

Student Learning Independence in Digital Era through the Rumah Belajar Application at the Junior High School Level

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Abstract

The Rumah Belajar application can be accessed through smartphones, allowing these devices to be used not only for phone calls, messaging, watching videos, accessing social media, or playing games, but also for learning purposes. In the teaching and learning process, teachers are expected to use learning media rather than relying only on textbooks, markers, and whiteboards. This study aims to examine the effect of using the Rumah Belajar application as a learning medium on students' learning independence in English subjects. This study employed a quantitative research design. The participants were 46 eighth-grade students from two classes at an Islamic Integrated Junior High School in Jambi City. Data were collected through observation and questionnaires. The data were analyzed using descriptive quantitative analysis. The results show that learning activities using the application were carried out through three stages: preparation, implementation, and closing. The statistical results indicate a significant effect of the application-based learning media on students' learning independence in English, as the calculated t-value was higher than the critical value and the significance level was below 0.05. This finding indicates that the Rumah Belajar application has a positive influence on students' learning independence.

Keywords: Learning Independence; Digital Era; *Rumah Belajar* Application

INTRODUCTION

Education is a fundamental aspect of human development and plays an important role in shaping students' knowledge, skills, and character. As society and technology continue to develop, educational practices must also adapt to remain effective and relevant (Anugrah, 2025). One major change in education today is the integration of digital technology into the learning process, which transforms how students access information and participate in learning activities. The rapid growth of digital technology, especially the widespread use of smartphones, creates new opportunities in education (Lestari et al., 2025). Smartphones are no longer used only for communication and entertainment, such as making calls, sending messages, watching videos, accessing social media, or playing games (Sukatin et al., 2023). When used properly, smartphones function as effective learning tools that allow students to access learning materials anytime and anywhere.

In the teaching and learning process, teachers are expected to use learning media to support student engagement (Purba et al., 2022). Learning that relies only on textbooks, markers, and whiteboards often limits student participation and reduces learning effectiveness (Julianti et al., 2024). The use of digital learning media helps create a more interactive learning environment, encourages active student involvement, and supports the development of learning independence (Sele et al., 2023). One digital learning platform provided by the Indonesian Ministry of

Education and Culture is the *Rumah Belajar* application (Rahayu et al., 2023). This application offers free access to various learning resources, including digital materials, virtual classrooms, and interactive features (Afifa & Astuti, 2024). Because *Rumah Belajar* is accessible through smartphones, it is suitable for junior high school students who are familiar with mobile technology (Kurnia & Suhartini 2021).

Learning independence becomes an essential goal in education, especially in the digital era. Students are expected to manage their learning activities, find learning resources independently, and take responsibility for their learning progress (Azizah, 2021). According to Putra & Rustika, (2023) in English learning, independence plays a crucial role because students need regular practice and self-directed learning to improve their language skills. However, many students still depend heavily on teachers, and they often use digital devices only for entertainment rather than for learning purposes (Lestari et al., 2024). This situation shows that learning independence has not developed optimally in English classrooms.

According to Farid & Dmayanti (2022) digital technology offers great potential to support independent learning when it is integrated properly into the learning process. Applications designed for education can help students learn anytime and anywhere, according to their own pace. *Rumah Belajar* is a government-provided digital learning platform that offers various learning materials and interactive features (Latifah et al., 2021). Even though this application is widely available, its use is still limited in daily classroom practice, particularly for developing students' learning independence in English subjects at the junior high school level.

Previous studies indicate that mobile learning applications play an important role in supporting students' learning independence, especially in English learning. Pradittyta & Ridwan (2024) found mobile applications allow students to access learning materials flexibly, practice English skills independently, and learn according to their own pace. Through mobile learning, students become more active in learning activities, show greater responsibility for their learning tasks, and develop higher confidence in using English. Sulfan & Andayani (2025) also confirm that mobile learning applications help students manage their learning time effectively, understand learning materials independently, and reduce their dependence on teachers during the learning process.

