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Integration of WCL (WhatsApp, Classpoint, LiveWorksheet) Application in Teaching and Learning to Accelerate the Improvement of Students' Learning Interest

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ABSTRACT

The widespread use of Android apps among students has reduced academic interest due to their distracting features. This study investigates the impact of the WCL Application on student engagement in learning, aiming to reignite interest, especially in Science. Using a quantitative research, data were collected from 31 ninth-grade Natural Science students at SMP Negeri 2 Tellu Siattinge through questionnaires and documentation. Stratified sampling was used, and the data were analyzed with SPSS version 25. Results show a significant increase in learning interest, with pre-treatment scores averaging 47.16% and post-treatment scores rising to 90.23%. These findings demonstrate that integrating the WCL application into the learning process significantly enhances student motivation and participation. As a result, WCL can be a valuable tool for teachers to create interactive and engaging lessons. Schools are encouraged to adopt WCL in their curriculum, especially in Science, to boost academic performance and foster a more dynamic learning environment.

Keywords: Study Interest, Whatsapp, Classpoint, Liveworksheet, Teaching and Learning

INTRODUCTION

The use of information technology devices is now a requirement in the teaching and learning process. Today's teachers and students are changing ways of learning, interacting, communicating, and working collectively (Ferreira, et al.,2013; Hosen, et al.,2021). It is an irrefutable fact that the use of computers and technological digital devices with microprocessors is the new educational tool that is changing the dynamics of classroom lectures, strengthening virtuality and access to digital information through the Internet (Subhash & Cudney, 2018). The use of information and communication technologies (ICTs) such as Internet-capable smartphones, laptops, tablets, and netbooks, and non-smart mobile phones, helps education since it provides a variety of potential interconnected interactions within academic environments (Barry et al., 2015). Information and communication technology integration can be an effective method of increasing student engagement (Vahedi et al.,2021). Future studies on instructional uses of social networking services are suggested (Park et al.,2022). It could help students clarify challenging discussion topics and initiate conversations, as noted by previous scholars who highlighted ChatGPT's effectiveness in complex problem-solving (Qadir,2022; Zhai,2022).

This study aimed to promote and reignite students' learning motivation by utilizing three social media apps, namely WhatsApp, Classpoint, and Liveworkssheet, collectively referred to as WCL. The sequence of WCL usage follows the specific objectives to be accomplished. Technical abbreviations are explained upon first use. WCL application is a learning application that integrates Whatsapp for quick information exchange, Classpoint for interactive learning, and Liveworksheet as an online learner Worksheet used during a lesson. The utilization of WCL is based on student activities. The students operate the WCL directly during their teaching and learning activities, allowing them to learn through interactive engagement with both their peers and teacher. As a result, a

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conducive classroom environment is created, which positively impacts students' enjoyment and engagement in the learning process.

Based on the aforementioned principles and facts, the findings of this study offer a fresh perspective for teachers to ignite students' waning interest in learning. Specifically, this research serves as a useful guide for educators when selecting engaging IT-based learning materials to supplement their lesson plans, not just in the context of science, but across all subjects. In addition, learners can acquire valuable experience in utilizing technology, which is significant in reigniting their interest in learning to the fullest.

LITERATURE REVIEW

The challenge for educators is to find opportunities to bridge academic content to this enthusiasm for authentic learning outside the classroom. Previous study stated that using only one or two types of social media in the teaching and learning process can be compared between individual and group use (Vimala & Gan, 2016). Google Workspace gives the teacher the ability to build higher-quality interactions with students (Gupta & Pathania, 2021; Kelly, et al.,2021). Furthermore, other study describe how using Google Workspace might enhance one's ability to think creatively and provide an example (Yustina et al.,2020). There was relationship between the mobile messaging application and other communicative practices (Tyrer, 2019). The availability of diverse application features in social media presents a valuable opportunity for teachers to integrate multiple apps into the learning process. Teachers should take advantage of this chance to combat the decline in student interest and motivation caused by covid-19 (learning loss) by avoiding the restriction to one or two types of social media for teaching and learning can be compared between individual and group use. However, these opportunities are not being effectively utilized by teachers. As a result, the lack of interest among students in learning persists, and even with the high expectations for the revitalization of student interest in learning after Covid, the outcome remains uncertain.

