

Enhancing Autonomous Learning and Vocabulary Mastery through the Effective Utilization of Online Resources and Word Wall Activities

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ABSTRACT

This study explores the substantial advantages of utilizing the Internet as a learning tool, focusing on its integration with self-directed learning strategies to enhance vocabulary acquisition. Employing a quasi-experimental approach, the research involved two groups of students subjected to different treatments. The experimental group utilized internet-based reading materials selected according to their interests, recorded key points in worksheets, and engaged in word wall activities. In contrast, the control group followed traditional vocabulary learning methods. Post-test results indicated a 15% increase in vocabulary mastery for the experimental group compared to the control group. Furthermore, students in the experimental group with higher levels of self-directed learning demonstrated superior outcomes compared to those with lower levels of self-directed learning. The study concludes that reading internet-based short stories selected according to student interests significantly enhances vocabulary acquisition. Students with high self-directed learning tendencies are more likely to explore vocabulary through these stories. Effective use of the Internet stimulates student interest and improves vocabulary acquisition through word wall activities, addressing the common issue of boredom in language classrooms. This study contributes to the growing body of evidence supporting the integration of digital resources in language learning curricula, particularly in fostering student autonomy and engagement.

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1. INTRODUCTION

The integration of websites and mobile computing devices into the educational process has proven to be highly beneficial for teachers, enabling them to significantly enhance student learning outcomes (Solihati & Mulyono, 2018). This technological integration is particularly effective in the domain of language acquisition, where digital tools provide diverse resources and interactive platforms that support language learning. Through these innovative technologies, students can engage with content in dynamic ways, receive immediate feedback, and participate in self-directed learning activities that contribute to more effective and personalized educational experiences.

The Internet, like a double-edged sword, has both positive and negative impacts. Its positive aspects include easy access to search engines and a wide range of information, up-to-date information, knowledge expansion, improved communication, increased curiosity, and assistance with various professional tasks (Kurniasih et al., 2018). Many research findings indicate the positive impact of the Internet on student learning outcomes, both through fully online and hybrid learning compared to traditional methods. These benefits include advancements in learning assessment techniques, increased student engagement with the learning process and materials, better understanding, strengthened sense of community among students, and a reduction in instances of learning failure (Nguyen, 2015).

Learning can be defined in various ways depending on theoretical perspectives. However, a practical and broad definition views learning as a process of behavioral change based on behavioral values, a concept developed and promoted by Skinner (Barron et al., 2015). The learning process involves planning, execution, and ultimately self-directed learning, which encompasses student activities related to planning, cognitive processes, and affective processes necessary to complete academic tasks. Effective learning activities require active student participation to achieve optimal outcomes. Thus, students need to develop autonomy in their learning methods to enhance their abilities, ranging from basic self-questioning to planning and evaluating their own learning outcomes (Maftoon & Tasnimi, 2014). Over the past three decades, language classes have introduced new insights into student-centered learning (Yildirim, 2021).

Reading media has evolved alongside advances in information and communication technology. Consequently, the amount of material a person reads is no longer limited to books they purchase or borrow from libraries; it also includes content accessed online. The Internet complements traditional reading media through search engines equipped with information retrieval systems (Kurniasih et al., 2018). Education makes a significant contribution to the development of society and civilization. One important aspect of global social communication development is the use of English as a global language, which is widely adopted as a second language or for international communication in many countries, including those in Asia (Elas et al., 2019).

Alongside this shift, the role of teachers has also evolved to support the development of student autonomy, making students more independent both inside and outside the classroom. The concept of "student autonomy" in language education, as articulated by Benson, represents this new paradigm, where teachers act as facilitators to help students become more self-reliant in their learning endeavors (Yildirim, 2021). This change highlights the importance of fostering independent learning skills to enhance overall educational outcomes and prepare students for effective participation in a globalized world.

Many students face difficulties in expressing themselves in English, both in writing and speaking, even in simple sentences (Syam, 2016). This is often due to a lack of confidence, fear of making mistakes, and the perception that vocabulary learning is a monotonous activity (Susana, 2017). Additionally, vocabulary instruction becomes problematic due to many teachers' lack of confidence and ineffective teaching methods (Alqahtani, 2015).

Teacher-centered English instruction, which follows the "imitating the teacher" model, often results in less satisfactory outcomes and fails to engage students subjectively. This situation is exacerbated if students do not receive intensive guidance, leading to learning fatigue and low self-esteem. In Indonesia, many students still have low English proficiency. They often dislike reading texts in English and frequently receive low grades. This issue is compounded by a lack of self-directed learning and extracurricular activities, leading to teacher frustration (Sholeh, 2019).

