



## **Idiom acquisition in a digital environment based on the *Treediams online idiom dictionary* platform**

The rapid advancement of 21st-century technology has fundamentally transformed our understanding of language and its instruction. The implementation of digital learning platforms offers a unique method of acquisition and has been demonstrated to boost student engagement (Bajaj, 2024). As educational technology becomes increasingly essential, this study explores the effectiveness and functionality of the digital learning platform *Treediams online idiom dictionary*<sup>1</sup> as a tool for learning English idioms. Relatively few studies have investigated the impact of digital engagement on idiom acquisition. Owing to the discrepancy between literal and figurative meanings, as well as the culturally influenced cross-language diversity, idiomatic phrases have been proven to pose a challenge to learners (cf. Burger 2015: 90-91).

The research examines the platform's impact on users' passive phraseological competence, their engagement with various interactive features, and the overall effectiveness of its learning activities. The primary objective is to assess the process of idiom acquisition in a digital environment. The study involves designing and implementing exercises for university-level students within the *Treediams* platform, conducting pre- and post-study surveys, analyzing quantitative data, and interviewing selected participants. The instructional approach is based on Kühn's (1992) methodology: discover, recognize, utilize. The results demonstrate that sustained exposure to idiomatic content and knowledge retention features enhance students' progress rates. Notably, participants who regularly used interactive flashcards achieved scores 5.2% higher than occasional users. In addition, flexibility and engaging content in the digital environment proved to facilitate the learning process.

In conclusion, findings from this preliminary study will inform further improvements to the platform, with plans for future research involving both test and reference groups to evaluate idiom learning outcomes in an online setting. This paper presents the project's methodology, key findings, and pedagogical implications, highlighting the platform's potential to enhance idiomatic competence and learner engagement.

**Keywords:** digital learning platforms, idioms, idiom learning, idiomatic competence, educational technology

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## 1. Introduction

Idioms constitute an intrinsic part of any language and should therefore play an important role in learning it. The acquisition of idioms in a foreign language, on the one hand, contributes to the development of learners' communicative competence by expanding their passive and active vocabulary (cf. Szerszunowicz/Frąckiewicz/Awramiuk 2017: 28). On the other hand, learners' cultural competence improves as well, since idioms are highly correlated with the cultural context in which they are used, and can stimulate reflection on their origin and meaning in a given cultural circle, and also encourage learners to compare idioms and their cultural contexts (cf. Woźniak/Dziurewicz/Pasik 2023: 10).

According to Burger (2015: 31, 33), idioms are fixed expressions that refer to objects, states, and processes occurring in reality. Their defining feature is idiomaticity—the discrepancy between the literal meaning of individual words and the idiom's figurative meaning (cf. Szczek 2021: 27). This semantic gap often poses challenges in foreign language acquisition. Additionally, idioms vary across languages and cultural contexts, further complicating their learning process (cf. Burger 2015: 90-91). Given these challenges, particularly those stemming from the contrast between word-for-word translations and the holistic meaning of idiomatic expressions, it is essential to develop tools that facilitate idiom acquisition. Digital platforms, through interactive features such as contextualized exercises, adaptive learning techniques, and multimodal input, can significantly enhance learners' engagement and comprehension.

The language learning tool used in this study, *Treedioms online idiom dictionary* (Treedioms 2023), was developed by three of the authors of this article i.e. Michał Ejankowski, Konrad Basza, Teodor Kunze in February 2023. *Treedioms*, which offers a range of features further discussed in Chapter 2, enables users to search for English idioms based on their meanings, facilitating foreign language learners' access to specific expressions and enhancing their productive language skills. As a result of this study, the platform has been expanded to include didactic features, allowing users to engage in various tasks designed to support idiom acquisition in English. The use of digital methods in language learning has, especially in recent years, become increasingly important, as demonstrated by the research conducted by Sierak (2024) as well as Klimova/Frąckiewicz/Awramiuk (2021), Pikhart (2021). Thus, in response to the needs of foreign language learners, the following article aims to describe the importance of digital platforms in learning idioms in foreign languages. This research was carried out by a group of students at Adam Mickiewicz University in Poznań as part of the activities of the students' research group of Young Phraseologists.