Learning interest is a crucial factor in attaining learning objectives (Mazana, et al.,2019). Interest is an important element for students' academic success. Students will engage more in the teaching and learning process when there is something that interests them (Boukayoua, et al.,2021). Students' perceptions and attitudes towards learning are crucial in promoting retention (Gasiewski, et al., 2012; Lovelace & Brickman, 2013). If students have an interest in learning, students will feel enjoy (learning Hidi & Ainley,2002). However, prolonged learning loss resulting from remote learning often leads to a decrease in students' motivation to learn. Online learning has been found to potentially decrease student engagement in attending lectures. Therefore, it is essential for teachers to enhance their students' interest in learning. This is also true for students at SMPN 02 Tellu Siattinge who have recently gone through a transitional learning phase that requires careful management.

Science is a discipline that has a strong connection to students' everyday lives. The ability to understand and use scientific knowledge is a crucial skill for navigating the 21st century (Gultepe & Kilic, 2015). Science was selected as the subject of choice for this study due to its suitability and adaptability for the WCL application. Additionally, science education should be enjoyable and foster student engagement in learning. The content and context are closely linked to the natural environment, making science learning more accessible to students. Despite this, science is often considered a difficult and unengaging subject for students. It is imperative that we shift this negative perception to a positive one. Therefore, an exciting IT-based social media platform is necessary to facilitate the learning of science.

Other studies in the field of principal factor influencing students' motivations to engage in social interactions (Amry,2014). Smartphones are currently underutilized in classroom instruction, despite their potential as interactive educational tools. WhatsApp, Classpoint, and Liveworksheet are just a few examples of smartphone applications that can be employed during the learning process. With adequate Wi-Fi network coverage in most school buildings, social media can be harnessed to enhance teaching and learning. Social media functions such as document exchange, virtual communication, and knowledge formation, along with individual motivation, particularly reputation, can be effectively utilized to encourage knowledge exchange among students and enhance their learning perform (Hosen, et al.,2021). WhatsApp was viewed as a more instant, informal and convenient means of self-expression (Tyrer, 2019).

METHODOLOGY

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Research Approach

This study utilized a quantitative approach employing quasi-experimental design. The chosen quasi-experimental designs were pre-experimental. According to Christensen, et al. (2014), research design is a plan conceived and implemented to address research problems. The research design for this study followed an experimental within-subject approach. This study employs a single experimental group with each participant receiving identical treatment (Bordens & Abbort, 2014). Additionally, this study is classified as a within-subjects research design *One Group Pretest Posttest Design*. The one group pretest-post-test design; the one group posttests only design; the post-tests only nonequivalent design (Cohen, et al.,2007; Ary, et al.,2010). One-group design was utilized by conducting pre- and post-treatment tests on the research subjects. This design was chosen because the subjects' characteristics aligned with the study's objectives. The subjects were treated equally to avoid any biases in treatment. The *one group pretest-post-test* design can be represented as:

O_1 X O_2

Notes:

O1 : Pretest

X : Treatment

O2 : Postest

Place and Time

This research was conducted at SMPN 02 Tellu Siattinge, located geographically 21 km north of Watampone city in the Lanca Village of Tellu Siattinge Sub-district, Bone Regency. This location was selected due to the availability of an adequate internet network at SMPN 02 Tellu Siattinge, which is located outside the city. This school has three buildings dedicated to learning, each equipped with WiFi. These conditions facilitate the smooth running of research that requires internet connection. The students in this school are fairly homogeneous, with similar life and cultural background. This study facilitates researcher communication and interaction during the teaching and learning process. Additionally, there are multiple driving teachers at this school available to aid in research implementation. The study was conducted over a four-month period, from April to July 2023.

Population and Sample

The participants of this study were students enrolled in SMPN 02 Tellu Siattinge, located in Bone Regency. Purposive sampling and stratified sampling techniques were utilized to select the sample. The population was divided into strata consisting of smaller, homogeneous groups based on their characteristics. Technical term abbreviations will be explained upon first use. The researcher selected 9th grade A based on objective factors including the number of students, ownership of smartphones, qualifications in learning interest, and ease of using tools and media for research purposes. Determining the sample size requires weighing personal judgment and research convenience (Pandey, et al.,2015). Researchers are advised to include at least 30 samples to establish the necessary limits [24]. For statistical data analysis research, a minimum sample size of 30 is required (Bailey, 1994). The sample for this study consisted of 31 students from 9^{th} grade A at SMPN 02 Tellu Siattinge.