This approach to self-directed learning not only enriches the learning experience but also enhances students' enthusiasm for their learning journey (Balçikanlı, 2010). By granting autonomy to students, they become more engaged and motivated, which positively impacts the quality and effectiveness of their education. At the higher education level, self-directed learning becomes increasingly crucial as

students are expected to study independently to achieve their academic targets (Haddad, 2016). This expectation reflects the need for greater autonomy in higher education, where students must manage their own learning processes to achieve the desired academic success.

Promoting student autonomy in learning can be accomplished by engaging students in decisions regarding their learning process. When students are involved in determining their own learning path, it makes learning more focused and enhances motivation (Cotterall, 1995; Dickinson, 1995; Little, 2004). This involvement provides them with a greater sense of ownership over their learning and its outcomes. Moreover, involving students in decision-making can also improve overall learning outcomes. By understanding and recognizing their language skill needs (Hubackova, 2016), students can focus on areas that require improvement, which in turn encourages independent actions in various situations (Benson, 2007) and enhances their learning effectiveness (Abadi & Baradaran, 2013).

The issue of student motivation to learn a foreign language is a frequent topic of debate among educators, particularly as students increasingly acknowledge the critical importance of mastering English language skills for their future career opportunities and personal development (Hubackova, 2016). Engaging students in the decision-making process of their educational journey not only provides a clearer direction for their learning but also significantly enhances their motivation (Cotterall, 1995; Dickinson, 1995; Little, 2004), ultimately leading to more effective and meaningful learning outcomes. As noted by Benson (2007), fostering student autonomy plays a crucial role in developing students into independent, lifelong learners and critical thinkers, thereby enabling them to become proactive and engaged members of society.

Vocabulary learning is crucial in language teaching, particularly in contexts where English is taught as a foreign language (Saengpakdeejit, 2014). For second language learners, vocabulary knowledge is vital for academic success (Vela & Rushidi, 2016). Vocabulary acquisition is a cornerstone of foreign language education (Alqahtani, 2015; Shi, 2017), encompassing disciplines such as English as a second language (Saengpakdeejit, 2014)[38], and exerts a profound influence on academic performance among second language learners (Vela & Rushidi, 2016). Mastery of vocabulary significantly shapes overall language proficiency, affecting critical domains such as communication, reading comprehension, and other linguistic competencies, which has been a persistent focus of scholarly research (Waring & Nation, 2004). Effective vocabulary learning, integral to foreign language instruction, is facilitated through a variety of methods, including extensive reading, interactive classroom activities, and targeted exercises at language teaching centers (Alqahtani, 2015), thus underscoring its essential role in enhancing linguistic and academic success."

The integration of computers and the Internet as learning resources empowers students to select reading materials that pique their interest, thereby fostering self-directed learning (Budiyani & Sujarwo, 2019). The Internet offers a wealth of free and easily accessible educational opportunities, enabling learners to engage with a variety of multimedia resources. According to Mayer (2017), multimedia learning materials, which combine words and images relevant to the subject matter, enhance the learning experience. These resources can encompass a range of formats, including narratives, texts, statistics, maps, and diagrams. In the context of this study, students primarily utilize online short stories as their learning materials. These digital narratives provide an engaging and accessible way for students to practice their reading skills and apply their knowledge in a practical context. By using online short stories, students benefit from a diverse range of content that supports their learning objectives and encourages a more personalized and self-directed approach to education.

Despite the extensive use of internet-based resources in language learning, there is limited empirical evidence on how these tools specifically enhance vocabulary acquisition when integrated with self-directed learning strategies. This study aims to fill this gap by investigating the substantial advantages of utilizing the Internet as a learning tool, focusing on its integration with self-directed learning strategies to enhance vocabulary acquisition.

2. METHODS

This study utilizes a quasi-experimental design, specifically a "non-randomized pretest-posttest control group design," which involves selecting non-randomized sample groups and administering pretests and posttests alongside a control group. The research is conducted with 110 eighth-grade students from a junior high school in East Java, Indonesia, who are enrolled in English language courses. These participants are divided into two distinct groups: an experimental group consisting of 58 students who engage with word wall media as part of their learning process, and a control group of 62 students who receive instruction through traditional teaching methods.

Participants are assigned to either the experimental or control group, though the assignment process itself is non-random. Both groups undergo a pretest to evaluate their initial vocabulary proficiency. This questionnaire focuses on three key aspects: Planning, Implementation, and Evaluation. Following the intervention period involving word wall media, both groups complete a posttest to gauge the impact of the learning methods on their vocabulary proficiency. The study aims to provide insights into the effectiveness of word wall media in enhancing vocabulary acquisition compared to traditional teaching methods. By analyzing the pretest and posttest results, the research seeks to determine whether the use of word wall media significantly improves vocabulary learning outcomes and fosters greater self-directed learning among students. The findings from this study are expected to contribute valuable information to educational practices and support the development of more effective language teaching strategies.