The research questions underlying the study presented in this article are as follows:

1. What is the impact of digital platforms on the acquisition of idioms?
2. What is the rate of progress made by idiom learners using digital platforms?
3. How does the use of flashcards affect the learning of idioms?

Meanwhile, the study's research objectives are to examine the impact of the platform on participants' passive phraseological competence, analyze their chosen learning paths and their effects on learning outcomes, and assess participants' subjective evaluations of the effectiveness and appeal of the platform's various activities.

Since mastering idioms poses a challenge for non-native speakers, selecting an effective learning method is essential. In this context, the S-O-S approach offers a promising solution. This method consists of three fundamental steps: *Entdecken* (discover), *Entschlüsseln* (recognize), and *Erwerben* (use) (Kühn 1992: 178). The first step, “discover,” involves identifying idioms and understanding their typical structural features. The next step, “recognize,” focuses on decoding the meaning of idioms within specific contexts. The final step, “use,” requires learners to apply idioms in conversation or texts (cf. Lüger 1997: 101). Additionally, an intermediate step, *Festigen* (strengthen/reinforce), may be introduced between “recognize” and “use” (Lüger 1997: 102). This method provides clear, understandable steps for learning idioms and is widely recognized as a key element in phraseology teaching (cf. Hallsteinsdóttir 2011: 7).

Idioms are an integral part of language, making them essential in language learning. The S-O-S strategy is particularly effective in helping learners master idiom usage.

## **2. Analysis and role of the digital platform in the study**

### **2.1. Overview of the digital tool**

The primary objective of this research was to evaluate the functionality and effectiveness of digital foreign language learning platforms in facilitating idiom acquisition. The platform selected for this study was *Treedioms online idiom dictionary* (Treedioms 2023). *Treedioms* is an interactive digital corpus comprising approximately 2,000 English idioms, designed as a web-based dictionary. This linguistic initiative was launched in February 2023 to familiarize students with a structured approach to acquiring idiomatic expressions in a digital environment. Unlike conventional online idiom dictionaries, *Treedioms* offers a user-centered learning experience with tailored solutions aimed at: (1) simplifying and enhancing the idiom acquisition process and (2) increasing the accessibility and usage of idiomatic expressions among university and high school students.



Figure 1. Logo of the platform “Treedioms online idiom dictionary”

The *Treedioms* website incorporates a variety of tools designed to optimize the learning experience:

- a. *Search Engine* – Enables users to locate idiomatic expressions by entering key terms related to their definitions. This feature ensures that the search results semantically align with the unknown phrase, facilitating efficient retrieval of relevant idioms.
- b. *Idiom unit configuration* – Each idiom entry follows a standardized structure to support comprehension and retention. The components include: (1) a definition clarifying the idiom’s semantic content, (2) an assigned category that organizes idioms based on thematic relevance, (3) synonyms and antonyms to expand the learner’s linguistic repertoire, and (4) example sentences providing contextualized usage.
- c. *Idiom Library Section* (Treedioms 2023, *Idioms library*) – A systematic classification of idioms into topic-based categories. For example, the category “State” is further divided into subcategories such as “Quality”. Additionally, idioms are categorized based on formality (formal/informal), allowing learners to refine their usage according to communicative contexts.
- d. *Top Idioms Section* (Treedioms 2023, *Top Idioms*) – A compilation of frequently used idiomatic expressions, derived from global search frequency data collected via Google queries. This feature enhances learners’ exposure to the idioms most commonly encountered in real-world communication.
- e. *Learner’s Profile Section* (Treedioms 2023, *Learner’s Profile*) – A personalized space that requires user registration, granting access to advanced features such as saving idioms to a “Favourite Idioms” list and tracking recent searches.

