IJEMST International Journal of Education in Mathematics, Science and Technology

www.ijemst.net

Experience of Continuous Education Students with Telegram Application as a Supportive Learning Environment: A Narrative Study

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Article Info

Article History

Received:
11 January 2026

Revised:
22 March 2026

Accepted:
9 April 2026

Published:
11 April 2026

Keywords

Continuous education
Telegram application
Narrative inquiry
Supportive learning environments

Abstract

The integration of digital applications, particularly Telegram, represents a vital transformation in continuing education environments, offering high flexibility in accessing educational resources. Despite the rapid spread of digital applications, understanding how continuing education students interact with these applications remains challenging, particularly regarding their impact on the overall continuing education process and on students in particular. Consequently, this study aimed to explore the lived experience of continuing education students using Telegram to understand the deeper dimensions of their interaction with this key application in their informal learning. The study adopted a qualitative approach by employing the Narrative Inquiry method and applying it to a sample of eight participants. Semi-structured narrative interviews and focus groups were used. According to thematic analysis, the results revealed three central themes that establish the structure of students' experience using the Telegram application: enhancing academic performance, interaction and participation, and educational satisfaction. The narratives showed that Telegram contributed to transforming learning into a more satisfying experience and reinforced students' positive attitudes toward permanent learning technologies. The study recommends equipping lifelong learning teachers with instructional design skills using mobile digital applications. Moreover, it is important for researchers to expand their research in the future to examine other narratives of lifelong learning students related to other digital applications such as augmented reality and generative artificial intelligence.

Citation: AL-Sobahi, M. A., Al-Hafdi, F. S., & Alhalafawy, W. S. (2026). Experience of continuous education students with Telegram application as a supportive learning environment: A narrative study. *International Journal of Education in Mathematics, Science and Technology (IJEMST), 14*(4), 1027-1047. https://doi.org/10.46328/ijemst.7958

Introduction

In its contemporary practices and applications, continuing education is considered a trend although its historical roots extend back to the early twentieth century (Pelages et al., 2024). Continuing education is a continuous process of acquiring knowledge and skills throughout life, in order to achieve the personal and professional development of learners and to adapt to societal and technological changes (Thwe & Kálmán, 2024). Continuing education is also defined as a holistic process that aims to transform an individual's experiences and social interactions—in their intellectual, emotional, and practical dimensions—and integrate them into the context of their life story, thus contributing to building a more experienced and mature learner (Muzapparovna, 2024). It helps make learners more abreast of rapid practical and technological developments (Thwe & Kálmán, 2024). It also contributes to enriching human information and knowledge and developing skills throughout life (Chistyakov et al., 2023). In addition, it promotes the principle of equal educational opportunities according to individuals' abilities and potential by providing opportunities for all without exception (O‘g‘li, 2024). It empowers learners to keep pace with technological advancements and instills the principle of learning in them, the thing that contributes to the holistic development of the student's personality, both practically and intellectually (Tsaturyan, 2024).

Digital technologies are essential for the sustainability of lifetime learning, as they enhance accessibility and efficiency (Al-Hafdi & Alhalafawy, 2026; Haleem et al., 2022). They provide flexible learning options, both synchronous and asynchronous (Prado et al., 2023), and meet students' needs and enhance their learning schedules with flexibility (Reinhold et al., 2024). They also facilitate communication between students and teachers, as well as among their peers, and enable collaborative learning (Jakoet-Salie & Ramalobe, 2023). Moreover, digital technologies are characterized by their ability to adapt to learners' needs and personalize them according to their preferences, creating customized digital experiences that help them implement the individual learning pathways they need to progress in lifelong learning environments (Kravchenko et al., 2024). Besides, digital technologies help improve assessment processes, making them more objective and providing immediate feedback to students and teachers (Annuš et al., 2023). Additionally, digital technologies modernize routine administrative tasks such as registration, grading, and course management (Petrov et al., 2024). Digital technologies often incorporate interactive elements like quizzes, simulations, and multimedia content, making learning more engaging and effective for students (Alenezi, 2023). Several technologies can be relied upon to enhance learning processes without interruption or constant connection to the educational institution, including mobile applications such as Telegram (Aladsani, 2021), the Internet of Things (Najmi et al., 2024), digital platforms (Ibrahim et al., 2024), generative artificial intelligence (Alharbi et al., 2025; Alsulami et al., 2025; Nedungadi et al., 2024; Wessel et al., 2025), and gamified environments (Alsuhaimi et al., 2026; Pitthan & Witte, 2025), virtual reality (Alhalafawy & Tawfiq Zaki, 2024; Alzahrani & Al-Hafdi, 2021; Najmi et al., 2023), flipped classrooms (Naing et al., 2023; Zaki et al., 2024).

