



# Application of the Wordwall Application in Social Studies Learning to **Develop Independent Character in Elementary School Students**

## Sufraini<sup>1</sup>, Andi Prastowo<sup>2</sup>, Tegar Setia Budi<sup>3</sup>

1,2&3 Universitas Islam Negeri Sunan Kalijaga Yogyakarta, Indonesia



23204081035@student.uin-suka.ac.id

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#### ABSTRACT

The independence of students in elementary schools is considered to be still low, because many students are still dependent on teachers for learning, and friends who are more brilliant in doing questions. The culture of cheating when taking exam questions reflects that students do not have confidence in their abilities. This research aims to provide a description of the use of the Wordwall application as a learning medium for Natural and Social Sciences (IPAS) in cultivating the independent character of students in elementary schools. Researchers used descriptive qualitative research with data sources from interviews, observation and documentation. The data obtained was then narrated to get a general overview of the application of the Wordwall application in cultivating the independent character of Bustanul Ulum Islamic Elementary School students. The results of the research show that there is a change in attitude that occurs after using learning media in the form of the Wordwall application. Changes can be seen from students' activeness during the learning process, and the reduced habit of asking more brilliant friends when doing questions and exams. Educators are expected to be able to innovate and think creatively with existing features as alternative learning media to achieve learning goals, one of which is the formation of student character.



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### INTRODUCTION

Students' learning independence is still considered low. This is because when students learn at school they are still dependent on teachers so that they do not try to learn on their own and cannot utilize learning resources that should be obtained from anywhere. (Azizah, 2018) Besides that Ali & Asrori (2018), revealed that the lack of independence among teenagers is related to poor study habits, namely not long and only studying after exams, skipping class, cheating, and looking for leaks on exam questions. The development of student independence means that students can do everything as well as possible according to their own abilities and do not depend on other people. Students who have high learning independence will try as hard as possible to complete all the exercises or homework given by the teacher based on their own abilities. If students experience difficulties, students will ask or discuss it with friends, teachers, or other parties who are better able to overcome these difficulties (Fatihah, 2016). Student learning independence refers to students' ability to organize, motivate themselves, and manage their own learning process without too much help from teachers or adults. In elementary school, the formation of independent learning is an essential foundation for academic development and reduces students' dependence on other people in everyday life (Fahradina et al., 2014). Indonesia's national education foundation places character education as the main subject of educational institutions (Utami et al., 2022). This can be interpreted as saying that the goals of national education do not only focus on students' cognitive intelligence, but also focus on cultivating character and moral values. Cultivating positive character is very important to grow in modern times like today.

Instilling positive character in early childhood, especially at elementary school level, is very

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important because this age is a critical age for forming personal character (Marini et al., 2021). Character cultivation in students can be done during learning, including in learning Natural and Social Sciences (IPAS), which studies living objects, non-living objects in the universe, and their interactions, as well as human life as individuals and as part of society interacting with the surrounding environment (Azzahra et al., 2023). In science learning, students need to master various skills, including problem solving, which requires students to be independent, plan actions and solve problems to achieve learning goals. (Yanti et al., 2018), Such as when working on science questions where students learn to work independently, develop effective working strategies, and overcome difficulties, helping them become more confident in compiling answers and making decisions based on their own understanding of the material. According to the Big Indonesian Dictionary, "independent" means the state of being able to stand alone and not depend on other people (KBBI VI Daring, n.d.). A related noun is "independence," which means the thing or state in which a person can stand alone without depending on others (Woi & Prihatni, 2019). Therefore, an independent attitude is the behavior of a person who does not depend on other individuals to complete a task. However, based on the results of interviews with class IV homeroom teachers, it was found that "in working on questions, many children still lack confidence in their own abilities. They often ask smarter friends and still often ask their teachers back and forth.". Explanation of the facts above is essential to find the best solution to overcome them. Teachers, as an element that plays an essential role in the world of education, are required to find ideas or update ideas in solving existing problems. Digital technology is one solution to solve this problem. In the era of digitalization, through the effective use of technology it can play an important role in combining character values in students (Marini et al., 2021). According to Sailer et al. (2021), When teachers utilize technology in classroom learning, it will help teachers have abilities that are relevant to current developments. So it can be concluded that to build an independent attitude in a time of increasingly sophisticated technological progress, technology must be linked to the learning process.