In summary, *Treedioms* offers a comprehensive and interactive environment for English idiom acquisition. By integrating an efficient search engine, structured idiom units, and personalized learning features, the platform seeks to facilitate long-term retention and improve the accessibility of idiomatic expressions. This study aims to assess the extent to which such digital tools contribute to effective idiom learning and their broader impact on learners' linguistic competence.

## **2.2. Role of the digital platform in the study**

The integration of digital learning tools has been linked to increased student engagement and improved academic performance due to their interactive and adaptive learning mechanisms (Bajaj 2024). Digital platforms provide a personalized learning trajectory, fostering greater motivation and active participation among learners (Brugliera 2024). In line with these findings, *Treedioms* offers two key features that support the objectives of this study.

During the study, the *Learner's Profile* functioned as the primary interface for both communication and knowledge acquisition. The study's surveys, pre- and post-tests, and engagement activities were conducted via the *Learner's Profile*, ensuring streamlined access throughout the seven-week study period. The platform provided 15 structured exercise sets, displayed in a mini-calendar format within each user's account. This feature enabled participants to track the release schedule of study materials and monitor their progress efficiently. Additionally, *Treedioms* introduced a *Flashcards* feature to enhance idiom retention through active recall. Each week, participants received a set of flashcards corresponding to the idioms featured in that week's exercises. This supplementary tool reinforced learning by facilitating spaced repetition and immediate application of newly acquired idioms. Thus, the digital platform used in the study provided a highly flexible learning environment for each participant.

## **3. Research Methods**

### **3.1. General methodology and objectives**

The main research objectives included evaluating the effectiveness of learning English idioms using different teaching methods, analyzing the impact of repetitive exercises and flashcards on knowledge consolidation, assessing participants' progress, identifying challenges encountered during the tasks, and gathering participants' opinions on the format, difficulty, and attractiveness of the platform. Additionally, the study aimed to promote foreign language learning (through testing English language knowledge and developing linguistic competence), enhance the use of idioms among English learners and support the development of digital and media competencies through the improvement of the online idiom learning tool.

### **3.2.Stages and participants of the study**

The study was divided into several stages to assess its effectiveness over time. The first stage involved promoting the study through poster placements, leaflet distribution, and social media outreach across UAM faculties. The next step was a preliminary online questionnaire designed to gather essential information about the participants, focusing on their English proficiency and educational background. The questionnaire was administered through the Treediams Learner's Profile, a feature accessible to all users at any time, 24/7. The survey assessed participants' self-reported English proficiency (based on CEFR levels), their familiarity with idiomatic expressions, and the duration of their English language learning. According to the initial survey, the most common English proficiency level reported was C1 (119 participants), followed by B2 (71 participants), C2 (15 participants), and B1 (5 participants). Participants also assessed their prior knowledge of idioms on a scale from 1 to 5, with the majority (112 participants) rating their knowledge as medium (3/5), and only 7 participants rating themselves at the highest level (5/5). The findings presented in Chapter 3 emphasize the participants' advanced level of English proficiency.

The study spanned five weeks, from November 4 to December 8, 2024, with a pre-test conducted on November 1 and a post-test administered on December 9. At the conclusion of the study, all participants completed a survey assessing the research process, while a select group—those with the highest average scores, progress scores, and consistency ratings—took part in interviews. The findings from these interviews will be presented in a separate research article.

The final phase survey was also conducted online, and it aimed to assess the overall effectiveness, usability, and educational value of the platform, focusing on the acquisition of English idioms. Participants were asked to rate various aspects of the study, including its general quality, task difficulty, platform interface, and the usefulness of the exercises. Respondents shared their opinions on the study's duration, the clarity of rules and procedures, and the overall user experience. Additionally, the survey inquired about participants' willingness to join similar studies in the future and their preferences regarding potential rewards.

The participants of the study represented various levels of English proficiency and diverse academic backgrounds. A total of 210 individuals initially took part in the study, while 90 participants completed the entire research process. The considerable dropout rate could be attributed to the length of the study, which required consistent engagement over time. Moreover, the topic of idioms – known to be one of the more challenging aspects of language learning – might have contributed to the lower number of participants who completed the study.