Data Collection Technique

Data was collected using a validated questionnaire (Cresswell, 2014), administered through a Google Form. The questionnaire, a non-testing research instrument, measured the impact of using WCL on accelerating interest in learning science among sample students. Abbreviations will be explained upon first usage. Structured and closed questionnaires were selected based on the study's objectives. The questionnaire had 20 items to measure the indicators of interest, including liking, interest, attention, and involvement.

Data Analysis Techniques

The data collected were presented graphically, and the results of the questionnaire were scored using a Likert scale with a range of 1-5. Descriptive analysis was then performed using the mean percentage utilizing Microsoft Excel,

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followed by inferential statistical analysis using the Gain Normality Test Formula Hake, [29] and SPSS T-Test. *N-Gain* was used to assess the efficacy of WCL treatment with patterns.

$$(g) = \frac{S_{post} - S_{pre}}{S_{m\text{-}ideal} - S_{pre}}$$

Notes:

<g> = normalized mean gain score.

Spost = the average score of students' final test

Spre = the average score of the students' initial test

Sm ideal = the ideal maximum score

Determining student learning interest categories based on N-Gain analysis using Gain level criteria: high (g>0.7), medium (0.3<g≤0.7), and low (g≤0.3) (Hake, 1998:3). In addition, to determine the level of effectiveness of using WCL to increase student interest in learning, the percentage interpretation category is used: <40 (ineffective), 40-50 (less effective), 56-75 (moderately effective), and >76 (effective) (Arikunto, 2019). Meanwhile, a T-test analysis using SPSS was employed to compare the average results of the pretest with the post-test results of the participants. The average difference indicates the significance of the effect of WCL on students' interest in learning science.

The quantitative achievement above is highly pertinent to the assertion made by the teacher of the 9 A grade that the utilization of WCL can engender a positive learning environment, wherein students are motivated to learn and may even experience an enhancement in their sense of confidence. By engaging in independent work and offering responses that demonstrate a high level of understanding, students will develop a greater enthusiasm for continued learning. The utilization of WCL in the learning process has been demonstrated to enhance students' interest and confidence in learning. This assertion was corroborated by 28 students (90.32%), who attested to the enjoyment derived from learning through the WCL device, which they perceived as an engaging and enjoyable approach to learning.

RESULTS AND DISCUSSION

The descriptive analysis of this study indicates that the use of the WCL application has a positive impact on grade 9 students at SMP Negeri 2 Tellu Siattinge. The application increases the average learning interest, as shown by students' responses on a pretest and posttest google form. The percentage of students' responses about learning interest increased from 47.16% pretest to 90.23% posttest. The data indicates that prior to using the WCL application, students displayed an average level of interest in learning at 47.16%, categorized as sufficient. However, following the implementation of the WCL application, their level of interest substantially increased to an average of 90.23%, categorized as very high (Akbar, et al.2014). This indicates a 43.07% increase in grade 9 students' interest in learning science at SMP Negeri 2 Tellu Siattinge. Table 1 outlines additional descriptive analysis.

Table 1. Results of descriptive analysis

Deskriptive		Pretest		PostTest	
		Statistic	Std. Error	Statistic	Std. Error
Mean		47.16	1.415	90.23	.618
95% Confidence Interval for Mean	Lower Bound	44.27		88.96	
	Upper Bound	50.05		91.49	
5% Trimmed Mean		47.23		90.29	
Median		50.00		90.00	
Variance		62.073		11.847	
Std. Deviation		7.879		3.442	
Minimum		32		83	

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Maximum	60		96	
Range	28		13	
Interquartile Range	15		5	
Skewness	-.206	.421	-.121	.421
Kurtosis	-1.308	.821	-.675	.821
Mean Different = 43,07				

To ensure accurate use of parametric tests, it is necessary to perform a test for normality of the data, as shown in Table 2 below. Table 2 provides the results of the normality test.

Table 2. Provides the results of the normality test

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest	.205	31	.002	.916	31	.018
PostTest	.123	31	.200*	.965	31	.399
*. This is a lower bound of the true significance.						
a. Lilliefors Significance Correction						

Because the data set has less than 50 observations, it underwent normality testing using the Shapiro-Wilk table. According to the test, data is considered normally distributed if sig. > α 0.05. Both Pretest and Posttest data showed sig. values greater than 0.05, therefore they are considered normally distributed (Raharjo, 2015). Based on the results displayed in the table above, the sig. value is greater than α 0.05, indicating that the data conforms to normal distribution.

