Canva in their academic endeavours, such as presentations, assignments, or group projects, were included in the study in order for them to give relevant feedback about the use of Canva in student engagement.

#### Research Instrument

A structured questionnaire consisting of eighteen items was developed and administered. The instrument measured:

- Behavioural Engagement (6 items)
- Emotional Engagement (6 items)
- Cognitive Engagement (6 items)

Responses were recorded on a five-point Likert scale:

<b>Response Category</b>	<b>Score</b>
Strongly Disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly Agree	5

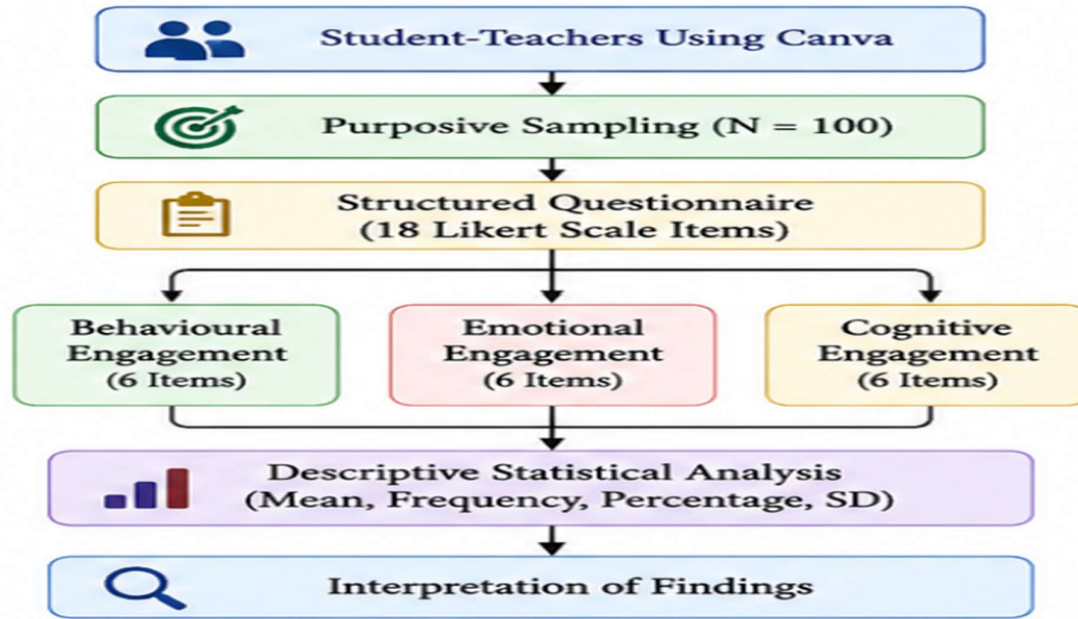


Figure 2. Research Methodology

#### Data Analysis

Data were analysed using frequency, percentage, mean, and standard deviation.

Mean Range	Interpretation
1.00–1.80	Very Low
1.81–2.60	Low
2.61–3.40	Moderate
3.41–4.20	High
4.21–5.00	Very High

### 7. Results and Analysis

Table 2. Overall Engagement Scores

Dimension	Mean	Interpretation
Behavioural Engagement	3.98	High
Emotional Engagement	4.06	High
Cognitive Engagement	3.96	High
Overall Engagement	4.00	High

### Interpretation

Based on the mean overall engagement score ( $M = 4.00$ ), one can conclude that student-teachers found Canva-supported learning activities engaging and useful for their learning processes. According to the study findings, Canva was efficient in terms of encouraging participation, collaboration, motivation, and deep learning among student-teachers. When analysing the three dimensions, emotional engagement proved to be the strongest one ( $M = 4.06$ ) since Canva enhanced enjoyment, interest, and motivation and improved the confidence and enthusiasm of learners. Furthermore, behavioural engagement ( $M = 3.98$ ) demonstrated a high mean value, implying that Canva contributed to increased participation in class activities and collaborative work and assignments. Finally, cognitive engagement ( $M = 3.96$ ) represented a high level of intellectual engagement because Canva promoted critical thinking and creativity and helped organize concepts and understand educational material.

### Behavioural Engagement

Table 3. Behavioural Engagement

Item	Mean
Canva-based exercises encourage me to participate completely in class	4.07
Using Canva keeps me focused when learning	3.92
Canva promotes timely completion of assignments	4.01
Canva helps me contribute more in collaborative projects	4.19
Canva encourages active class discussion	3.84

Item	Mean
Canva-based assignments make me more responsible and disciplined	3.88

Dimension Mean = 3.98

#### Interpretation

Student-teachers found Canva to be a useful tool that promotes active participation, cooperation, responsibility, and involvement in academic activities. According to the study findings, Canva is a helpful platform that inspires learners to get actively involved in class activities by engaging them in various activities involving creation, presentation, and sharing of ideas using visually appealing materials. The highest mean score was obtained regarding collaborative project participation (M = 4.19). This suggests that Canva is an effective tool that promotes collaborative work and learning. Through its collaboration features, learners are able to collaborate and work on common projects, share ideas and feedback, and participate in group efforts aimed at meeting common learning goals. In addition, learners seem to gain greater responsibility and accountability while completing Canva-based assignments.