### 3.3.Task types and format

Participants worked with four main types of exercises, which were designed in detail to engage them in an active learning process and enable them to develop their linguistic competence in idioms. In weeks I–III, participants completed simpler exercises that focused on building a foundational understanding of idioms. Introduction to new idioms was done through “discover” tasks, which included short stories and examples of use in context (see Figure 2). These tasks aimed to create an intuitive and engaging first contact with an idiom. Participants had the opportunity to see how an idiom functions in a natural context, which made it easier to understand and remember.

**31. Read the short story and try to understand the idioms by their context rather than definitions below**

After the cooking disaster, Julie decided to focus on her studies, but university life kept throwing challenges her way. Julie procrastinated on her history paper until the night before it was due. With no time to panic, she had to **bite the bullet** and **pull an all-nighter**.

She spent hours **running around in circles**, googling random facts like "Did Napoleon really wear a funny hat?" and ended up **scraping the barrel** for any information she could find. She thought about asking for an extension but didn't want to **burn bridges** with her professor. So, she made do with her questionable research.

The paper was far from perfect, but at least she didn't **get cold feet** and bail. She turned it in, hoping her professor appreciated creativity over accuracy!

Figure 2. An example of a “discover task”.

The next stage was the “recognize” tasks. Participants had to identify idioms in authentic materials such as musical, literary, and film content (see Figure 3.). In these exercises, participants were asked to identify idioms found in the given texts or lyrics, which developed their ability to recognize idioms in real-life contexts.

**3. Choose the idiom that most accurately describes the situation presented below (Max points for each subtask: 1)**

3.1



HINT: In 'Mulan', the emperor says to Shang that Mulan is an amazing girl and that coming across such an amazing girl does not happen in every dynasty. This means that it happens very rarely.

☐ to give sb the cold shoulder

☐ to burn bridges

☐ once in a blue moon

☐ have one's head screwed on

Figure 3. An example of a “recognize” task.

After the idiom recognition stage, participants were encouraged to actively apply their acquired knowledge by creating their own sentences using idioms in the “use” tasks. These tasks were aimed at consolidating knowledge of idioms and developing the ability to use them correctly in linguistic practice (see Figure 4.).

5. Replace the underlined words using an idiom that conveys the same message (Max points for each subtask: 2)

5.1 That luxury car was extremely expensive, but he really wanted it.

Answer:  x

Figure 4. An example of an “use” task

As the study progressed into weeks IV–V, the exercises became increasingly challenging, focusing on deeper engagement and active use of idioms. Participants were encouraged to apply their knowledge in “use” tasks, which required selecting and filling in the correct idiom in a provided sentence, consolidating their understanding and improving their ability to use idioms correctly in practice.

The final stage was for participants to create their own sentences and short texts that contained idioms. This type of task required participants to have a deeper understanding of idioms and to be able to use them freely in different communicative contexts.

The evaluation of these tasks was carried out through an automated assessment system embedded within the Treedioms platform. The platform uses a predefined dataset of correct answers stored in an Excel sheet, which serves as a reference framework for verifying participants' responses. The automated system cross-referenced participants' submissions with the correct answers, providing an efficient and standardized approach to measuring participants' ability to recognize and apply idiomatic expressions. To minimize the risk of errors potentially arising from the automated assessment, the answers were subsequently verified manually. The following numbers of tasks of each type were carried out over the five weeks (Week I to Week V):

- a. Discover tasks: 15 exercises
- b. Recognize tasks: 50 exercises
- c. Use tasks: 255 exercises

In total, across all weeks (excluding input and output tests), 320 tasks of various types were completed by participants in the study.

The distribution of task types reflects the prioritization of active language use in the learning process. While the Discover and Recognize tasks served as introductory and recognition-based stages, their primary aim was to familiarize participants with the idiomatic expressions and reinforce their passive knowledge. Each Discover task introduced at least five new idioms, laying the foundation for further practice. However, the largest proportion of exercises was devoted to Use tasks, as the active application of idioms in context is considered crucial for deepening understanding and enhancing long-term retention.