Tabel 3. Paired samples test

Paired Samples Test										
		Paired Differences					t	df	Significance	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				One-Sided p	Two-Sided p
					Lower	Upper				
Pair 1	Pretest - Postest	-43.065	8.933	1.604	-46.341	-39.788	-26.842	30	<,001	<,001

Based on the table 3 above, the Paired Sample t-test with a 95% confidence interval, the significance value is 0.000, which is less than the significance level of (a) = 0.05. This implies that there is an average difference between the scores before and after treatment. The t table shows a negative t-value (-12.005), indicating that the average score before treatment is lower than the average score after treatment. The t-test results indicate a value of <0.001,

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which is less than the significance level of 0.05. This significant difference suggests that the use of WCL accelerates the increase in student interest in learning at SMPN02 Tellu Siattinge. The efficacy of WCL in enhancing students' learning interests is demonstrated by the findings of the N-Gain analysis presented in Table 4 as follow.

Table 4. Results of the N-Gain score analysis

	Result	Criteria
N-Gain Score	0,81	High
Interpretation Category	81,06%	Effective

Source: SPSS Primary Data Analysis, 2023

Table 4 above indicates that WCL significantly increased students' interest in learning science, as evidenced by the N-Gain score of 0.81 (81.06%) which exceeds the threshold of 76 (Hake, 1998). The T-Test results reveal a significant difference between the pretest and posttest scores. With N=31, the Standard Deviation (s.d.) of the pretest was 7.879. Meanwhile, the posttest score was 3.442. This analysis demonstrates that the post-test results are more comparable to the average results than the pretest results. This suggests that the WCL application is successfully implemented in the grade 9 science curriculum at SMPN 2 Tellu Siattinge, particularly in relation to plant and animal breeding systems.

A lack of interest among students in the act of learning can result in challenges pertaining to their academic performance and overall learning achievement. It is of the utmost importance to address this issue without delay in order to prevent it from affecting other students. The findings of the study indicate that the utilization of the WCL application has the effect of enhancing students' interest in the subject matter of science (Hilal, et al., 2025; Toli & Kallery, 2021). The utilization of WCL in the pedagogical process has the potential to stimulate students' interest in learning and to sustain their motivation. Educational chatbot interactions will impact learning students motivations (Yin, et al., 2014). The diversity of activities inherent to WCL has the effect of increasing students' curiosity.

Classpoint, integrated with PowerPoint, serves as an interactive medium for effectively delivering class material. Its engaging interaction features enable the creation of captivating quizzes and virtual blackboard scribbles, encouraging students to actively participate in the learning process. ICT has increased student engagement and motivation through interactive tools, enabling differentiated instruction and personalized learning experiences (Raharjo,2015). ClassPoint has motivated student to participate in questions and polls more often in the class up to 87%. In the other hand, ClassPoint does not have the option to collate students' responses in a summary format of the responses for each questions asked or view results in raw data version to see detailed responses from each respondent (Bong, 2021). The application of the liveworksheet application can improve learning outcomes and student interest in learning (Sulistiani, et al.,2023). It enhances students' interest in learning (Rosidah, et al.,2023). The findings of this study do not support Sumantik, et al.coclusioan that This research is also aligned with the findings of (Lin X, et al.,2024) with the exception that Lim employs the use of ChatGPT (Generative Pre-training Transformer), which utilizes a conversational format. Consequently, when students pose queries, the AI (artificial intelligence) system within the ChatGPT machine promptly responds.

It difference between pretest and posttest indicates that WCL is an effective method for enhancing students' learning engagement. The popularity of Whatsapp among students ignites their interest, leading to its suitability in the learning process. The use of Classpoint in education does not induce boredom in learners. Instead, it fosters active engagement in learning activities. Likewise, Liveworksheet plays a crucial role in stimulating learners' interest in education. The use of WCl in education has proven to be highly effective (81.06%) in reigniting students' interest and enhancing their learning abilities. This achievement underscores the significant contribution of this research to the field of education. Learning with mobiles is significantly more effective than traditional teaching methods that only use pen-and-paper or desktop computers (Ting, et al., 2016). A strong desire to learn is the main requirement for exceptional success. Who explained that interest significantly impacts high and low student achievements in school. Besides the impact on students' achievements, interest also affects students' participation during the learning process (Gray & Diloreto, 2016). In short, use of social media can help students in the learning

process and increase knowledge (Guilin, et al.,2024). The integration of technology into education ecosystem has made the and learning processes more entertaining (Ghory & Ghafory, 2021).