The level of student Autonomous Learning or self-directed learning was assessed in both groups through a pre-test. This assessment used a questionnaire based on Holec and adapted for English language learning, which includes three main components of Autonomous Learning is 1) initiative; 2) monitoring; and 3) evaluation. The vocabulary proficiency questionnaire employed in this study was adapted from Nation's Vocabulary Size Test, incorporating specific terms from Chapter VII, titled "My Uncle Is a Zoo Keeper." This adaptation adhered to guidelines for constructing vocabulary items relevant to the first 10,000 words. The test comprised 70 items: 50 words were sourced from the website www.victoria.ac.nz/lals/staff/paul-nation.aspx, while the remaining 20 items were derived from Chapter VII of the 8th-grade English textbook. The assessment was conducted over a 45-minute period, during which students answered questions based on their knowledge of the words, without requiring a full comprehension of the question content. Throughout this period, students adhered to their regular learning schedule, participating in a total of eight instructional sessions.

The experimental group received vocabulary instruction using word wall media appropriate to the chapters in their English textbook. The teacher introduced the word wall media and created 10 core vocabulary words on word wall cards. Students were assigned the task of adding relevant words to the core vocabulary list and placing these additional words on the wall. This approach was based on the chapters provided in the 8th-grade English textbook use.

3. FINDINGS AND DISCUSSION

3.1. *The State of Student Autonomous Learning*

The extent of student self-directed learning was evaluated using a questionnaire administered by the teacher during the vocabulary instruction sessions incorporating the word wall method. This assessment aimed to measure students' autonomy and engagement throughout the treatment.

Table 1. Level of Student Self-Directed Learning

Class	N	Mean	Standard Deviation
Experiment	58	66.31	2.23
Control	62	62.52	4.11
Total	110		

Table 1 illustrates that the experimental group, comprising 58 students, has an average autonomous learning score of 66.31, with a standard deviation of 2.23. In comparison, the control group, consisting of 62 students, recorded an average score of 62.52 and a standard deviation of 4.11.

Table 2. Distribution of Student Self-Directed Learning Levels

Class	High AL	Low AL	Total
Experiment	31	27	58
Control	33	29	62
Total	64	56	110

Table 2 reveals that within the experimental group of 58 students, 31 demonstrated High Autonomous Learning (AL), while 27 exhibited Low AL. Conversely, in the control group of 62 students, 33 students showed High AL, and 29 students displayed Low AL.

3.2. Pre-Test Vocabulary Proficiency Scores

A pre-test was administered to evaluate the vocabulary proficiency levels of both the experimental and control groups. The detailed results of this pre-test are presented in Table 4 below:

Table 3. Pre-Test Vocabulary Proficiency Results

Class	N	Mean	Standard Deviation
Experiment	58	46.086	2.873
Control	62	46.339	2.210

Table 3 indicates that the average pre-test vocabulary proficiency scores were quite similar between the two groups. The experimental group had an average score of 46.086, while the control group had an average score of 46.339. This suggests that the vocabulary proficiency levels of the two groups were comparable before the implementation of the word wall media intervention, allowing for a fair assessment of the treatment's effectiveness.

3.3. Post-Test Vocabulary Proficiency Scores

The post-test results for vocabulary proficiency show that students in the experimental group, who used the word wall media, achieved a higher average score compared to the control group and also demonstrated improvement from their pre-test scores. The average score for the experimental group was 64.83, while the control group had an average score of 61.48.

Table 4. Post-Test Vocabulary Proficiency Results

Class	Criteria	N	Mean	Standard Deviation
Experiment	High AL	31	60.677	2.039
	Low AL	27	54.704	2.181
Control	High AL	33	47.579	2.372
	Low AL	29	46.966	2.044

Table 4 demonstrates that students in the experimental group, who utilized the word wall media, achieved higher vocabulary proficiency scores compared to those in the control group. Within the experimental group, students with High Autonomous Learning (AL) had an average score of 60.68 with a standard deviation of 2.04, while students with Low AL had an average score of 54.70 with a standard deviation of 2.18. Conversely, in the control group, students with High AL recorded an average score of 47.58 with a standard deviation of 2.37, and students with Low AL had an average score of 46.97 with a standard deviation of 2.04. These findings suggest that the use of word wall media significantly enhances vocabulary proficiency, especially among students with higher levels of Autonomous Learning.