Telegram Application & Continuous Education

Telegram is a digital technology that supports continuing education and allows interactive communication and exchange of digital files of all kinds, including most forms of multimedia (Amran et al., 2024). It is used on mobile

devices and desktops (Wahyuni et al., 2024), and is considered one of the most widely used technologies within continuing education systems (Khan et al., 2024). It is an effective tool in various educational contexts (Mandalika et al., 2023), and it contributes to improving personalized learning and developing learners' skills. It is also considered as an important tool to support learners in achieving their goals (Iqbal et al., 2020). In general, Telegram is considered a flexible application whose features align with the aspirations of continuing education students (Nouraey et al., 2023). In a quasi-experimental study conducted by Md Yusof and Abdullah (2024), the effectiveness of the Telegram application in improving the academic writing skills of continuing education students was demonstrated. The application's interactive features contributed to increasing student participation and transforming the learning process into a dynamic and engaging experience, making it a supportive learning environment capable of overcoming the challenges of educational isolation and geographical limitations. The results of Sevnarayan (2023) study showed that faculty members consider Telegram a useful educational tool, especially in distance learning environments, to increase student motivation and engagement. Students themselves also find that Telegram motivates them to interact in groups and with course materials. Besides, a study by Andrews et al. (2023) showed that mobile applications—including Telegram—that offer video chat technology are effective tools for distance training and can provide effective training in many performance skills.

Statement of Problem and Rationale

Continuing education represents a dynamic and ongoing process of acquiring knowledge and skills throughout life, primarily aimed at achieving personal and professional development and empowering learners to adapt to rapid social and technological transformations (Thwe & Kálmán, 2024). Despite the crucial role of digital technologies in sustaining this type of education by enhancing accessibility and improving the efficiency of the educational process (Haleem et al., 2022), continuing education students still face challenges such as academic isolation and geographical limitations (Md Yusof & Abdullah, 2024). Thus, the need has emerged for flexible digital learning environments that meet students' needs and effectively support their schedules (Reinhold et al., 2024). The problem addressed by this study lies in the fact that, despite previous qualitative studies confirming the importance of Telegram as an educational tool that increases student motivation and engagement in distance learning environments (Sevnarayan, 2023), and others demonstrating the effectiveness of chat applications in providing professional training in performance skills (Andrews et al., 2023), there is a scarcity of studies that adopt a narrative approach to investigate the "lived experience" of continuing education students. The educational library needs a deeper understanding of how this digital tool transforms an individual's experiences and integrates them into the context of their educational life story (Muzapparovna, 2024). This dimension goes beyond simply measuring impact or general satisfaction to investigate into the details of the learner's educational journey. Consequently, it becomes essential to understand how the Telegram application—as one of the most widely used technologies in continuing education systems (Khan et al., 2024)—can support continuing learning pathways. This study aims to bridge a methodological gap by providing a detailed narrative of how Telegram enhances lifelong learning in the Saudi context. Accordingly, the study's significance lies in revealing the profound dimensions of lifelong learning students' interaction with Telegram as a supportive learning environment, thus offering educational institutions practical insights for improving digital learning environments to meet student expectations and achieve higher quality and more sustainable learning outcomes.

Methods

Approach

This study sought to explore the learning stories of continuing education students via the Telegram application. A qualitative approach, specifically a narrative method, was chosen, as this type of methodology is suitable for understanding people's experiences and stories in a way that allows them to learn valuable lessons. These stories are presented chronologically for studies that aim to collect in-depth data from participants. This approach is also suitable for those involved in the study's problem, allowing for the analysis and organization of this data using interpretive methods based on participants' statements, with the goal of providing a better understanding of the research problem (Creswell & Poth, 2016). Moreover, this methodology focuses on answering questions that provide a comprehensive, in-depth, and detailed understanding of how things happen, supported by interpretive insights into the reasons behind them (Aladsani, 2022).