Liveworksheets offer student worksheets resources that can be used as is or modified to suit specific needs. In addition, the LiveWorksheet features an engaging and interactive design, providing learners with a game-like experience. The technology of educational games contributes to the structure of the game process and improves children's intellectual abilities (Meruyert, et al.,2025). A notable benefit of using the LiveWorksheet is that in the event a teacher poses closed questions, learners can immediately check their answers with the answer key. Then, the value automatically appears after students finish their work using the WCL application. In summary, utilizing the WCL app can expedite the growth of students' interest in learning 9th-grade science subjects at SMP Negeri 2 Tellu Siattinge. WhatsApp application can be used as a learning medium and supports increasing student interest (Holly, et al., (2023). However, the implementation still faces several hurdle are requires the availability of a sufficiently large internet network to serve all students simultaneously, and there are still students lacking smartphones equipped with WCL capability.

The utilization of WCL as a platform for the facilitation of interactive quizzes for the principal user, namely the instructor, was found to present certain challenges. The primary limitation pertains to its compatibility with disparate software and operating systems. The proficiency of students in using Android devices varies considerably. Some have already acquired the necessary skills, while others are still in the process of developing them. It is also essential to understand how news readers use media to achieve personal goals and avoid crises in their daily lives (Huang, et al.,2025). This necessitates the implementation of a tailored strategy by the teacher to ensure the most efficient use of time. It seems probable that future researchers will examine the socio-emotional impact of WCl on students, employing larger subject samples. The utilisation of WCL in the pedagogical process is contingent upon the availability of internet access. It is therefore recommended that schools provide internet access that can be accessed for all subjects simultaneously at school.

CONCLUSION

The WCL (Whatsapp, Classpoint, and Liveworksheet) is a collection of social media tools that can be integrated to enhance the learning process in an interactive, communicative, and engaging manner. Consequently, incorporating the WCL application in the learning process proves highly effective in augmenting students' interest in learning, which has notably declined during the Covid-19 pandemic. Interest is a key factor in an effective teaching and learning process. Achieving optimal results requires an effective teaching and learning process with high levels of interest. Teachers may leverage social media platforms such as WCL to enhance interest. Studies have shown that WCL can rapidly restore learners' interest in learning while also greatly facilitating an effective and efficient learning process.

LIMITATIONS

Whilst the present study has yielded positive outcomes and valuable insights into the acceleration of students' learning interest, it is not without limitations that may restrict its applicability and generalisability. A principal limitation concerns the research design, which observed student interactions at isolated points in time rather than over an extended period. The constrained availability of digital devices further constituted a limitation, necessitating shared usage among students. Moreover, the study's reliance on a stable internet connection represents an additional constraint, given its influence on the intervention's effectiveness. Expanding the research to encompass more diverse populations may offer a deeper understanding of how these dynamics operate across varying educational and cultural contexts, thereby enhancing the external validity of the findings. The study also investigated the implementation of the WCL application as a means of restoring students' learning interest following the decline experienced during the COVID-19 pandemic. Nevertheless, it did not examine strategies for the effective utilisation of the WCL application. Future research should therefore consider the procedural aspects of employing WCL in relation to other variables that may contribute to fostering students' engagement and meaningful learning experiences.

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FUTURE DIRECTIONS

While the present study provides valuable insights into strategies for rekindling students' learning interest—particularly through the use of the WCL application—it also highlights several limitations that warrant attention in future investigations. A key limitation lies in the cross-sectional nature of the research design, which captured student interactions at specific moments rather than longitudinally. Future studies should adopt longitudinal or mixed-method approaches to examine the sustained impact of the intervention over time and to better understand the developmental trajectory of students' learning engagement.The study was also constrained by limited access to digital devices and the necessity of a stable internet connection, both of which influenced the fidelity of the intervention. Addressing these infrastructural limitations in future research would enable more robust implementation and provide insights into the role of technological equity in learning outcomes.Moreover, the sample's homogeneity limits the generalisability of the findings. To enhance external validity, future research should incorporate diverse educational settings and learner populations, including students from varied cultural, socioeconomic, and institutional backgrounds.Lastly, while the study evaluated the effectiveness of the WCL application in stimulating interest, it did not examine pedagogical strategies for its optimal use. Subsequent research should explore the procedural and instructional dimensions of WCL integration, including teacher facilitation, scaffolding techniques, and its synergy with other learning technologies. This line of inquiry could illuminate mechanisms that promote deep learning, sustained engagement, and adaptive use of digital tools in post-pandemic educational contexts.

CONFLICT OF INTEREST

The authors declared no conflict of interest.

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