Teachers' Use of Telegram Chatbot as Learning Media at SMPN 4 Binjai

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Abstract

This study explores the implementation of Telegram chatbots as learning media at SMPN 4 Binjai, focusing on enhancing teaching and learning processes through digital transformation. Telegram can serve as effective learning tools by facilitating interaction among teachers, students, and parents (Sanaky, 2023), the research involved training and mentoring 21 teachers using methods such as presentations, discussions, and simulations over three meetings. The chatbots aimed to address challenges such as workload management and student engagement by providing automated content distribution, quizzes, and feedback. Findings indicate that Telegram chatbots significantly enhance the efficiency of delivering educational material, boost student interest and engagement, and promote independent learning. This study underscores the importance of digital literacy in modern education and suggests that ongoing training and support are crucial for maximizing the effectiveness of Telegram chatbots. By creating more interactive and responsive learning environments, chatbots offer a promising future for educational settings. The results highlight the necessity for educational institutions to embrace technological changes and provide continuous training for educators to fully utilize digital tools' potential, thereby improving the overall quality of education.

***Keywords**: learning media; telegram; chatbot*

INTRODUCTION

Nowadays, young people are familiar with various social media platforms (Sitinjak et al., 2020), including Facebook, Instagram, Line, TikTok, Telegram, WhatsApp, and Twitter. This social media potential can be used as a learning space media, a space for interaction between teachers and students, and even a place for parents to participate in the learning process (Nuryunia et al., 2022). However, there are advantages and disadvantages to using social media to benefit the learning environment. The limitations of these advantages are their disadvantage (Ramdani et al., 2021). Thus, the innovative use of Telegram Bot social media as a learning tool to address the teacher's difficulties at SMPN 4 Binjai is a significant and intriguing development that opens up new possibilities in education.

According to Sanaky (Marda & Hendriana, 2023), Telegram is an effective learning medium. He claims that learning media is an essential tool for transmitting material information to students and can be used as an intermediary in the learning process to improve effectiveness and efficiency in fulfilling learning objectives. The telegram application is employed as an intermediary medium to enhance the efficiency of learning activities between teachers and learners. According to Tompo (Wadhono et al., 2023), the Telegram app is a messaging service that may be used on a variety of operating systems, including Android, iOS, Windows Phone, Ubuntu (for smartphones), and Windows, Mac, and Linux (for desktops).

Acknowledging the potential and limitations of social media, SMPN 4 Binjai has chosen to utilize Telegram as a learning tool to overcome the challenges faced by its teachers. The extensive features of Telegram, particularly its bot functionality, make it an ideal platform for educational purposes. Telegram bots can be programmed to distribute content, administer quizzes, provide immediate feedback, and even moderate discussions. This automation lightens teachers' workloads and assures students receive timely assistance, creating a more interactive and responsive learning environment. Telegram bots at SMPN 4 Binjai represent an effort to improve learning processes and embrace digital transformation, offering a promising and optimistic future for education.

Furthermore, using Telegram bots at SMPN 4 Binjai represents an effort to improve learning processes and embrace digital transformation. This program represents a more significant trend in education, in which technology is used to overcome traditional challenges and improve the learning experience. Teachers at SMPN 4 Binjai are not only dealing with challenges like workload management and student engagement by incorporating Telegram bots into their teaching techniques but also educating students for a future that values digital literacy and technological competence. This forward-thinking approach exemplifies other institutions striving to innovate and improve their educational methods using technology efficiently.

METHODOLOGY

This activity is carried out in the form of direct training and mentoring. The activity was held at SMP Negeri 4 Binjai, Jalan Bejomuna 66, Kancil. Twenty-one teachers from various school subjects participated in this activity. The methods used in this activity are the case method, presentation, problem-solving, exercises, discussions, simulations, and reflections (James Tangkudung, 2016). This activity was carried out for three meetings in two months, from June 2024 to July 2024. Three stages are passed in this service activity, namely the preparation stage, the implementation stage, and the reflection evaluation stage.

FINDINGS

Teachers at SMPN 4 Binjai socialized Telegram Bot as a learning media, a form of digitalization in teaching. The following is a presentation of the results of the activity.

1. Preparation Stage

During the preparation stage, the researchers conducted early observations and needs analyses with the teachers. This involved observing and interviewing the teachers about their problems and requirements to find the best way to solve their difficulties while meeting their professional needs. The researchers also identified the best approach to carry out this activity. Furthermore, they specified the requirements for supplies, activity instruments, media, and evaluation tools to ensure the activity runs smoothly.