Several related studies show various digital learning media solutions to improve student character. Research by Apriliani et al. (2021) found that digital learning media such as Powtoon can instill and enhance students' responsible character, because it makes learning more interactive and fun. However, this research only focuses on the character of responsibility. Marini et al. (2021) stated that the use of mobile web platforms can stimulate student engagement and strengthen positive characteristics such as love of learning, perseverance, and conscientiousness. The main focus of this research is on improving student character in these matters. Utami et al. (2022) stated that the Wordwall application makes learning more fun and shapes students' disciplined character. Sinaga dan Soesanto (2022) also found that Wordwall media was influential in building disciplined character through positive habits during learning. Study Olisna et al. (2022) shows that the interactive game Wordwall improves the quality of student learning and is effective in conveying material and overcoming boredom. In conclusion, various digital learning media, especially Wordwall, have a positive impact in strengthening student character and improving the quality of learning.

This research represents a significant departure from previous studies by exploring how the Wordwall application can specifically foster independent character in elementary school students during science learning. Unlike prior research that primarily utilized the application to enhance learning outcomes, grades, and other educational metrics, this study focuses on the development of personal and social capabilities that enable students to act autonomously and confidently within a learning environment. The importance of this research is highlighted by the increasing recognition of independence as a critical educational outcome, especially in the context of modern, technology-integrated learning environments. By applying the Wordwall application in science education, this study aims to provide a comprehensive analysis of how interactive and digital tools can contribute not only to academic success but also to the cultivation of key life skills such as independence, problem-solving, and self-management. It is anticipated that the findings from this research will

offer valuable insights into the potential of digital tools like Wordwall to enhance educational practices, making them more relevant and effective in fostering essential character traits. Additionally, this study seeks to encourage educators to innovate and adapt new technologies to meet the diverse needs of students. Ultimately, the application of the Wordwall tool in educational settings could serve as a strategic approach to address challenges in developing independent learning behaviors, thus preparing students to navigate their educational and personal pathways more effectively. Through this innovative approach, the study could also inspire further research into the integration of technology in education to support holistic student development.

### RESEARCH METHODS

This research uses a qualitative approach with a case study type of research. The use of a qualitative approach because it is appropriate to the object and focus of the study, is used to describe the use of the wordwall application in increasing students' independent character. This research seeks to produce findings that cannot be achieved through statistical measurements (Rijali, 2018). This research was conducted at the Bustanul Ulum Islamic Elementary School in Jember. This research was conducted in the odd semester of the 2023/2024 academic year. The research informants consisted of 36 class IV homeroom teachers and 36 class IV students, with details of 12 men and 14 women.

Table 1. source data	
Position	Position Initials
Initials	
Mrs. P1,	Mrs. P1, Class
Class IV	IV teacher
teacher	
P2 Class IV	P2 Class IV
students	students

Table 1 source data

Data collection techniques through interviews, observation and documentation. Meanwhile, testing the validity of the data uses triangulation techniques. Interviews are used to explore information related to the implementation of learning and the cultivation of students' independent character. Observation is used to observe learning activities using the Wordwall application and observe students' attitudes when learning takes place. Meanwhile, documentation is used to complete the report data that researchers can obtain, namely room data, teacher data and student data at the Bustanul Ulum Islamic Elementary School. The data obtained was then narrated to receive an overview of the use of the Wordwall application in learning to foster independent character in class IV students at Bustanul Ulum Islamic Elementary School.

The data analysis used refers to the interactive data analysis model according to Miles and Huberman (Maskur, 2018) as illustrated in the following chart.

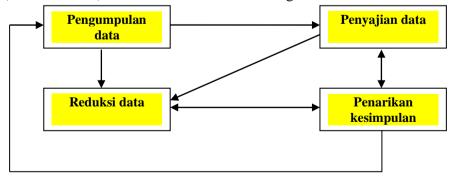


Chart 1. Miles and Huberman Data Analysis Design

Chart 1 shows the data analysis design used in this research. The data analysis method used is according to the Miles and Huberman approach. The data analysis process begins by collecting all the necessary data such as conducting interviews with the class teacher and one of the students,

observing classroom learning activities, documenting the activities required in the research. After the data is collected, a data presentation process is carried out to select and sort the data according to predetermined categories according to the research topic that has been determined. The final step is to conclude the results of the data that has been analyzed.