Participants/ Story Characters

Purposive sampling was used to identify participants enrolled in continuing education programs who were most present and engaged in the learning process and most active users of the Telegram application. To ensure rich, high-quality data suitable for the narrative approach of the study, participants were selected according to the following criteria:

- *Academic Affiliation:* Participation in continuing education programs during the study period. Participants must be enrolled.
- *Digital Learning Experience:* Use of the Telegram application as a supplementary tool for learning courses for at least one full semester.
- *Multiple Learning Channels:* Active participation in at least three educational channels or groups (academic or training) via the application.
- *Informal Learning:* Participation in training courses or development workshops offered and facilitated through the Telegram platform.
- *Procedural Interaction:* Active participation in completing and submitting assignments and educational activities during the application.
- *Narrative Richness:* Possessing the ability and desire to clearly express personal experience during semi-structured interviews and focus groups.

Based on the above criteria, the sample size was eight students, representing continuing education schools in the Madinah region in Saudi Arabia. This number is appropriate for the context and dimensions of the study, the intended objective, and for reaching data saturation (Tomaszewski et al., 2020). Eight narrative interviews were conducted with eight participants, in addition to the focus group. All participants were full-time students attending continuing education schools in Madinah.

Data Collection Tools

In light of adopting a narrative approach, the data collection tools were designed to go beyond simply eliciting

descriptive responses. Instead, they aimed to encourage participants to retell their personal and professional experiences with Telegram as a supportive learning environment. The study relied on the following tools:

Semi-Structured Narrative Interview

The semi-structured narrative interview was used as the primary tool to explore the "lived stories" of continuing education students. This tool is distinguished by its ability to provide participants with ample space to narrate their experiences within their temporal and spatial context (Clandinin, 2006).

- *Tool Construction:* The questions were not limited to technical aspects but were designed as narrative prompts to encourage participants to describe their learning journey, such as: "Tell me about the moment you felt that Telegram changed your interaction with the course?" and "How would you describe your daily learning experience through the application?"
- *Tool Objectives:* The interview aims to delve into the phenomenon of digital interaction through diverse responses and in-depth perspectives, allowing the researcher to understand the causal pathways that led to the formation of positive attitudes or specific challenges among students (Tamayo et al., 2020).

Collaborative Focus Group

Focus groups were used as a complementary tool to generate a "collective narrative," where interaction among participants contributes to recalling shared memories and experiences that may not emerge in individual interviews. The sessions focused on interactive themes related to Telegram's role in enhancing social and academic interaction. The dialogue was directed to explore how students' activity and interaction with digital tools intersect in the context of continuing education (Ridder, 2014). The tools for the interview and focus group included four main themes drawn from educational literature:

- *Beginnings of the Experience:* The story of the transition to using Telegram in continuing education.
- *Dynamics of Interaction:* A description of real-life situations of communicating with teachers and peers via the application.
- *The Experience/Challenges:* The difficulties students faced and how they overcame them narratively.
- *The Experience Outcomes /Satisfaction and Performance:* How students perceive themselves as "digital" learners at the end of this journey.

Trustworthiness

To ensure that the study results accurately reflect the experiences of continuing education students with the Telegram application, the trustworthiness criteria (Creswell & Poth, 2016) followed the procedures below:

Credibility

This aims to ensure that the extracted stories are a true reflection of what the students experienced. This was achieved through:

▪ *Methodological Triangulation:* Individual interviews were not sufficient; they were combined with focus group data. For example, the authenticity of a student's "success story" in their individual interview about their interaction with assignments was verified by observing their interaction and their peers' confirmation of the same experience during a group discussion.

▪ *Member Checking:* After each student's experience was reformulated into a narrative text, the draft was presented to the student. The student was asked: “Does this text accurately depict your feelings and experience when using Telegram for the first time?” Minor adjustments were made based on their feedback to ensure that the “student voice” was dominant, not the research team’s voice.

Dependability

This aims to ensure the consistency and stability of the narrative analysis process. This was achieved through an Inter-coder Agreement, where a sample of encrypted interview transcripts, such as those related to time flexibility or ease of media access via Telegram, was presented to an expert in qualitative research and educational technology. It was confirmed that the expert extracted the same themes from the students’ stories as the researcher, ensuring that the analysis was not purely subjective but rather governed by the rules of the narrative method (Sholokhov, 2023).