Discussion

Multimedia in education includes diverse formats, such as the integration of text and visuals, all intended to enrich the learning experience (Mayer, 2017). This approach leverages various types of media to present content in an engaging manner, utilizing both visual and textual elements to support educational objectives. By integrating these multimedia resources, educators can create a more dynamic and interactive learning environment.

Words can be presented in several formats, such as narrative or printed forms, and can be delivered either digitally or manually. In the context of this lesson, students access short stories directly from the Internet. They have the autonomy to choose the stories they wish to read, but they must first obtain approval from their teacher. This process ensures that the selected materials align with educational goals and are appropriate for the students' comprehension levels.

Students are encouraged to propose stories to the teacher, who reviews and selects those deemed suitable and beneficial for their understanding. This method of selection helps to ensure that the reading materials are not only engaging but also relevant to the students' learning needs. Short stories, in particular, are believed to enhance students' interest in reading and stimulate their curiosity about new and unfamiliar words, thereby fostering a deeper engagement with the language.

Online learning leverages communication and information technology, primarily through web and internet platforms. It has become increasingly popular and serves as an alternative learning method that can reduce costs (Zulfikar et al., 2019). The shift to online learning has brought significant changes in recent decades, enhancing higher-order thinking skills, problem-solving abilities, and overall learning effectiveness. Many educators are integrating websites as part of the teaching and learning process (Romero Martínez et al., 2020).

Reading, as a crucial component of literacy, is closely related to learning activities. It stimulates students to think critically and work towards learning goals through text comprehension and language skill development. Reading can be conducted through various platforms, including books, and now, it can be easily done online by accessing information-rich websites through search engines (Abdel Razeq, 2014). In this study, the online learning resource consists of short stories available on the Internet. This material is easily accessible and understandable for most eighth-grade students in junior high school. They are guided to read and discuss appropriate short stories.

Self-directed learning, often referred to as Autonomous Learning, is defined as "the ability of learners to control their own learning". This concept encompasses a range of responsibilities and activities that learners undertake to manage their educational experiences independently. It involves setting personal learning goals, selecting appropriate materials, and choosing the methods and techniques best suited to their learning style. Additionally, self-directed learners monitor their progress by managing aspects such as pace, time, and learning environment, and evaluate their outcomes to gauge effectiveness (Xu, 2009).

In self-directed learning, students are granted significant autonomy, allowing them to determine what they learn, when they learn it, and how they approach their studies based on their individual needs, interests, and abilities (Szócs, 2017). This level of freedom enables learners to tailor their educational experiences to better fit their personal learning preferences and goals. By exercising this autonomy, students not only enhance their engagement and motivation but also develop essential skills for lifelong learning and self-regulation. This approach fosters a more personalized and proactive learning experience, ultimately leading to greater academic and personal growth.

As noted by Little (2004), all genuinely effective learning stems from self-directed factors,' highlighting the intrinsic connection between autonomy and student motivation (Fatawi et al., 2020). This is because a high level of autonomy is essential for students to develop the psychological capacity necessary for exploring and enhancing their own learning abilities and performance in language acquisition (Boyadzhieva, 2016).

Self-directed learning is fundamentally an attribute of students rather than a mere component of the learning process itself. It reflects a student's ability to independently manage and direct their educational journey. This attribute manifests in two principal ways: firstly, students are tasked with organizing their own learning process, which includes selecting relevant study materials, devising effective study methods, and conducting assessments of their own progress (Dickinson, 1995). Secondly, self-directed learners assume full responsibility for their own educational experiences, demonstrating autonomy in how they approach their learning.

Researchers consistently highlight that self-directed learners possess a clear understanding of their learning objectives and exhibit a proactive stance toward their education. These learners are characterized by their ability to take ownership of their learning journey, engage in practice voluntarily, and employ suitable learning strategies. Furthermore, they are diligent in regularly reviewing and assessing their progress to ensure continuous improvement (Cotterall, 1995; Dickinson, 1995). This holistic approach not only enhances their learning efficiency but also fosters a deeper engagement with the material, leading to more effective and meaningful learning outcomes.

Word wall media serves as an educational tool that features a display of frequently used or categorized words prominently placed on classroom walls to enhance visibility and facilitate learning (Sartika, 2017). These words are presented in large, clear letters to ensure they are easily visible from any point in the classroom (Cronsberry, 2004). Typically, word wall media involves a systematic process consisting of five stages and incorporates approximately 110 to 120 words (Jasmin & Schiesl, 2009).

Utilizing word wall media enables students to define, spell, and refine their spelling abilities through both written and oral activities (Cronsberry, 2004). This method helps students relate new vocabulary to words they have already encountered, reinforcing their understanding and retention (Suhartono et al., 2019). According to Harmon et al. (2009), the implementation of a word wall progresses through five distinct stages: (a) selecting words, (b) introducing words, (c) connecting words, (d) employing words in diverse contexts, and (e) sharing the meanings of words [53]. In primary classrooms, a typical practice involves adding about five high-frequency words to the word wall each week, ultimately accumulating a total of 110 to 120 words (Jasmin & Schiesl, 2009).