### RESULTS AND DISCUSSION

### **Wordwall Application in Science Learning**

Science learning is greatly helped by the Wordwall application. The Wordwall application displays various features that can be adapted to learning needs, especially in making questions and quizzes. With this application the class becomes conducive and fun. The class teacher and students in the interviews conveyed this. As expressed by Mrs. P1 regarding the learning conditions in class IV of the Bustanul Ulum Islamic elementary school as follows: "The learning conditions in my class have perhaps not been conducive lately, the children are starting to get bored with the same learning methods and styles. Limited to lectures and assignments. Especially in science and science lessons which discuss a lot of theoretical explanations". This is what P2 expressed, he said, "Learning in the classroom makes me bored, the teacher only explains with lectures. Many of his friends didn't pay attention to the teacher's explanation. The class became crowded because many of my friends were talking to each other."

Learning that only uses lecture and assignment methods makes students bored. The monotonous impression will make students not pay too much attention to the teacher's explanation of the subject matter in class. Thus, teachers must take the initiative to find solutions to create enjoyable learning for students. This was conveyed by Mrs. P1 in an interview, saying, a few days later I started looking for a solution on how to prevent the children from getting bored in class. I looked for information on the internet on how to create fun learning and I found a website-based application, namely the Wordwall application. I can use this application as a learning evaluation tool for children. Not only does it contain questions that must be answered, this application is also game-based. So I hope that children will pay more attention to my explanations because when they are going to work on questions in the Wordwall application they first have to understand the material. I use this application a lot when studying science. At the beginning of the implementation, I used a laptop and projector to explain the steps. Many children are still confused about using this application. I kept trying to explain to them until they finally understood.



Figure 1. Students use the Wordwall application

Figure 1 shows students working on questions independently. In the picture, students are seen holding cellphones as a tool to use the Wordwall application. Before working on the questions, students receive an explanation from the teacher regarding the use of the Wordwall application. Working on questions via the Wordwall application makes students only focus on the device they are using. If they don't focus on the problem for just a few seconds then they will lose time. In this application the teacher gives time to work on each question. This will minimize students having to ask their friends the answers to the questions being asked. The use of this application was well received by students, as stated by P2, when the teacher first explained this application, we were all still confused. However, after explaining it many times, we finally understood and we enjoyed

using the Wordwall application because it had games. The game is interesting, apart from being able to play, we also learn to answer questions from the teacher. When the teacher explains the material, the friends become quiet and pay attention to the teacher. The class became calmer than before.

The use of interesting media such as Wordwall will make students pay attention when the teacher explains. To create conducive classroom conditions, it is necessary to make students feel happy when they are in class. As stated by (Amin et al., 2022) that the influence of learning media is very significant on students' interest in learning, curiosity, motivation and interest in learning material. The use of creative, innovative and interactive learning media really supports a conducive teaching and learning process.



Figure 2. View of the Wordwall application

Figure 2 illustrates the interface of the Wordwall application. The image shows a "start" button, which, when clicked, displays a series of questions for students to complete. Students are free to choose which questions they want to answer. The application instantly provides feedback on their answers, indicating whether they are correct or incorrect. In addition, the student's score is displayed upon completion. Wordwall is a digital tool that can be accessed via a website, offering a technology-driven, collaborative learning experience. A wide range of features and services are available within the platform (Utami et al., 2022), allowing teachers to easily incorporate it into their lessons. Its user-friendly design makes it accessible to anyone through a browser. Wordwall also offers interactive games that students can use to practice and answer questions. The application is easy to access and provides an appealing, dynamic interface that supports online learning through wordwall.net (Gandasari & Pramudiani, 2021).

Wordwall stands out as a versatile and engaging tool for both teachers and students, providing an accessible and interactive learning experience. Its primary function is not only to offer questions for students to solve but to do so in a manner that actively involves them in the learning process. By allowing students to choose the questions they work on, Wordwall fosters autonomy in learning. This feature is particularly beneficial in differentiated learning environments, where students may need to focus on different areas or skills (Hughey, 2020; Tetzlaff et al., 2021; Utami et al., 2022). The immediate feedback system is another key feature that sets Wordwall apart. Students receive instant notifications about the correctness of their answers, helping them learn in real-time and reducing the possibility of lingering misconceptions. This feature also supports formative assessment, as teachers can monitor student progress as they work and provide timely interventions if necessary (Black & Wiliam, 2009).