Confirmability

This aims to ensure that the results stem from students' experiences with Telegram and not from researchers' preconceived notions. This was achieved through:

▪ *Reviewing Narrative Stimuli:* Questions such as, "Tell me about the technical issue or problem you encountered with Telegram and how you overcame it?" were reviewed by expert reviewers. It was ensured that the questions were neutral and did not encourage students to mention only positive aspects, but rather allowed them to recount challenges and drawbacks with complete transparency, thus enhancing the objectivity of the results.

▪ *Evidence Trail:* A complete record was maintained linking each "result" to a direct quote from student stories. For example, the result of "increased learning satisfaction" was directly linked to student stories about "the ease of retrieving files from the Telegram cloud." For example, the Telegram Cloud file retrieval was also linked to student stories.

Transferability

This aims to enable other researchers to understand the context of "continuing education" and apply the findings in similar settings. This was achieved through a thick description of the study environment. Instead of simply stating that it was a "school," the description detailed how continuing education students (who had work commitments) used the Telegram application late at night and how their life circumstances intersected with the application's features. This description allows any researcher studying "students" or "adult learners" in another setting to determine the applicability of these findings to their own context (Creswell & Poth, 2016).

Ethical Consideration

The researchers provided participants with all information about the nature, objectives, and significance of the study. They obtained the participants' consent to participate. Their rights to free participation—including prior informed consent—and to withdraw from the study at any stage and at any time were also explained. Besides, participants were informed of the importance of choosing a suitable time for the interviews and focus group sessions based on their circumstances. The importance of privacy was also emphasized to participants, explaining that their names would not be used and that symbols would be employed to protect their anonymity. Participants were informed that the information and data they provided would be kept confidential, and that all their rights regarding this information would be fully protected. The duration of the standardized interview was set at half an hour, and the focus group interview would not exceed two hours.

Data Collection Procedures

To achieve narrative identity in the field application, the study followed these steps:

- *Preparation and Trust Building:* A Telegram group was created for the participants to break down psychological barriers and introduce them to the nature of narrative research, which focuses on their "voices" and experiences, not on evaluating their performance.
- *Coordination of Storytelling Sessions:* In a school setting, coordination was made with the participants to conduct in-person interviews and focus groups to maintain a suitable "spatial context." They were informed that the sessions would be audio-recorded to ensure narrative integrity, body language, and emotions accompanying the storytelling.
- *Conducting the Interviews:* The sessions lasted for a week. Each interview began with open-ended questions, allowing participants the freedom to start at any point in time they deemed appropriate for their experience.
- *Participatory Review:* After transcribing the interviews, the written transcripts were shown to the participants to ensure they accurately represented their "stories." This is a crucial step in achieving narrative authenticity. Restoration and Analysis: The researchers reorganized the raw data and transformed it into sequential narrative threads, then analyzed them thematically to extract the major themes (performance enhancement, interaction, satisfaction) that answered the study's questions.

Data Analysis

Thematic analysis, combined with narrative analysis, was used to understand the experiences of continuing education students within their temporal and spatial contexts. The data analysis was conducted using NVivo software and the six methodological steps (Byrne, 2022), as follows:

- *Immersion:* Interviews and focus groups were transcribed verbatim, and audio recordings were repeatedly listened to so as to evoke tone of voice and the emotions accompanying students' stories about the meanings behind the words. Telegram was used to gain a deeper understanding.
- *Initial Coding:* Using NVivo software, initial codes were generated, where participants' statements

describing moments of interaction, difficulties, and feelings of satisfaction were coded. Each participant's codes were distinguished by a specific color to maintain the individuality of the story before being combined into general themes.

▪ *Searching for Themes:* In this stage, the scattered codes were connected to form clear narrative threads. It was ensured that the codes authentically represented the student's journey.

▪ *Reviewing Themes:* This stage focused on discovering and refining themes. The relationships between the diverse student stories and the integration of similar ones were examined. Each topic, such as "Temporal Flexibility," was supported by compelling quotations from the real-life experiences of continuing education students.

▪ *Defining and Naming Themes:* Main and sub-themes that answer the study's questions were extracted and formulated in a narrative style, such as the theme "Transition from Traditional Learner to Interactive Digital Learner."