The preparation stage includes researching and determining the most effective ways to carry out the training activities and obtaining information about the needs of the teachers. Examining best practices and earlier studies on digital teaching and learning technologies are part of this. The researchers thoroughly evaluated several methods to determine which was best for SMP Negeri 4 Binjai. This guarantees that the techniques will work and may be modified to fit the teachers' different subjects and teaching philosophies.

The researchers want to provide an organized and effective training program; therefore, they carefully plan and prepare throughout this phase. The initiative's overarching goals—empowering educators with the know-how to integrate Telegram chatbots into their lessons and ultimately improving their students' learning quality—can only be realized with this careful planning. The thorough requirements analysis and strategic planning guarantee that the training exercises are applicable and valuable, and in line with the educational objectives of SMP Negeri 4 Binjai and the

professional development goals of the instructors. This comprehensive evaluation process ensures the validity and reliability of the findings.

2. Implementation Stage

This stage implements the plan that has been analyzed and determined previously. This stage lasted three days and included material-deepening activities, multimedia creative practices, and simulations. Before the program started, a pre-test was given to assess participants' understanding and competence. The pre-test was designed to evaluate the participants' baseline knowledge of Telegram chatbots and their digital literacy skills. After participants completed the pre-test, the material was presented by an expert to deepen participants' understanding of Telegram chatbots.

During the presentation, participants also had the opportunity to ask the expert, a seasoned educator with extensive experience in digital teaching and learning technologies, if anything was unclear. After the discussion, the participants practiced with the material given previously. Under the guidance of the expert, the participants used their respective devices, such as laptops and mobile phones, to practice the material.

3. Evaluation Stage

Evaluation is a process that critically examines a program, activity, policy, or others. It involves gathering information about program activities and outcomes. The purpose is to judge a program, improve its effectiveness, and consider decisions. At this stage, an evaluation is carried out to measure the extent of the participant's level of understanding and ability in application-based learning media (multimedia). Then, reflexivity is carried out through input or suggestions from participants and researchers on any weaknesses in the activity so that the researchers can design a better service program in the future. In this stage, questionnaires were distributed to determine the participants' benefits of this activity. The results are as follows:

No	Question	Assessment (%)				
		VD	D	N	A	VA
1	The Telegram chatbot makes it easier for me to convey material to students.	0	0	14,28	52,36	33,32

		VD	D	N	A	VA
2	Students' interest in learning increases when learning using the Telegram chatbot.	0	9,52	14,28	28,56	47,6
3	I am more interested in using conventional learning media than digital to deliver material to students.	42,84	28,56	19,04	9,52	0
4	I can easily control student progress when conducting teaching and learning activities using digital media such as a Telegram chatbot.	14,28	19,04	23,8	23,8	19,04
5	Telegram chatbots facilitate more independent learning for students.	0	0	28,56	47,6	23,8
6	The Telegram chatbot allows me to provide real-time assessment and feedback.	0	4,76	33,32	42,84	19,04
7	Students are more responsive to assignments and announcements given through the Telegram chatbot.	0	0	9,52	38,08	52,36
8	I experienced improvements in classroom management when using the Telegram chatbot.	4,76	9,52	23,8	38,08	23,8
9	I feel that using Telegram chatbots supports more flexible and adaptive teaching methods.	0	0	19,04	23,8	57,12
10	Telegram chatbots help me monitor individual student learning progress.	4,76	14,28	28,56	28,56	23,8

Description:

VD: Very Disagree   D: Disagree   N: Neutral

A: Agree   VA: Very Agree

This table displays the results of a comprehensive questionnaire designed to assess teachers' opinions toward using Telegram chatbots in the classroom. The questionnaire focused on various aspects of chatbot effectiveness and teacher preferences. Most respondents (52.36%) agreed that Telegram chatbots make it easier to deliver material to students, with 33.32 percent strongly agreeing. This demonstrates that teachers believe Telegram chatbots are an effective tool for delivering educational content efficiently.

Regarding increasing student interest, 28.56 percent of teachers agreed, with 47.6 percent strongly agreeing that learning via Telegram chatbots can significantly boost student engagement. This demonstrates that students value the interactive and digital nature of Telegram chatbots, which makes learning more engaging and motivating. This positive impact on student engagement is a promising sign for the future of education.