Moreover, the display of scores after completion not only motivates students but also creates opportunities for self-reflection. Students can review their performance and make adjustments in future learning sessions. This aligns with modern educational approaches that emphasize self-directed learning and continuous improvement (Nicol & Macfarlane-Dick, 2006). Another strength of the Wordwall platform is its accessibility. Since it is browser-based, students and teachers can access it from any device with internet connectivity, making it an excellent tool for remote and hybrid learning environments (Gandasari & Pramudiani, 2021). Its compatibility with a wide range of devices ensures that technological barriers are minimized, which is crucial for inclusive education (Gottschalk & Weise, 2023).

The integration of educational games into Wordwall adds an element of fun to learning. These games transform traditional question-based exercises into engaging activities, which can boost student motivation and participation. Interactive games are known to enhance cognitive engagement, making complex or repetitive content easier to grasp and retain (Hamari et al., 2016). As a result, Wordwall supports both individual practice and collaborative learning through its game-based approach. For teachers, Wordwall offers a flexible and efficient tool to create customized learning experiences. They can tailor activities to align with curriculum goals, student needs, or specific classroom dynamics. The wide variety of available templates allows teachers to diversify the types of learning activities, which helps maintain student interest and engagement over time (Gandasari & Pramudiani, 2021; Utami et al., 2022).

Wordwall is a versatile educational tool that enhances student engagement and enjoyment across all grade levels by offering an adaptable, interactive platform. Its ability to incorporate various themes and learning methods makes it suitable for different learning styles, creating a dynamic and personalized learning experience (Widodo et al., 2023). For teachers, Wordwall provides valuable resources to create interactive and fun learning activities, essential in modern, student-centered education. Advantages of Wordwall include access to pre-created games, fostering community-based learning and collaboration, and offering multiplayer, offline, and printable modes (Khosiyono et al., 2022). These features help reduce preparation time for teachers, encourage creativity, and provide flexibility in different learning environments. However, disadvantages include limitations in adjusting font size, potential for cheating due to instant feedback, and reliance on stable internet connections (Palupi et al., 2023). These challenges can affect accessibility and assessment integrity. Wordwall is a powerful educational tool, though teachers must address its limitations to maximize its potential in creating dynamic and meaningful learning experiences.

### The Urgency of Cultivating Independent Character in Elementary School Students

Character formation in each student is the primary goal of National Education as explained in article 1 of the 2003 National Education System Law which states that the goal of national education is to develop students' potential so that they have intelligence, personality and noble morals. The message of the 2003 SISDIKNAS Law is that education not only forms Indonesian people who are intelligent, but also have personality or character, so that a generation of people will be born who not only have good knowledge aspects, but have a generation that develops with moral character. Good, noble national and religious values (Sukatin & Al-Faruq, 2020). Bustanul Ulum Islamic Elementary School implements the Pancasila student profile. The Pancasila student profile is the characteristics and character of students who have the noble values of Pancasila. This institution hopes that its students can apply the characters contained in the Pancasila student profile character, namely: noble character, global diversity, independence, mutual cooperation, critical reasoning and creativity. These six elements are seen as a unity that supports each other and is continuous with each other. It is hoped that this Pancasila profile character can then be implemented in all student activities in the school environment.

Mrs. P1 conveyed examples of the formation of noble moral character through habituation activities carried out during the learning process, such as praying before studying, the importance of maintaining the school environment by throwing rubbish in its place, behaving politely and respecting other people, helping friends in need, and so on. In terms of independence, as a simple example, make the child the leader of the ceremony, become the leader of the group during learning, and so on. The characters that we want to apply, especially in class IV, are student independence and noble morals. This was conveyed by Mrs. P1, "Apart from learning to be disciplined, children also have their Pancasila student profile strengthened, especially their independent attitude. Here, children also have to be honest, work on their own, however the result is their best effort. Apart from that, children are also formed to be children who have noble morals".

Independent character refers to attitudes and behaviors that do not rely heavily on others and the ability to complete tasks autonomously (Narwanti, 2014). Such character is essential for an individual to fully harness their potential, abilities, creativity, and innovation to achieve life goals. Thus, independence is a person's trait of not depending on others to act. Developing an independent character in students can begin by teaching them self-reliance in learning, encouraging them to take responsibility for organizing and disciplining themselves and developing their ability to learn independently. The most critical aspect of the independent learning process is enhancing students' abilities and skills in learning processes without reliance on teachers, mentors, peers, or others (Musbikin, 2021). Independent students actively seek the learning resources they need. In this process, the teacher's role is to act as a facilitator, ready to assist students when necessary.