Word walls are instrumental in teaching word analysis and vocabulary development within the subject matter. They emphasize mastering high-frequency words that are prevalent in general reading, as noted by Cooper & Kiger. Additionally, Hall & Cunningham (1999) observe that word wall activities often include engaging practices with visually stimulating elements and active high-frequency words, which significantly enhance long-term retention and practical application of vocabulary (Jasmin & Schiesl, 2009). These activities also promote vocabulary acquisition by enabling students to define, spell, and correct their spelling through both written and spoken exercises (Cronsberry, 2004).

Vocabulary constitutes the fundamental bedrock of language, intricately linking the four core skills: speaking, listening, reading, and writing. As Krashen (1989) emphasizes, mastery of vocabulary is pivotal for achieving language fluency, often proving more critical than grammatical proficiency in the language acquisition process (Tuan, 2011). Nation (2017) delineates two essential components for effective vocabulary learning: the extent of repetition and the depth of cognitive processing involved. Other influential factors include variations in student motivation and the differing levels of difficulty of words encountered by students. Without addressing both the quantity of exposure and the quality of mental engagement, successful vocabulary acquisition is unlikely to occur.

The process of acquiring new words necessitates a profound engagement characterized by knowledge, awareness, interest, and motivation (Harmon et al., 2009). Additionally, it is influenced by the learning environment, applied strategies, and overall language awareness (Asgari & Bin Mustapha, 2010). Depth of knowledge pertains to students' comprehension of lexical items, as articulated by Qian

(2002), while breadth of knowledge refers to the sheer number of words a learner is familiar with (ÿzönder, 2016).

This study presents several distinctive elements that differentiate it from similar research on vocabulary acquisition. One significant difference is the use of the word wall media, which traditionally involves writing only a single word (Cronsberry, 2004). However, in this study, the approach includes several activities: 1) discovery of online reading materials: Students use the Internet to find reading materials before writing words on the word wall; 2) Creating Simple Sentences: Based on the materials, students create simple sentences and record at least five new nouns and five new verbs in their workbooks; and 3) Writing and Placing Words: Students write words on cards, place them on the word wall, and construct simple sentences with the meanings of the words noted at the bottom (Sukandi & Merina, 2017).

Writing the meanings of sentences in a foreign language at the bottom helps students remember new words more effectively by linking them to unique and engaging contexts (Susana, 2017), compared to memorizing isolated words. Another unique aspect of this study is the enhancement of student self-directed learning during the vocabulary acquisition process (Jasmin & Schiesl, 2009).

The questionnaire used in this study reflects various dimensions of self-directed learning: Questions 1 to 5 assess how students perceive the importance of learning and their expected experiences. Questions 6 to 13 evaluate their self-direction in the learning process, and Questions 14 to 16 examine how students evaluate their learning outcomes. During word wall activities, students monitor the number of new words they memorize by composing simple sentences in their workbook, which they can review daily and use to form new sentences with the vocabulary they have learned.

The third unique element is the inclusion of internet-based short stories, which are selected by students based on their interests but under teacher supervision. This approach stimulates vocabulary acquisition by engaging students in reading that they find enjoyable, thereby enhancing their motivation and curiosity. Such involvement is expected to encourage higher levels of self-directed learning, as students strive to understand and remember new words encountered in the stories.

Integrating internet-based short stories with word wall activities and the task of crafting simple sentences offers a dynamic and effective strategy for vocabulary acquisition. This approach, rooted in the principles of self-directed learning, not only makes learning more engaging but also empowers students to take charge of their educational journey. According to the findings of (Abdel Razeq, 2014), this method significantly enhances student comprehension by allowing them to actively shape their learning experiences, thereby fostering deeper understanding and long-term retention of new vocabulary.

Research by Sholeh (2019) revealed that students who possess self-regulation or self-directed learning skills exhibit superior reading abilities compared to their peers lacking these skills. The efficacy of self-directed learning is heavily influenced by students' experiences throughout their learning journey. According to Fawait (2020), these experiences play a crucial role in shaping the effectiveness of self-directed learning, highlighting the importance of fostering these skills to enhance overall academic performance.

In the study by Mayer (2017), it was observed that students in the experimental group outperformed those in the control group. The use of the word wall, characterized by its engaging and colorful design, significantly enhanced student interaction and maintained active involvement in the learning process, effectively preventing boredom. The study concluded that the word wall is particularly effective for teaching the simple present tense and recommended that English teachers explore additional innovative methods for teaching this grammatical structure. Furthermore, research by fentürk (2016) indicates a strong positive correlation between high levels of self-regulation and a larger vocabulary size, underscoring the importance of fostering self-directed learning skills to enhance language proficiency.