Maimun & Bahtiar (2023) also found that by demonstrating that mobile learning technology has a positive effect on students' learning independence at the junior high school level. Students who use mobile-based learning media show better initiative, self-directed learning behavior, and learning responsibility. However, most of these studies focus on general mobile learning applications or applications developed by researchers. They do not specifically examine the use of the *Rumah Belajar* application, which is an official digital learning platform provided by the government. In addition, many previous studies emphasize learning motivation and learning outcomes, while learning independence is often treated as a secondary variable rather than the main focus of analysis.

It can be seen that research that examines learning independence as the primary variable through the *Rumah Belajar* application in English learning remains very limited. There is still a lack of empirical evidence that explains how *Rumah Belajar* contributes to strengthening students' learning independence in English learning contexts, particularly at the junior high school level. This gap becomes important because *Rumah Belajar* is designed to support digital learning and

student-centered learning, yet its role in developing learning independence has not been widely explored in academic research.

Based on this research gap, the present study offers a novel contribution by focusing on students' learning independence as the main outcome of using the *Rumah Belajar* application in English learning. This study examines how *Rumah Belajar* supports students in becoming more independent learners in the digital era through its digital features and learning materials. By using a quantitative research design at the junior high school level, this research provides new insights into the practical implementation of *Rumah Belajar* as a digital learning medium. The findings are expected to enrich the existing literature on digital learning and serve as a reference for teachers in integrating *Rumah Belajar* to enhance students' learning independence.

METHOD

This study employs a quantitative research design to examine the effect of the *Rumah Belajar* application on students' learning independence in English subjects at the junior high school level. The quantitative approach is selected because it allows objective measurement of students' learning independence through numerical data obtained from questionnaires and structured observations (Ridwan & Karmila, 2024). The participants of this study consist of 46 eighth-grade students from two classes at an Islamic Integrated Junior High School in Jambi City, Indonesia. All participants are actively enrolled in English learning activities and have access to smartphones, which enables the use of the *Rumah Belajar* application during the learning process. The participants are selected using a total sampling technique to ensure comprehensive representation of the population. The research procedure is conducted through three structured stages: preparation, implementation, and closing. In the preparation stage, the teacher introduces the *Rumah Belajar* application and explains its features related to English learning (Safitri et al., 2024). Students receive guidance on how to access learning materials, complete learning tasks, and participate in application-based activities using their smartphones. During the implementation stage, English learning activities are carried out using the *Rumah Belajar* application as the main learning medium. Students engage with digital learning materials, exercises, and interactive content provided in the application. The teacher facilitates learning by guiding students, monitoring their activities, and encouraging independent learning behaviors such as self-study, task completion, and active participation. In the closing stage, students reflect on the learning activities, and the teacher provides feedback related to learning outcomes and learning independence. The learning process is concluded by summarizing the lesson and reinforcing independent learning practices developed through the use of the application.

Data collection is conducted using two instruments: observation sheets and learning independence questionnaires. The observation sheets are used to record students' learning activities during the implementation of the *Rumah Belajar* application, while the questionnaire measures students' learning independence based on indicators such as self-confidence, responsibility, initiative, and learning discipline. The questionnaire uses a Likert scale to quantify students' responses. The collected data are analyzed using descriptive quantitative analysis (Creswell, et al., 2018). Statistical testing is applied to determine the effect of the *Rumah Belajar* application on students' learning independence, with significance determined at the 0.05 level. This method allows the findings to be replicated by other researchers conducting similar studies in comparable educational contexts.

RESULTS AND DISCUSSION

Results

The Use of the *Rumah Belajar* Application-Based Learning Media on Students' Learning Independence in English at Nurul Ilmi Integrated Islamic Junior High School, Jambi City
This study is conducted at Nurul Ilmi Integrated Islamic Junior High School in Jambi City from June 22, 2025, to August 22, 2025. The sample of this study consists of eighth-grade students at Nurul Ilmi Integrated Islamic Junior High School in Jambi City. The research is carried out in five learning sessions in the experimental class. Before the study is conducted, the researcher determines the learning material and prepares the research instruments. The learning material used in this study is the respiratory system. This material is taught to the class by applying learning media based on the *Rumah Belajar* application.