#### Emotional Engagement

Table 4. Emotional Engagement

Item	Mean
Canva makes learning engaging and fun	4.25
Canva-designed presentations increase my confidence	4.16
Canva creates a supportive learning atmosphere	4.03
Canva motivates me to learn independently	3.99
Canva helps me connect with learning content	3.97
Canva reduces boredom during classroom activities	3.93

Dimension Mean = 4.06

#### Interpretation

It is important to note that emotional engagement was found to be the dominant factor amongst the three factors of engagement. There was a high level of agreement from the student teachers on how Canva made learning fun, exciting, and engaging, while also boosting their self-confidence in undertaking academic assignments and presentations. This software seems to offer a lot in terms of making learners feel motivated towards learning activities. Also, the use of Canva creates a conducive learning atmosphere where learners participate actively in the learning process.

### Cognitive Engagement

Table 5. Cognitive Engagement

Item	Mean
Canva helps me understand concepts clearly	3.93
Canva helps me retain learned knowledge	3.94
Canva improves my critical and creative thinking	4.06
Canva helps organize concepts and resources effectively	4.03
Canva promotes deeper analysis of educational materials	3.84
Canva facilitates practical application of theoretical knowledge	3.94

Dimension Mean = 3.96

### Interpretation

Student teachers viewed Canva as a helpful tool for facilitating deep and meaningful learning. Cognitive engagement activities that received the highest mean score were those associated with critical and creative thinking ( $M = 4.06$ ). This means that Canva facilitates analytical thinking, creative thinking, and presentation skills among learners. It assists learners in organizing educational material in an orderly manner and developing a better understanding of concepts and theories by linking theory to practice. Canva promotes active knowledge construction among learners.

## 8. Discussion

The results clearly show that learning activities using Canva have positive effects on the behavioural, emotional, and cognitive engagement of student-teachers. The behavioural engagement results reveal that Canva facilitates participation, cooperation, task completion, and responsibility. The cooperative aspect of Canva allows learners to collaborate in completing tasks, exchange ideas, and participate in learning activities.

Emotional engagement was the most prominent aspect. Student-teachers felt that Canva made learning fun, motivating, and empowering. The creative and visually appealing aspect of Canva seems to help prevent boredom and enhance emotional experiences. This is consistent with research studies that found increased levels of motivation and enjoyment in technology-mediated learning environments.

Cognitive engagement research indicates that Canva facilitates meaningful learning by organizing concepts, thinking critically, being creative, and applying knowledge. Creating educational materials involves analysing information, synthesizing information, and communicating concepts. Thus, Canva encourages deep learning and cognitive involvement.

The results are consistent with constructivist learning theory, which focuses on learner participation, cooperation, creativity, and meaningful learning experiences. Canva enables learners to become actively involved with the material while building digital literacy and instruction design skills. The findings of the present study are consistent with those reported by Sinha and Naaz (2026), who found that Canva-based interventions significantly enhanced student engagement, creativity, collaboration, and motivation in teacher education settings. Similar to their findings, the current study revealed high levels of behavioural, emotional, and cognitive engagement among student-teachers, suggesting that Canva provides meaningful opportunities for active learning, visual communication, and collaborative knowledge construction.

## **9. Major Findings**

1. High levels of engagement of the student-teachers were recorded during the learning process conducted on Canva (M = 4.00).
2. Emotional engagement was recorded as the highest dimension (M = 4.06).
3. Other high dimensions were behavioural engagement (M = 3.98) and cognitive engagement (M = 3.96).
4. Canva facilitated teamwork, class participation, and assignments.
5. Canva facilitated motivation, self-confidence, and enjoyment of learning.
6. Canva fostered critical thinking, creativity, and comprehension of concepts.
7. The student-teachers felt that Canva was an effective technology to learn with.

## **10. Educational Implications**

The results indicate that Canva could be used successfully within the curriculum of teacher education programs in order to increase student involvement and encourage learner-centered approaches. Teacher educators should utilize Canva in their courses through project work, presentations, collaboration tasks, digital storytelling, and instructional design. Educational organizations should arrange training programs to develop digital skills and competence in Canva among student-teachers.

### **11. Limitations of the Study**

1. Only 100 student-teachers from some selected teacher education institutions were involved in the study.
2. The data were gathered using perceived information.
3. The study employed a descriptive survey design.
4. The results cannot be applied to all educational settings.

### **12. Suggestions for Future Research**

1. Future studies might use experimental or quasi-experimental approaches.
2. More diverse samples should be used in future studies.
3. Comparative studies on Canva and other educational tools are possible.
4. Longitudinal studies on the effects of Canva can also be conducted.
5. Future studies can also investigate correlations between Canva use and academic performance.

### **13. Conclusion**

It can be concluded that learning activities based on Canva have a strong impact on behaviour, emotions, and cognition of student-teachers. Emotion became the leading component of engagement, which means that Canva motivates, inspires, and builds confidence in its users. Active participation and cooperative learning contributed to behavioural engagement, while better critical thinking, creativity, concept formation, and knowledge creation helped to develop cognitive engagement.

Overall, Canva is a great educational tool that fosters active learning, creative approach, collaboration, and digital literacy. Thus, it should be incorporated into teacher education programs to develop the skills needed for modern educational techniques.

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