▪ *Producing the Final Narrative Report:* This is the concluding stage where the extracted themes are linked to educational literature, and the findings are presented in a narrative format that illustrates the impact of Telegram on continuing education students.

Results and Discussion

The data analysis of 51 related topics revealed insights into how continuing education students interact with Telegram as a support system. These topics comprised three main themes, each with several sub-themes, as illustrated in Figure 1.

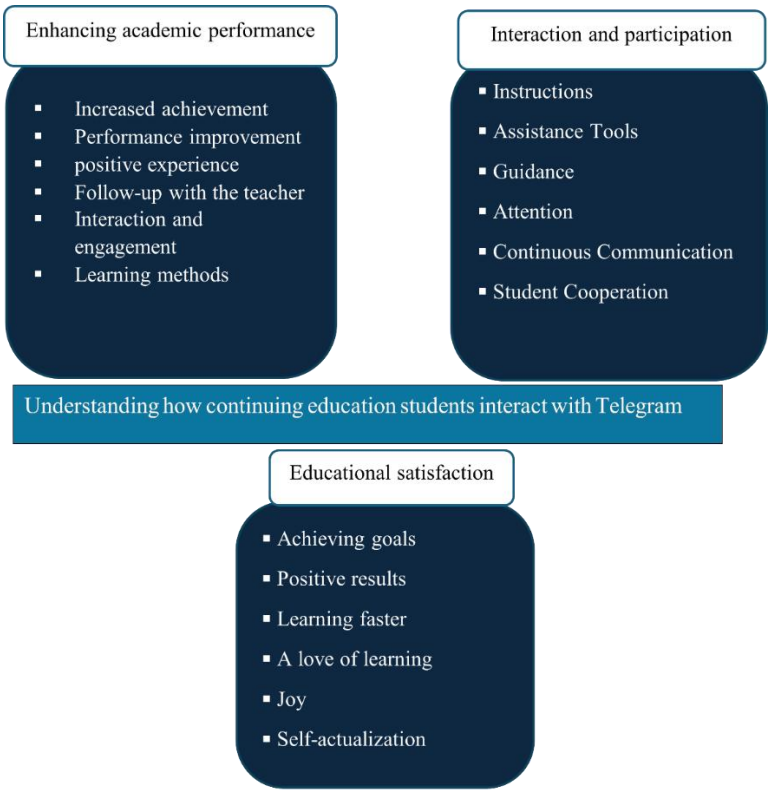

Figure 1. Key Themes of Telegram's Role in Supporting Lifelong Learning

The three main themes focused on: enhancing academic performance, interaction and participation, and educational satisfaction. Figure 1 further illustrates these main and sub-themes.

Enhancing Academic Performance

Enhancing academic performance is a key focus of the learning process, contributing to improved quality of education and increased student achievement. This includes improving teaching methods, developing curricula, increasing student motivation, and providing a suitable learning environment (Ryan & Deci, 2020). This also helps students better understand educational content and significantly impacts their academic performance by providing a positive, encouraging, and safe learning environment that facilitates student engagement (Roeser et al., 2024).

Narratives gathered from interviews and focus groups revealed that the Telegram platform plays a vital role in improving academic performance by providing diverse media and enrichment resources. This benefit is evident in the application's ability to transcend the limitations of time and place. One participant pointed to the impact of frequent self-reflection on improving his comprehension, saying:

> *"I can follow along at home while in a relaxed state when the teacher sends an educational video. I can also go back to the clip and repeat it more than once, which doubled my focus and helped me acquire knowledge without time pressure. This, in turn, made it easier for me to understand the educational material in depth" (S5).*

The results confirm that employing digital strategies effectively contributes to enriching scientific concepts and improving performance skills, especially when integrated with active learning strategies that enhance learning motivation (Luo et al., 2020). In the context of continuing education, Telegram provided an instant communication channel that allowed for feedback and clarification of ambiguous concepts. One student expressed this by saying:

> *"Digital tools like Telegram have put me in quick and continuous contact with the teacher and classmates at any time. This has helped me follow the lessons the teacher sends at a time that suits my circumstances, and this clarity of information has greatly helped me with assignments and completing tasks better" (S2).*