The implementation of application-based learning using *Rumah Belajar* to improve students' learning independence in English is conducted through three phases. In the preparation phase, the teacher conducts an apperception activity, explains the use of the *Rumah Belajar* application, delivers the learning objectives, and provides motivation to the students. In the implementation phase, the teacher gives instructions on how to use the application during the learning process. In the closing phase, the teacher asks students to conclude the learning material that has been discussed.

Students' learning independence in English plays a crucial role in determining the success of the learning process. The high learning outcomes achieved during the learning activities are influenced by the use of the *Rumah Belajar* application-based learning media, as it enables students to learn independently. The instrument used in this study is a learning independence questionnaire consisting of validated questions. The learning independence data are obtained from the final questionnaire distributed to the students. The students are given 60 minutes to complete the questionnaire.

Table 1. Recapitulation Results of the Experimental Class Trial

No	Students	Pre-test	Post-test	Gained Score
1	AAD	51	81	30
2	ABG	33	78	45
3	AT	40	76	36
4	BR	38	66	28
5	BUY	47	78	31
6	DIE	57	79	22
7	EGJ	37	77	40
8	GHE	34	80	46
9	GIW	40	75	35
10	HE	37	84	47
11	HUE	55	78	23
12	HKE	51	77	26
13	HHS	30	71	41
14	IKE	52	80	28
15	IFA	45	79	34
16	ITA	54	82	28
17	JKE	54	82	28
18	JT	38	78	40
19	JQL	34	79	45

No	Students	Pre-test	Post-test	Gained Score
20	LRW	46	77	31
21	MGFA	49	75	26
22	MYS	37	78	41
23	NT	51	83	32
Total Score		1010	1793	783
Mean Score		43.91	77.95	34.04
Maximum Score		55	89	
Minimum Score		27	66	

Table above presents the comparison between students' pre-test and post-test scores in the experimental class. The pre-test is conducted before the implementation of learning activities using the *Rumah Belajar* application, while the post-test is administered after the students complete the learning process using the application. The gained score represents the difference between the post-test and pre-test scores for each student. The results show a clear improvement in students' scores after the treatment. The mean pre-test score is 43.91, while the mean post-test score increases significantly to 77.95. This indicates that most students experience substantial progress after learning through the *Rumah Belajar* application. The average gained score of 34.04 further confirms that the application contributes positively to students' learning outcomes.

Individually, almost all students show an increase in their scores, with gained scores ranging from 22 to 47 points. Several students, such as ABG, GHE, HE, and JQL, achieve high gained scores, indicating that they benefit greatly from the application-based learning. Meanwhile, students with relatively lower pre-test scores also show strong improvement, suggesting that the learning media supports students with different initial ability levels. The improvement in post-test scores can be explained by the use of the *Rumah Belajar* application, which provides interactive learning materials and allows students to learn independently. Through this application, students are able to access learning content repeatedly, manage their own learning pace, and actively engage with exercises. These learning conditions encourage better understanding and retention of the material.

In addition, the use of smartphone-based learning makes the learning process more familiar and engaging for students. Since students are accustomed to using smartphones in their daily lives, integrating learning activities into this platform increases motivation and attention during the learning process. As a result, students become more focused and responsible for their own learning. Overall, the data in Table 4.1 indicate that the implementation of the *Rumah Belajar* application has a positive effect on students' learning performance in the experimental class. The significant increase in post-test scores reflects the effectiveness of application-based learning in supporting students' learning independence and improving their academic achievement.

Table 2. Pre-test and Post-test Results of the Control Class

No	Students	Pre-test	Post-test	Gained Score
1	AKS	48	80	32
2	ATH	47	73	26
3	BE	39	66	27
4	BFQA	29	63	34
5	CAQ	52	70	18

No	Students	Pre-test	Post-test	Gained Score
6	FKJA	43	59	16
7	GWS	46	70	24
8	GG	50	81	31
9	HRS	32	56	24
10	GOT	24	55	31
11	ITA	34	77	43
12	IVA	54	75	21
13	JKE	45	69	24
14	JLF	29	70	41
15	JER	45	70	25
16	KTS	44	65	21
17	KOE	23	65	42
18	LBF	47	70	23
19	LOE	47	70	23
20	MBF	56	72	16
21	MAF	49	70	21
22	MBT	35	70	35
23	NAF	45	80	35
Total Score		963	1596	633
Mean Score		41.86	69.39	27.52
Maximum Score		67	84	
Minimum Score		23	55	