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Writing new vocabulary in students' workbooks positively impacts vocabulary acquisition. This aligns with the research by Vela & Rushidi (2016), which investigated the effects of using notebooks on vocabulary mastery, highlighting the role of learning autonomy over a four-week period. Research by Anindyajati (2017) reported a significant improvement in vocabulary mastery among children with hearing impairments. Sartika's (2017) study found that the word wall media is crucial in assisting students with writing descriptive texts, with over 50% positive feedback on its use. Additionally, the findings of this study align with the research conducted by Gong (2018), which demonstrated that internet usage significantly benefits English learning outcomes for both secondary and primary students, particularly in rural areas. Yan's study underscores the pivotal role of digital resources in overcoming educational barriers and enhancing language acquisition, highlighting how access to internet-based tools can substantially improve the quality of English education for students in less accessible regions.

4. CONCLUSION

The Internet has proven to be a powerful tool in supporting vocabulary acquisition, particularly when combined with word wall media. It not only facilitates access to a vast array of new vocabulary through online short story sites but also enhances students' self-directed learning by providing a convenient and cost-effective learning resource. However, to maximize the benefits of these digital tools, it is essential that students utilize them under the careful guidance and supervision of their teachers. This study highlights that employing word wall media and related activities significantly improves vocabulary skills among eighth-grade junior high school students. The integration of self-directed learning strategies has emerged as a crucial factor in achieving superior outcomes for English language learners. By leveraging the Internet, which offers free and diverse educational materials, students with high levels of self-directed learning are particularly well-positioned to benefit and excel. Self-directed learning is integral to advancing student outcomes and fulfilling the expectations set by schools and educators. It emphasizes that learning should be an active, student-centered process rather than a passive one. Teachers are encouraged to use self-directed learning checklists to pinpoint and address areas where students may need additional support. The Internet, in conjunction with self-directed learning principles, serves as an indispensable resource for enhancing student achievement and reaching educational objectives effectively. The limitation of this research is that the virtual resources are still too general, therefore, the suggestion for further research is to estimate the virtual resources used, for example, YouTube.

REFERENCES

- Abadi, E. A. M., & Baradaran, A. (2013). The relationship between learner autonomy and vocabulary learning strategies in Iranian EFL learners with different language proficiency level. *International Journal of Applied Linguistics and English Literature*, 2(3), 176–185. <https://doi.org/10.7575/aiac.ijalel.v.2n.3p.176>