The survey was conducted fully online, which provided participants with flexibility in accessing the exercises, and the ability to alter the pace of study to their own needs. This format also allowed the study to reach a wide range of participants and collect data in an efficient manner.

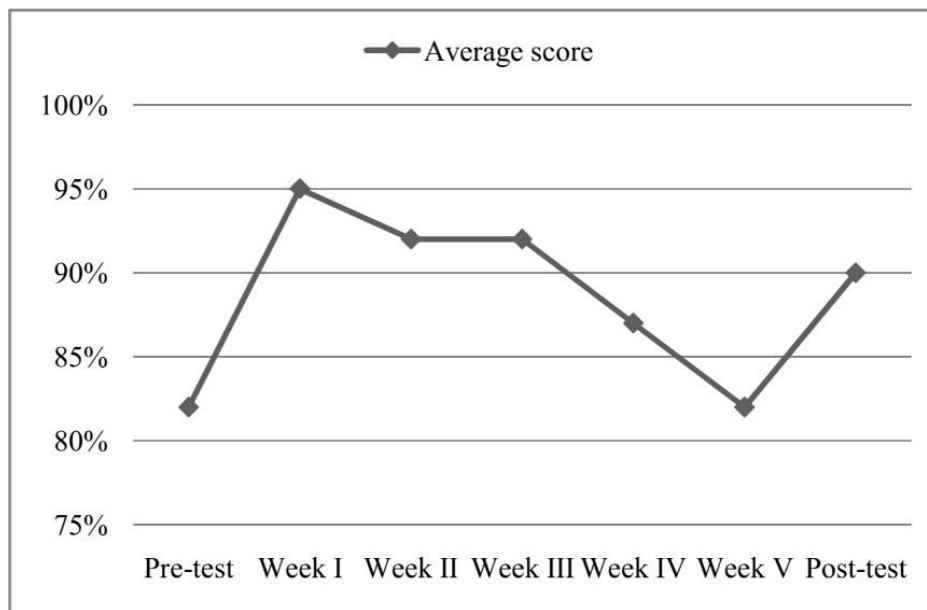
#### **4. Results**

The research group consisted of 90 participants who successfully completed each stage of the study and took the post-test. This group serves as the primary data set for our research analysis. Their consistent engagement allows for a comprehensive evaluation of idiom acquisition, learning patterns, and the effectiveness of different study strategies. Focusing on participants who completed the full program ensures the reliability and validity of the findings, as their results provide a clear representation of progress over time. To assess participants' development, progress in the study was measured using the Progress Score<sup>1</sup> (PS), a composite metric that incorporated three key components to provide a thorough evaluation of learning outcomes. The first component, the Primary Progress Metric (PPM), accounted for 40% of the overall score and measured the difference between the initial test score and the final test score, reflecting the direct improvement in participants' knowledge. The second component, the Progress Slope (PS), also constituting 40% of the total score, represented the average difference in percentage scores across successive weeks, allowing for an assessment of steady learning gains over time. Lastly, the Consistency Score (CS), contributing 20% to the overall PS, evaluated the stability of scores throughout the study, ensuring that progress was sustained rather than fluctuating unpredictably. By integrating these three metrics, the Progress Score provided a balanced and reliable measure of participants' learning trajectories, capturing both overall improvement and the consistency of their progress.

##### **4.1. Average scores for each week**

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<sup>1</sup> Formula: Progress Score = PPM × 0.4 + PS × 0.4 + CS × 0.2