Table above shows the comparison between students' pre-test and post-test scores in the control class. The pre-test is given before the learning activities begin, while the post-test is administered after the learning process is completed using conventional teaching methods without the *Rumah Belajar* application. The gained score indicates the difference between each student's post-test and pre-test results. The results indicate that students in the control class also experience improvement after the learning process. The mean pre-test score is 41.86, and the mean post-test score increases to 69.39. This shows that learning activities contribute to students' progress even without the use of application-based learning media. However, the average improvement is lower compared to the experimental class.

Most students show positive gained scores, ranging from 16 to 43 points. Several students, such as ITA, JLF, and KOE, achieve relatively high gains, suggesting that individual effort and classroom instruction still play an important role in improving learning outcomes. Nevertheless, many students show moderate improvement, which affects the overall mean score. The post-test results of the control class do not yet reach the minimum mastery criterion set by the school. This condition can be explained by the use of conventional learning methods that rely mainly on textbooks and teacher explanations. Such methods provide limited opportunities for students to explore learning materials independently or practice learning at their own pace.

In addition, the absence of interactive digital media reduces students' motivation and engagement during the learning process. Without flexible access to learning resources outside the classroom, students depend heavily on teacher guidance, which limits the development of learning independence. As a result, although there is an improvement in scores, the learning outcomes remain below the expected mastery level. Overall, Table 2 indicates that conventional learning methods are able to improve students' scores to some extent but are not sufficient to

achieve optimal learning independence and mastery. These findings support the need for integrating digital learning media, such as the *Rumah Belajar* application, to enhance students' learning independence and academic performance.

Based on data processing using SPSS version 26, the t-test results are obtained and summarized in Table 4.5 below.

Table 3. t-Test Results

		Coefficients ^a				
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.505	.469		3.211	.002
	Aplikasi <i>Rumah Belajar</i>	.584	.114	.612	5.127	.000

a. Dependent Variable: Kemandirian Belajar

The table shows that the independent variable, namely the *Rumah Belajar* application-based learning media, has a positive regression coefficient (B = 0.584). This means that an increase in the use of the *Rumah Belajar* application leads to an increase in students' learning independence. The standardized coefficient (Beta = 0.612) indicates a strong positive relationship between the use of the application and learning independence. The calculated t-value for the *Rumah Belajar* application variable is 5.127 with a significance value of 0.000. The t-table value at a significance level of 0.05 (two-tailed test) and degrees of freedom ($df = n - k - 1 = 46 - 1 - 1 = 44$) is 1.680. Since the calculated t-value is greater than the t-table value ($5.127 > 1.680$) and the significance value is lower than 0.05 ($0.000 < 0.05$), the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted. These results indicate that the *Rumah Belajar* application-based learning media has a significant effect on students' learning independence in English for eighth-grade students at Nurul Ilmi Integrated Islamic Junior High School in Jambi City.

The significant effect occurs because the *Rumah Belajar* application allows students to learn independently by accessing learning materials anytime and anywhere through their smartphones. The application provides interactive content that encourages students to take responsibility for their learning activities, manage their learning time, and actively engage with learning tasks. In addition, the application-based learning media reduces students' dependence on direct teacher instruction. Students can repeat learning materials, complete exercises independently, and explore content according to their learning pace. These conditions directly support the development of learning independence, which explains why the statistical results show a strong and significant influence. Overall, the t-test results confirm that integrating the *Rumah Belajar* application into English learning effectively enhances students' learning independence, as reflected by the high t-value and very low significance level.

Discussion

This study examines the effect of using the *Rumah Belajar* application as a learning medium on eighth-grade students' learning independence in English at Nurul Ilmi Integrated Islamic Junior High School, Jambi City. The focus of the learning activity is the topic "*Me and My*

Dreams”, which encourages students to reflect on their personal goals and future aspirations. Learning independence is measured through a post-test conducted after the learning intervention to evaluate how well students manage their own learning and understand the material. The learning process using the *Rumah Belajar* application is carried out through three main stages: preparation, implementation, and closing.