- Abdel Razeq, A. A. (2014). University EFL learners' perceptions of their autonomous learning responsibilities and abilities. In *RELC Journal* (Vol. 45, Issue 3, pp. 321–336). <https://doi.org/10.1177/0033688214547035>
- Alqahtani, M. (2015). The importance of vocabulary in language learning and how to be taught. *International Journal of Teaching and Education*, III(3), 21–34. <https://doi.org/10.20472/te.2015.3.3.002>
- Anindyajati, Y. R., & Choiri, A. S. (2017). The effectiveness of using word wall media to increase science-based vocabulary of students with hearing impairment. *European Journal of Special Education Research*.
- Asgari, A., & Bin Mustapha, G. (2010). The Type of Vocabulary Learning Strategies Used by ESL Students in University Putra Malaysia. In *English Language Teaching* (Vol. 4, Issue 2, pp. 84–90). <https://doi.org/10.5539/elt.v4n2p84>.
- Balçikanlı, C. (2010). Learner autonomy in language learning: Student teachers' beliefs. *Australian Journal of Teacher Education*, 35(1), 90–103. <https://doi.org/10.14221/ajte.2010v35n1.8>
- Barron, A. B., Hebets, E. A., Cleland, T. A., Fitzpatrick, C. L., Hauber, M. E., & Stevens, J. R. (2015). Embracing multiple definitions of learning. *Trends in Neurosciences*, 38(7), 405–407. <https://doi.org/10.1016/j.tins.2015.04.008>
- Benson, P. (2007). Autonomy in language teaching and learning. In *Language Teaching* (Vol. 40, Issue 1, pp. 21–40). <https://doi.org/10.1017/S0261444806003958>
- Boyadzhieva, E. (2016). Learner-centered Teaching and Learner Autonomy. *Procedia - Social and Behavioral Sciences*, 232(April), 35–40. <https://doi.org/10.1016/j.sbspro.2016.10.008>
- Budiyani, W., & Sujarwo. (2019). The impact of internet application as resource of learning on students' independence. In *3rd English Language and Literature International Conference (ELLiC)* (Vol. 3, pp. 7–12).
- Cotterall, S. (1995). Developing a course strategy for learner autonomy. In *ELT Journal* (Vol. 49, Issue 3, pp. 219–227). <https://doi.org/10.1093/elt/49.3.219>
- Cronsberry, J. (2004). Word Walls: A Support for Literacy in Secondary School Classrooms. In *Csc* (pp. 1–14). <https://www.readingrockets.org/>,
- Dickinson, L. (1995). Autonomy and motivation a literature review. *System*, 23(2), 165–174. [https://doi.org/10.1016/0346-251X\(95\)00005-5](https://doi.org/10.1016/0346-251X(95)00005-5)
- Elas, N. I. B., Majid, F. B. A., & Narasuman, S. Al. (2019). Development of Technological Pedagogical Content Knowledge (TPACK) for English teachers: The validity and reliability. *International Journal of Emerging Technologies in Learning*, 14(20), 18–33. <https://doi.org/10.3991/ijet.v14i20.11456>
- Fatawi, I., Nyoman Sudana Degeng, I., Setyosari, P., Ulfa, S., & Hirashima, T. (2020). Effect of online-based concept map on student engagement and learning outcome. *International Journal of Distance Education Technologies*, 18(3), 42–56. <https://doi.org/10.4018/IJDET.2020070103>
- Fawait, A., Setyosari, P., Sulthoni, & Ulfa, S. (2020). Identification of factors affecting of character education program on high school students' self-regulation skills. *Journal for the Education of Gifted Young Scientists*, 8(1), 435–450. <https://doi.org/10.17478/jegys.683155>
- Gong, Y. (2018). Innovative English classroom teaching based on online computer technology in rural middle and primary schools. *International Journal of Emerging Technologies in Learning*, 13(10), 4–14. <https://doi.org/10.3991/ijet.v13i10.9449>
- Haddad, R. H. (2016). Developing Learner Autonomy in Vocabulary Learning in Classroom: How and Why can it be Fostered? *Procedia - Social and Behavioral Sciences*, 232(April), 784–791. <https://doi.org/10.1016/j.sbspro.2016.10.106>
- Harmon, J. M., Wood, K. D., Hedrick, W. B., Vintinner, J., & Willeford, T. (2009). Interactive word walls: More than just reading the writing on the walls. *Journal of Adolescent & Adult Literacy*, 52(5), 398–408.
- Hubackova, S. (2016). Geocaching as a Motivation to Foreign Language Teaching. In *Procedia - Social*