Furthermore, the data showed that Telegram enhanced self-organization for studying and peer-to-peer academic support. Student groups contributed to creating "mini-learning communities" that supported exam preparation, as one participant explained:

> *"The group helps me stay in constant contact with my classmates; we benefit from reminders about exam dates and required tasks, and ask questions about difficult points. This collaboration guides me in organizing my time and preparing well for exams before they are due" (S4).*

This indicates that social interaction through the application is not limited to communication alone, but extends to forming a system of mutual support that increases motivation to achieve. These results align with the findings of Baker (2024), which demonstrated the role of digital tools in enhancing the learning experience and making it more interactive and positive for students. Another study Mosquera Gende (2023) reported improved academic

achievement and increased student engagement when digital tools were integrated into the learning curriculum. Kim (2024) indicated that students expressed high satisfaction (72.9%) with digital tools, attributing this to their role in improving communication, providing ongoing support, and enhancing learning efficiency. Furthermore, the application of digital tools in educational activities contributes to and enhances learning experiences and outcomes when effectively integrated into teachers' teaching practices, thus ensuring the continuity of effective learning for students (Kryshtanovych et al., 2023).

Interaction and Engagement

Student participation and interaction are factors that influence student outcomes. Digital tools, such as the Telegram application, can provide adaptive support and enhance self-regulated learning strategies for adult learners (Teich et al., 2024). Social interactions through discussion forums, learning groups, and peer interactions positively impact knowledge acquisition, social participation, and enrich the learner's educational experience (Wan et al., 2024). Continuous follow-up and prompt interactive support are crucial for maintaining student enthusiasm and engagement (Alrashedi et al., 2024).

The features of “digital collaboration” were evident in the participants’ narratives, as the Telegram application was transformed into a “social-educational space” that removes traditional barriers; One student describes moments of collective support during exam periods, saying:

> *“We are assigned homework, but the peak of our interaction occurs when we join the Telegram and WhatsApp groups during exam days. We exchange questions and collaborate with each other and the teacher whenever we need help. This constant communication keeps me alert and attentive to the teacher” (S8).*

The results indicate that the multiple functions of digital applications like Telegram create fertile environments for information exchange, transforming learning into an interactive social process based on cooperative learning patterns (Tran & Do, 2024). Telegram's importance is also highlighted in providing immediate guidance that facilitates students' comprehension of complex content. This was illustrated by one participant's story about the ease of accessing information:

> *“Applications like Telegram and WhatsApp keep me informed about everything new in understanding difficult topics very quickly. They are easy to use and very helpful.” I can access and review the educational content sent by the teacher at any time (S1)*

Still, digital tools have contributed to integrating the "Edutainment" element to break the learning routine and stimulate collective thinking. This is evident in the experience of one student who linked "fun" with "deep understanding". As expressed by another student:

> *"Digital applications like Telegram give us an opportunity to interact and have fun while chatting; we interact with them collectively, and this atmosphere of... We exchange games. Sometimes, purposeful fun helps me understand the material in an enjoyable and unconventional way" (S3)*

These interactions not only enhance the academic aspect but also extend to building strong bonds of belonging among members, creating a "community of practice" where the student feels safe and supported (Kaliisa, 2022). The impact of this virtual belonging is evident in the story of a student who was able to overcome the obstacle of absence thanks to the group: He stated:

> *"Even on the days I am absent from school, I find my classmates in the group" present to answer my questions about what I missed, and this quick communication makes me know with them in class exactly what is required and I do my assignments as if I were there" (S7).*

The above results confirm the importance of the Telegram application in enhancing students' interaction with educational content, which contributes to improving their learning experiences. Accordingly, the use of mobile digital applications enhances the continuous learning process for students. It can also be said that these results are consistent with the study by Ovcharuk (2024), which indicated the role of mobile digital applications in providing an interactive learning environment that enhances participation and interactions as well as participation in the learning process, it makes students more engaged (Ranjan & Chaturvedi, 2022). These results are also consistent with the study by (Anghelo et al., 2023), which confirms that the use of digital applications helps in creating interaction and cooperation between students and teachers, as well as in improving students' teaching and learning processes.