Key characteristics of students who can learn independently include how they initiate studies, manage their independent study time, adapt study methods and techniques to their abilities, and recognize their weaknesses (Thoha, 1996). Independent learners effectively use their time, discipline themselves in their studies, and complete assignments diligently. Such students typically engage in positive behaviors like regular prayer, helping out at home, studying diligently without prompting, and enjoying reading (Sobri, 2020). Conversely, students who lack independence often depend excessively on others, show reluctance to study, and are unwilling to assist others. They might resort to cheating during exams or rely on peers to complete their assignments, and they often spend considerable time on unproductive activities. From the above, it is concluded that developing an independent character in elementary school students can be achieved through consistent habits such as not depending on others for everything, maintaining discipline in studies, having faith in one's abilities, and not frequently cheating during exams. The teacher's role as a facilitator involves training and accustoming them to independent learning with various assignments.

To further enrich the discussion on the development of independent character in students, it is vital to explore not only practical methods to foster independence but also the underlying psychological and educational theories that support this character-building process. A pivotal theory relevant to the development of independent learning is Self-Determination Theory (SDT) by Deci and Ryan (2000), which emphasizes the importance of autonomy in motivation. According to this theory, when students are given the freedom to make choices in their learning process, their intrinsic motivation increases, leading to a greater sense of ownership and responsibility over their education. By promoting autonomy, teachers can create a learning environment that supports the development of independent character, as students learn to rely on their decision-making abilities instead of external pressures. Moreover, Vygotsky's Social Development Theory underlines the role of the teacher as a facilitator, a concept also echoed by Musbikin (2021). Vygotsky argues that learning occurs within a social context, where students gradually transition from depending on external guidance (such as teachers or mentors) to self-regulation. The teacher's role is critical in scaffolding learning experiences, providing necessary support when students face challenges, but gradually reducing that support as students become more capable of independent work. Alongside autonomy and scaffolding, the role of self-regulation in independent learning is paramount. Selfregulation involves students setting goals, monitoring their progress, and adjusting their strategies to achieve academic success. Teachers can promote self-regulation by teaching students how to set realistic goals, reflect on their learning processes, and develop time management skills, all crucial components of fostering an independent character (Vygotsky, 1978; Widodo & Mansur, 2021).

Additionally, the integration of Problem-Based Learning (PBL) and Project-Based Learning (PjBL) models can effectively nurture independence in students. These approaches encourage students to lead their learning journeys by solving real-world problems or completing projects independently. Through these methods, students engage in critical thinking, decision-making, and reflective practices, all vital in building independence. By incorporating PBL or PjBL, teachers can challenge students to become active participants in their learning rather than passive recipients of information. Finally, the role of parents and the home environment in shaping students' independent character is significant. As Sobri (2020) pointed out, independent students excel not only in

academic tasks but also in daily responsibilities such as helping at home or effectively managing their time. Parents can support this development by fostering a home environment that encourages responsibility, self-discipline, and problem-solving. For instance, allowing children to make decisions about their daily routines or participate in household tasks can reinforce the independence they learn in school. In conclusion, the formation of an independent character in elementary school students is a multifaceted process that requires collaboration among teachers, parents, and the students themselves. By integrating educational theories, fostering autonomy, teaching self-regulation, and encouraging problem-based learning, teachers can guide students towards becoming independent learners. Consistent habits, self-discipline, and a supportive environment are key to ensuring that students develop the skills and confidence to succeed independently in both their academic journeys and beyond.

### Wordwall Application as an Effort to Grow the Independence of Elementary School Students

The application of the Wordwall application in learning can foster student independence, especially when working on questions. Before using the Wordwall application, students tended to rely on the answers of their teachers or friends when working on questions. They are still doubtful or unsure and feel less confident in their abilities in answering the questions given. However, after getting used to this application in science learning, students began to show changes in behavior that led to an attitude of independence. Implementing this application gives students the confidence to try to solve problems in their way without asking for too much help from teachers or friends. They learn to rely on the knowledge and skills they have learned through the application.