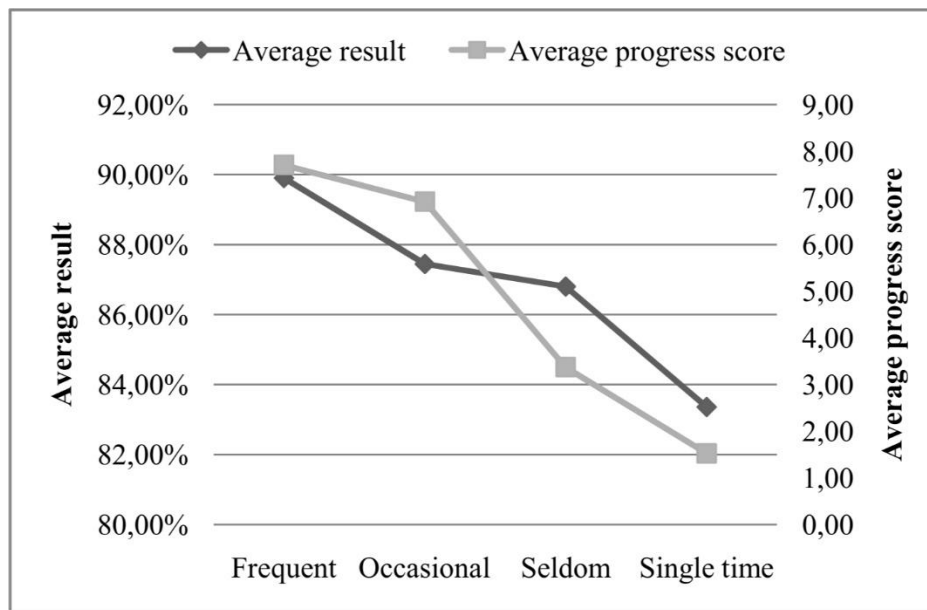


Graph 1. Average Scores for Each Study Stage (Pre-test, Weeks I-V, Post-test)

The analysis of average weekly scores, illustrated in Graph 1, reveals a noticeable trend in participant performance. At the beginning of the study, scores were exceptionally high, with an average of 95% in Week I. However, as the study progressed, a steady decline was observed, with scores dropping to 92% in Weeks II and III, followed by a more pronounced decrease to 87% in Week IV and 82% in Week V. This downward trend suggests that several factors may have influenced participant performance. One possible explanation is the increasing complexity of the tasks. As the exercises became more challenging, participants may have encountered greater difficulty in correctly identifying and understanding the idioms, leading to lower scores. Additionally, diminishing motivation over time could have played a role. While initial enthusiasm for the study may have contributed to high engagement and performance in the early weeks, prolonged exposure to similar exercises and cognitive fatigue might have resulted in reduced effort and concentration in the later stages. The exceptionally high average scores observed throughout the study may be attributed to the research group's composition, as it included students from language-related faculties. Their prior knowledge of linguistics and idiomatic expressions likely facilitated their successful completion of the tasks.

#### **4.2.Impact of regular usage of flashcards on performance**

The study included participants who professed varying degrees of regular flashcard use, as demonstrated in Graph 2.