Educational Satisfaction

Satisfaction with the educational environment is one of the essential determinants that shape students' adaptation to the educational system; feelings of satisfaction stimulate emotional and cognitive engagement, which raises the quality of learning and its outcomes. This satisfaction stems from the institution's ability to meet learner expectations and their perception of the quality of service provided (Shanahan & Gerber, 2004). In participant accounts, moments of joy linked to self-esteem emerge. One student describes their feelings during direct interaction:

> *"When the teacher asks me to participate via microphone and I answer correctly, I am overwhelmed with joy and deep satisfaction, especially when the teacher praises my answer and thanks me. This appreciation makes me feel that my effort is noticed and valued, giving me psychological comfort that motivates me to be more engaged in the lesson" (S6).*

Educational satisfaction is a multidimensional concept that, in digital learning environments, is influenced by the confirmation of initial expectations, tangible benefits, and the quality of the technological system (Abuhassna et al., 2024). Educational content and the availability of support resources also play a pivotal role in enhancing this feeling (Ruranga, 2024). In this study, student satisfaction was linked to the ease of access to content, as described by one participant in his story as follows:

> *"I follow it at home with complete satisfaction. I feel completely satisfied when the teacher sends an educational video. I have the luxury of replaying and repeating the clip until I grasp the difficult concepts. This repetition motivates me to learn independently and allows me to analyze the information more deeply without rushing" (S5).*

In the context of digital teaching, satisfaction levels rise thanks to the teacher's pedagogical competence and ability to create interactive workspaces (Çakmakkaya et al., 2024). The impact of the teacher's educational presence on Telegram is evident in boosting student satisfaction, as one participant expressed:

> *"As soon as the teacher sends a message or content in the group, I feel a joy that motivates me to continue following the lessons with enthusiasm. This communication makes me feel confident and increases my motivation to learn with academic achievement" (S4)*

The literature indicates that satisfaction is closely linked (Gómez-Paniagua et al., 2024), which necessitates that institutions pay attention to the factors affecting it to ensure quality (Şişcan & Moldovan-Batranac, 2024). In a continuing education environment, the quality of services and the technical and pedagogical knowledge of teachers (TPACK) lead to the success of digital learning) (Alharbi et al., 2025). The role of institutional support in overcoming technical obstacles is highlighted as a factor that enhances satisfaction. As one student recounted his initial journey:

> "*Dealing with the applications at first was difficult, but digital learning was a challenge. The support of the school principal and the computer teacher alleviated my anxiety and transformed the difficulty into mastery. Learning without these applications became difficult" (S8).*

This is considered one of the strongest motivators of satisfaction, as it gives the student an immediate sense of accomplishment (Chetioui et al., 2024), which was confirmed by one of the participants who said:

> *"These digital applications, especially Telegram, are very useful to me. My results appear immediately upon completion. When the teacher sends a test, the results appear instantly. I feel the joy of immediate accomplishment, which increases my self-efficacy and satisfaction with the course" (S5).*

Furthermore, it is clear that digital interaction and satisfaction with resources go hand in hand (Lin & Wang, 2024), and that informal digital learning contributes to achieving alignment, where self-regulated learning strategies are employed (Zheng & Xiao, 2024). Therefore, the results emphasize the need to consider the specific characteristics of adult learners and provide them with continuous academic and guidance support to ensure a fruitful learning experience (Chai & Ye, 2024; Zheng & Xiao, 2024).

Implications

The findings of this study confirm that integrating the Telegram application and supporting digital media into the educational system significantly contributes to improving academic interaction among continuing education students; this is reflected in raising performance efficiency and enhancing learning practices through the provision of high flexible educational content (Firman et al., 2024). These tools allow for individualized learning, where monitoring student interaction patterns with digital applications allows for a deeper understanding of their individual experiences and the design of learning pathways that align with their individual needs (Habes et al., 2023).

Moreover, these digital environments provide teachers with a platform to offer real-time pedagogical and technical

support; guidance can be formulated based on actual student engagement levels (Sung et al., 2022). In promoting the impact of Telegram is clearly evident in its contribution to sustained motivation; Instructional design based on digital applications contributes to ensuring the continuity of learning without interruption (Sousa et al., 2022) and increases the desire for knowledge inquiry, especially with the availability of immediate feedback, which enhances the learner's sense of progress and steady achievement. From the perspective of future skills, these applications, including Telegram, contribute to developing students' digital competencies and facilitate communication and collaborative channels, enabling them to work on group projects and tasks that foster teamwork. They also help build professional learning networks that bring together students, teachers, and experts to exchange visions and experiences in an environment that transcends the limitations of time and place, thus adding maximum flexibility to the educational process.