Interestingly, there is a clear preference for digital media over traditional media, with 42.84 percent strongly disagreeing and 28.56 percent disagreeing with the statement that they prefer traditional learning media. No respondents strongly disagreed with the statement that they preferred traditional media, indicating a significant shift towards using digital tools in education. This shift underscores the urgency for educators to adapt to technological changes in the classroom.

Concerning the possibility of monitoring student progress through digital media, 23.8% agreed, 19.04% strongly agreed, and 14.28% strongly disagreed. This demonstrates that while most believe digital media is effective for monitoring progress, a segment still faces challenges. However, using chatbots on Telegram is considered to help students learn more independently, with 47.6% agreeing and 23.8% strongly agreeing. This demonstrates the potential for Telegram chatbots to promote independent learning among students.

Chatbots were also rated highly for their ability to provide real-time assessment and feedback, with 42.84% agreeing, 19.04% strongly agreeing, and 4.76% strongly disagreed. This real-time capability is critical for timely intervention and personalized support, enhancing the learning experience. Furthermore, teachers reported that students are more responsive to tasks and messages delivered by Telegram chatbots, with 38.08% agreeing and 52.36% strongly agreeing. This response is most likely due to the immediacy and accessibility of digital communication.

Regarding classroom management, 38.08% of respondents agreed that using a Telegram chatbot improves classroom management, with 28.56% strongly agreeing. This suggests that chatbots' organizational and interactive features contribute to effective classroom management. Furthermore, 57.12% of teachers strongly agreed, while 23.8% agreed that Telegram chatbots promote more flexible and adaptable teaching techniques. This demonstrates the adaptability and versatility of digital tools for different teaching methods.

Finally, 28.56% of respondents agreed that Telegram chatbots aid in tracking the progress of individual students, 23.8% strongly agreed, and 4.76% strongly disagreed. This suggests that many teachers find it a valuable tool for tracking progress, though some still find it challenging to master and prefer traditional methods.

Overall, the study found that the teachers interviewed were open to using the Telegram chatbot in the classroom. Most thought the tool effectively improved subject matter instruction, student engagement, and classroom management. Teachers strongly preferred the use of digital media over traditional methods.

CONCLUSIONS AND SUGGESTIONS

The study on the use of Telegram chatbots as a learning medium at SMPN 4 Binjai has shown that integrating these chatbots significantly enhances the efficiency of teaching and learning processes. Teachers reported that the chatbots make it easier to convey material to students, and students' interest in learning increases when using the chatbots. Additionally, the chatbots facilitate more independent learning for students and provide real-time assessment and feedback, which are crucial for improving the learning experience. The study also highlights the importance of digital literacy and technological competence in modern education, as teachers at SMPN 4 Binjai have successfully adapted to using digital tools. This shift underscores the urgent need for educators to embrace technological changes in the classroom to stay relevant and effective. The findings suggest that Telegram chatbots are effective in improving the quality of education by enhancing teacher efficiency, increasing student engagement, and facilitating more interactive and responsive learning environments. The study also indicates that teachers are more inclined towards using digital media over traditional methods, reflecting a significant shift towards digital education. The use of Telegram chatbots at SMPN 4 Binjai represents a forward-thinking approach that can be replicated in other educational institutions to improve the overall learning experience.

Educational institutions should provide ongoing training and support for teachers to ensure they are proficient in using Telegram chatbots effectively. This will help them to better utilize the chatbots' features and address any challenges they may face. Additionally, teachers should be encouraged to customize and adapt the chatbots to specific subjects and teaching philosophies to maximize their effectiveness. Regular monitoring and evaluation of the chatbots' impact on student learning outcomes should also be conducted to identify areas for improvement and ensure that the chatbots are being used optimally. Incorporating feedback mechanisms into the chatbots will further enhance their functionality and ensure that they are meeting the needs of both teachers and students. Efforts should be made to encourage student engagement through interactive and engaging content delivered via the chatbots. Technical issues that may arise during the use of Telegram chatbots should be promptly addressed to minimize disruptions and ensure a smooth learning experience. Exploring additional features such as gamification and personalized learning paths can also enhance the learning experience. By implementing these suggestions, educational institutions can continue to leverage the benefits of Telegram chatbots, ensuring that students receive a more engaging, efficient, and effective learning experience.

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