In the preparation stage, the teacher activates students’ prior knowledge, explains how to use the *Rumah Belajar* application, states the learning objectives, and provides motivation. This stage is important to help students understand the learning direction and prepare them mentally for independent learning activities.

During the implementation stage, students are divided into small groups of three to four members. They are asked to complete tasks by searching for information through the *Rumah Belajar* application based on the teacher’s instructions. In this stage, students are actively involved in exploring learning materials, discussing ideas with peers, and making decisions independently. The teacher acts as a facilitator who guides students when needed, rather than as the main source of information. This condition supports the development of students’ learning independence. In the closing stage, students are asked to summarize the learning material that has been discussed. This activity helps students reflect on what they have learned and strengthens their understanding. By summarizing the material independently, students practice organizing information and taking responsibility for their learning outcomes.

The findings show that the use of the *Rumah Belajar* application has a significant positive effect on students’ learning independence. Students who learn using the application are more capable of managing their learning activities, completing tasks independently, and showing initiative compared to students who learn through conventional methods without the application. The flexibility of the application allows students to access learning materials anytime and anywhere, which supports repeated learning and deeper understanding. The improvement in learning independence is also influenced by the relevance of the learning topic. The topic “*Me and My Dreams*” motivates students to connect learning materials with their personal experiences and future plans. This personal connection increases students’ interest and engagement in learning activities. As a result, students become more motivated to learn independently and actively participate in the learning process.

The findings of this study are supported by previous research conducted by Rahayu et al., (2025), which highlights the role of digital technology in enhancing students’ learning independence. Their study shows that the integration of artificial intelligence tools creates a flexible and personalized learning environment that encourages students to take responsibility for their learning. In line with Azizah’s (2021) research, which shows that digital learning platforms such as Google Classroom provide flexibility and easy access to learning materials but do not automatically develop students’ learning independence. Azizah explains that student independence requires appropriate learning strategies and active guidance from teachers, not only the use of digital applications. This study are also consistent with the research conducted by Pradana & Kristanto (2022) which shows that interactive multimedia plays an important role in improving students’ learning independence. Their study explains that digital and interactive learning media help students become more active and responsible in managing their learning process. Similarly, the use of the *Rumah Belajar* application supports students in learning independently by providing interactive materials and flexible access to learning content. Both studies confirm that digital learning media, when designed and implemented effectively, can enhance students’ learning independence and positively influence learning outcomes.

Furthermore, the *Rumah Belajar* application supports students in developing independent learning habits because it does not require constant teacher supervision (Wananda & Prastiwi, 2023). Students are encouraged to take initiative, search for information independently, and solve learning problems on their own or with peers. This learning condition creates a student-centered learning environment that promotes responsibility, confidence, and self-control in learning (Durrotul & Nugraheni et al., 2022). Classroom observations support the quantitative findings. Students in the experimental class appear more active, prepared, and confident during learning activities. They actively discuss ideas, collaborate with group members, and draw conclusions independently. In contrast, students in conventional learning environments tend to rely more on teacher explanations and show lower levels of initiative. From the statistical analysis, the t-test results strengthen these findings. The calculated t-value (5.127) is higher than the t-table value (1.680), and the significance value (0.000) is lower than 0.05. This result indicates that there is a statistically significant effect of the *Rumah Belajar* application on students' learning independence. Therefore, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted. This means that the *Rumah Belajar* application-based learning media significantly influences students' learning independence in English.

CONCLUSION

The use of the *Rumah Belajar* application as a learning medium significantly affects students' learning independence in English. The results and discussion show that learning activities conducted through the stages of preparation, implementation, and closing successfully support students in managing their own learning. The findings demonstrate that students who learn using the *Rumah Belajar* application become more active, responsible, and independent compared to conventional learning. Therefore, the application-based learning media positively contributes to improving students' learning independence in English learning in the digital era.

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