Regarding independent character, Mrs. P1 expressed the character of her students in class as follows, boring learning makes my children in class have poor character, they do not believe in their own abilities. They depend more on other people for their work. For example, when doing practice questions or tests, children are used to asking their friends who they think are smart in class. I noticed that my children often fool around when working on questions. This is based on their lack of preparation when answering the questions I gave. This situation makes children who are smart or able to answer questions from the teacher feel disturbed and their concentration of thinking becomes broken. As stated by P2 "My friends often ask me cheating questions, and sometimes they force me to give answers. And that bothers me."

Wordwall learning media requires students who previously liked to rely on friends' answers to answer questions to think independently and believe in their own abilities. Due to the limited time in working on questions, they don't have the opportunity to look left and right to ask their friends for answers. Indirectly, independent character begins to form in classroom learning, especially when working on questions and exams. This is in line with what was conveyed by Nuraini et al. (2020), Student character development can be done by creating certain programs or using media as a support in the learning process. In character formation, teachers must not only relate it to aspects of knowledge, but also to aspects of students' social life (Safitri et al., 2020). The relationship between knowledge, good feelings and positive actions in cultivating a character will form a positive habit. From the statements above, it is very important to have character formation in elementary age children, one of which is independent character. In forming independent character, educators collaborate with digital technology as a learning medium which is of course in line with changes in education today.

One effective learning tool in forming independent character is through the Wordwall application. Applying this learning media can influence the development of students' character. Several studies have shown that the application of the Wordwall application in learning can produce a positive impact on character education, especially disciplined character. Research conducted by Utami, et al. (2022) shows that the application of the Wordwall game application is effective in forming the disciplined character of elementary school students. Likewise, research conducted by Sinaga and Soesanto (2022) found that Wordwall media could be a solution for building students' disciplined character, because students consistently carry out positive habits during the learning

process through this application. Thus it can be concluded that Wordwall media has a positive impact and plays an important role in strengthening students' disciplinary character, as well as supporting the development of their interdisciplinary skills. Research from Olisna et al. (2022) with the results of research on the development of interactive games Wordwall is able to improve the effectiveness of the quality of student learning, and is able to convey learning material well, as well as being an effective learning tool to overcome boredom.

The implication of these findings is that the use of the Wordwall application in science learning has the potential to positively influence the development of students' independent character, especially in working on questions. Proper integration of educational technology can be an effective tool in shaping student attitudes and behavior. The contribution to existing literature is to provide concrete evidence about the benefits of using the Wordwall application in the context of student character development. These findings complement existing literature by adding to understanding of how educational technology can be used effectively to achieve broader learning goals, including character formation. Thus, these findings can be the basis for further research in the field of using educational technology for developing student character. Apart from that, these results can also be a guide for educational practitioners in designing and implementing learning strategies that pay attention to aspects of student character development by utilizing appropriate technology.

### **CONCLUSIONS**

Wordwall application has been proven effective in increasing students' independence and participation in science learning in elementary schools. With interactive features and games, this application makes the learning experience more exciting and fun, which directly supports the formation of independent character and student discipline. Wordwall facilitates more independent learning and reduces students' dependence on help from teachers or friends, helping them develop self-confidence and independent problem-solving skills. Therefore, integrating educational technology such as Wordwall is highly recommended to enrich learning and develop students' character.

Integrating the Wordwall application in elementary school science learning brings significant theoretical and practical implications. Theoretically, the application supports self-directed learning theories such as Self-Determination Theory, which emphasizes the importance of autonomy in the learning process. Wordwall also actualizes Vygotsky's concepts of social learning, problem-based learning (PBL), and project-based learning (PjBL), where students develop independence and problem-solving skills through guided yet flexible activities. Wordwall enhances student engagement and motivation through an interactive and dynamic approach, facilitating the development of autonomy by challenging students to take the initiative in their learning. In addition, the application supports differentiated learning and formative assessment, allowing teachers to adjust instruction in real time and monitor student progress effectively. Therefore, Wordwall is a valuable educational tool that encapsulates the potential of technology to enrich learning experiences and develop student competencies in various aspects.

Recommendations for further research on using the Wordwall application include evaluating its long-term effectiveness in education and comparing it with other digital tools to assess its relative advantages. It is also important to explore Wordwall's impact on teaching practices and students' social skills. In addition, research should look at the integration of Wordwall in different curricula and educational settings, as well as the role of parents in supporting its use at home. This study aims to optimize the use of educational technology to improve learning outcomes.

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