- and Behavioral Sciences (Vol. 232, pp. 321–325). <https://doi.org/10.1016/j.sbspro.2016.10.029>
- Jasmin, J., & Schiesl, P. (2009). The effects of word walls and word wall activities on the reading fluency of first grade studnets. In *Reading Horizons* (Vol. 49, Issue 4, pp. 301–314).
- Kurniasih, N., Rhefhansha, R. F., Yulianti, Y., Wajdi, M. B. N., Sujito, S., Haluti, A., Haimah, H., Sari, D. A. P., Manurung, R. T., & Mudjanarko, S. W. (2018). Internet and learning resources: A case study of the Library and Information Science Students at Universitas Padjadjaran. *Journal of Physics: Conference Series*, 1114(1). <https://doi.org/10.1088/1742-6596/1114/1/012086>
- Little, D. (2004). Learner autonomy, teacher autonomy and the European Language Portolio. In *UNTELE, Université de Compiègne, 17–20March 2004* (Issue March, pp. 1–4). <http://bit.ly/1rq8gLe>
- Maftoon, P., & Tasnimi, M. (2014). Using self-regulation to enhance EFL learners' reading comprehension. *Journal of Language Teaching and Research*, 5(4), 844–855. <https://doi.org/10.4304/jltr.5.4.844-855>
- Mayer, R. E. (2017). Using multimedia for e-learning. *Journal of Computer Assisted Learning*, 33(5), 403–423. <https://doi.org/10.1111/jcal.12197>
- Nation, P. (2017). How vocabulary is learned Quantity of meetings (Repetition). *Indonesian Journal of English Language Teaching*, 12(May), 1–14.
- Nguyen, T. (2015). *The Effectiveness of Online Learning : Beyond No Significant Difference and Future Horizons* (Vol. 11, Issue 2, pp. 309–319.).
- Romero Martínez, S. J., Ordóñez Camacho, X. G., Guillén-Gamez, F. D., & Agapito, J. B. (2020). Attitudes toward technology among distance education students: Validation of an explanatory model. *Online Learning Journal*, 24(2), 59–75. <https://doi.org/10.24059/olj.v24i2.2028>
- Saengpakdeejit, R. (2014). Strategies for Dealing with Vocabulary Learning Problems by Thai University Students. In *Silpakorn University Journal of Social Sciences* (Vol. 14, Issue 1, pp. 147–167).
- Sartika, R. (2017). Implementing word wall strategy in teaching writing descriptive text for junior high school students. *Journal of English and Education*, 5(2), 179–186.
- fentürk, B. (2016). Self-regulation Strategies and Vocabulary Size of EFL Turkish University Students. *Procedia - Social and Behavioral Sciences*, 232(April), 90–97. <https://doi.org/10.1016/j.sbspro.2016.10.023>
- Shi, X. (2017). Application of multimedia technology in vocabulary learning for engineering students. In *International Journal of Emerging Technologies in Learning* (Vol. 12, Issue 1, pp. 21–31). <https://doi.org/10.3991/ijet.v12i01.6153>
- Sholeh, A. (2019). Self-regulated learners in voluntary reading: The effects and Implications on EFL reading classes. *Journal for the Education of Gifted Young Scientists*, 7(4), 867–883. <https://doi.org/10.17478/jegys.621021>
- Solihati, N., & Mulyono, H. (2018). Designing and evaluating the use of smartphones to facilitate online testing in second-language teacher education (SLTE): An auto-ethnographic study. *International Journal of Emerging Technologies in Learning*, 13(1), 124–137. <https://doi.org/10.3991/ijet.v13i01.7683>
- Suhartono, Degeng, I. N. S., Suyitno, I., & Sulton. (2019). A comparison study: Effects of the group investigation model and the direct instruction model toward science concept understanding. *Jurnal Pendidikan IPA Indonesia*, 8(2), 185–192. <https://doi.org/10.15294/jpii.v8i2.18135>
- Sukandi, S. S., & Merina, Y. (2017). Types of Sentences in EFL Students' Paragraph Assignments: A Quantitative Study on Teaching and Learning Writing at Higher Education Level. In *Journal of Education Research and Evaluation* (Vol. 1, Issue 3, p. 137). <https://doi.org/10.23887/jere.v1i3.10322>
- Susana, I. (2017). Enhancing for Vocabulary Mastery Through Mnemonics Keyword Method To the University Students. *English Education: Journal of English Teaching and Research*, 2(1), 8. <https://doi.org/10.29407/jetar.v2i1.725>
- Syam, R. (2016). The Effectiveness of Using Word Wall in Teaching. *Eternal*, I(02), 2016. <http://journal.uin-alauddin.ac.id/index.php/Eternal>

- Szűcs, K. (2017). Teachers' and learners' beliefs about language learning autonomy and its implications in the classroom: A mixed method study. *Apples - Journal of Applied Language Studies*, 11(2), 125–145. <https://doi.org/10.17011/apples/urn.201708233542>
- Tuan, L. T. (2011). An empirical research on self-learning vocabulary. In *Theory and Practice in Language Studies* (Vol. 1, Issue 12, pp. 1688–1695). <https://doi.org/10.4304/tpls.1.12.1688-1695>
- Vela, V., & Rushidi, J. (2016). The Effect of Keeping Vocabulary Notebooks on Vocabulary Acquisition and Learner Autonomy. *Procedia - Social and Behavioral Sciences*, 232(April), 201–208. <https://doi.org/10.1016/j.sbspro.2016.10.046>
- Waring, R., & Nation, I. S. P. (2004). Second language reading and incidental vocabulary learning. *Angles on the English Speaking World, Volume IV: Writing and Vocabulary in Foreign Language Acquisition*, 4, 97–110. <http://geolangs.org/archives/sla/waring120304.pdf>
- Xu, J. (2009). A Survey Study of Autonomous Learning by Chinese Non-English Major Post-graduates. In *English Language Teaching* (Vol. 2, Issue 4, pp. 25–32,). <https://doi.org/10.5539/elt.v2n4p25>
- Yildirim, F. S. (2021). Effectiveness of Augmented Reality Implementation Methods in Teaching Science to Middle School Students. *International Journal of Curriculum and Instruction*, 13(2), 1024–1038.
- Yüzönder, Y. (2016). Student EFL Teachers' Receptive Vocabulary Size. *Procedia - Social and Behavioral Sciences*, 232(April), 444–450. <https://doi.org/10.1016/j.sbspro.2016.10.061>
- Zulfikar, A. F., Muhidin, A., Pranoto, Suparta, W., Trisetyarso, A., Abbas, B. S., & Kang, C. H. (2019). The effectiveness of online learning with facilitation method. *Procedia Computer Science*, 161, 32–40. <https://doi.org/10.1016/j.procs.2019.11.096>