In conclusion, the effective use of digital tools achieves a state of pivotal educational satisfaction, which acts as a key driver for improving motivation and raising academic achievement levels. Accordingly, educational institutions must focus their efforts on developing integrated digital learning environments that meet learners' expectations to achieve the desired outcomes. Educational approaches that are tailored to adults and their specific needs, leading to sustainability and quality.

Limitations and Future Research

Despite the positive results revealed by this study regarding continuing education students' experiences with digital applications, particularly Telegram, several limitations must be considered when interpreting these promising findings for future research. These limitations also open up new avenues for future research:

- *Sample/Gender Limitations:* The current study sample was limited to male participants only, which may obscure other perspectives related to gender. Therefore, it is suggested that future research include broader samples of female participants to explore diverse narrative dimensions and experiences that may provide a better understanding of gender in the use of digital technologies in continuing education.
- *Sample Size and Generalization:* The study relied on a limited purposive sample (8 participants), which limits the generalizability of the results. However, it should be noted that the core objective of the current narrative approach was to delve into the depth and understanding of the lived experience, rather than to arrive at broad generalizations. Therefore, future research could adopt survey studies with larger samples aimed at developing frameworks that can be generalized more broadly.
- *Digital Application Types:* The current study focused on specific digital tools (such as Telegram) to explore student interaction. Future researchers are recommended to expand their study to include more advanced and interactive technologies, such as augmented reality (AR) and virtual reality (VR), to deliver immersive learning experiences that contribute to enhancing levels of comprehension, sensory interaction, and cognitive development.
- *Time Scope:* The current study remained within a specific timeframe; therefore, the results are representative of Responses of students during that period. It is suggested that longitudinal studies be conducted to track the performance and interests of continuing education students over extended periods of time, to verify the sustainability and effectiveness of digital applications in maintaining long-term

learning motivation.

Conclusion

The current study aimed to explore the experiences and interactions of continuing education students using Telegram as a supportive learning environment. This was achieved through a qualitative narrative methodology that sought to deepen understanding of the impact of these tools in the educational context. Based on the qualitative analysis of participants' stories and lived experiences, the study arrived at key findings organized into three main tracks:

- *Enhancing Academic Performance:* The results revealed that using Telegram contributed to improving the quality of academic achievement by providing flexible and enriching educational content that transcended the limitations of time and place. This allowed students greater opportunities for self-reflection, deeper understanding, and overcoming the time constraints associated with their lifestyle as continuing education students.
- *Interaction and Engagement:* The study demonstrated that digital applications like Telegram transformed the learning process into an active social-learning space. Instant communication channels contributed to building small learning communities that fostered peer collaboration, facilitated the exchange of educational resources, and provided rapid feedback from teachers, thus increasing academic engagement rates.
- *Educational Satisfaction:* The results showed that satisfaction was a direct result of the ease of use of the Telegram application, the availability of technical and educational support, and the self-esteem students experienced through their interactions. This satisfaction was linked to the quality of service provided and the immediate results, which boosted students' confidence as digital learners.

These findings implications offer educational decision-makers and teachers practical insights into how to design learner-centered digital learning environments. The study contributes to bridging the knowledge gap regarding narrative interaction mechanisms for continuing education students, emphasizing that integrating technology is not merely adding a technological element, but rather a shift towards more sustainable and interactive education. Thus, the current research offers a fundamental contribution to understanding how educational applications can be both enjoyable and effective means of achieving satisfaction and improving educational performance in the continuing education system.

Statements and Declarations

Acknowledgments/Notes: Not applicable.

During the preparation of this article, the authors did not use ChatGPT.

Supplementary Materials: Not applicable.

Author Contributions: All authors contributed equally. All authors have read and agreed to the published version of the manuscript.

Funding: The authors received no funding for the research.

Data Availability: Not applicable.

Ethics Approval: The study was performed in accordance with the study protocol and ethical guidelines and regulations.

Informed Consent: Informed consent was obtained from all subjects involved in the study.

Conflicts of Interest: The authors declare no conflicts of interest.

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