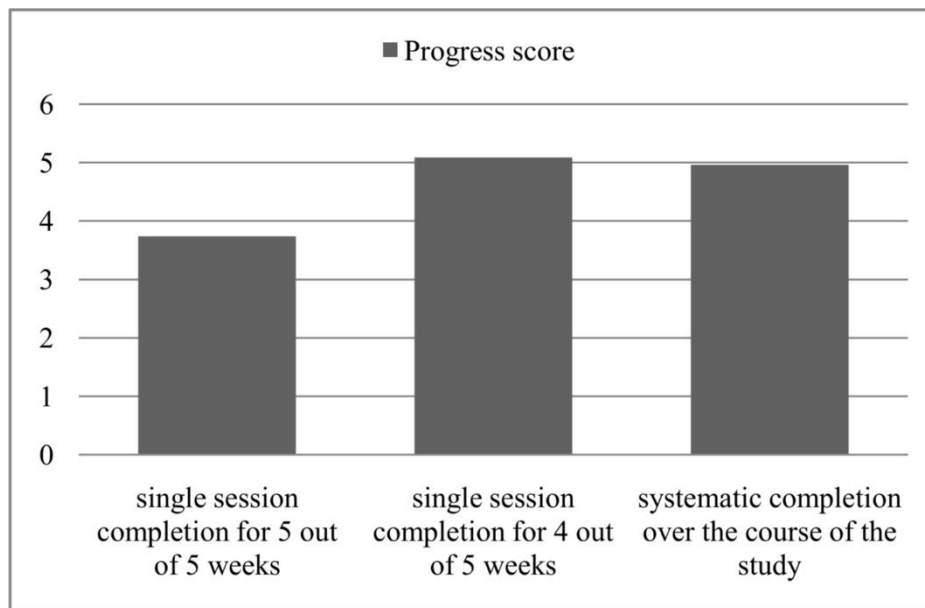


Graph 2. Impact of regular usage of flashcards on performance

A clear correlation between flashcard usage and academic performance was observed in the study. Participants who engaged with flashcards more consistently achieved higher average scores, indicating that frequent exposure to idiomatic expressions reinforced retention and comprehension. The 5.2% difference in performance between occasional and frequent users highlights the benefits of sustained engagement with learning materials. The structured and repetitive nature of flashcard-based learning likely contributed to improved recall and the internalization of idiomatic meanings. Frequent users may have developed stronger cognitive associations, making it easier for them to recognize and apply idioms in various contexts. Conversely, those who used flashcards less regularly may not have experienced the same level of reinforcement, leading to comparatively lower scores.

#### 4.3.Task completion frequency

Each week comprised three sets of exercises, made available at the beginning of the week. The suggested schedule, accessible via the calendar on the Learner's Profile, recommended distributing these exercises across three separate sessions to facilitate systematic engagement. Specifically, the proposed timeline designated the first set for Monday, the second for Wednesday, and the third for Friday. Participants, however, retained autonomy over the frequency and timing of task completion, as shown in Graph 3.



Graph 3. Task completion frequency.

Graph 3. demonstrates participants' progress scores across three distinct completion patterns. The results indicate that distributed practice, as opposed to massed learning in a single session, enhanced long-term retention and overall progress. However, given the already high proficiency level of study participants, the numerical differences observed between learning patterns, though consistent with our hypothesis, were relatively modest. While participants who completed tasks in one sitting (single session) scored slightly higher in the short term, those who spaced their learning over multiple sessions demonstrated greater progress. This indicates that breaking up learning into smaller, more manageable chunks could lead to more effective knowledge retention and greater mastery. The results highlight the potential benefits of incorporating spaced learning techniques, such as revisiting material over time, to optimize learning outcomes.

#### **4.4.Participants' evaluation of the platform**

The study revealed several positive aspects that contributed to the participants' engagement and satisfaction with the learning process. One of the most valued features was the online format, which offered flexibility and convenience, allowing participants to engage with the material at their own pace and according to their individual schedules. Another highly appreciated component was the design of the exercises, particularly those that incorporated storytelling and music. Moreover, references to pop culture, such as animated movies, were frequently cited as helpful in making the content more relatable and memorable. By integrating familiar cultural references, the study was able to create associations between the learning material and participants' prior knowledge and interests, thus aiding in knowledge retention. Lastly, the use

of flashcards emerged as a particularly effective tool for learning idioms. Participants found them to be an invaluable resource for reinforcing vocabulary and phrase recognition. Flashcards provide a simple yet highly effective method for active recall, promoting repeated exposure to key terms and expressions. This aligns with established principles of memory retention, particularly in relation to spaced repetition, which enhances long-term learning outcomes.

Despite these positive aspects, participants also reported several limitations that affected their overall learning experience. Technical issues were among the most frequent concerns, including website errors, difficulties in selecting multiple-choice answers, and instances of overlapping text and images. Additionally, the lack of a progress-saving functionality required participants to repeat tasks, which was seen as inefficient and time-consuming. Participants also encountered limitations with the mobile version of the platform, which hindered their access to materials and their ability to engage with the content. Furthermore, the absence of clear feedback and precise progress evaluation left participants unsure of their performance and progress, limiting their ability to track their improvement and effectively adjust their learning strategies.

## **5. Conclusions**

The study provided valuable insights into idiom learning and the impact of a variety of factors on participants' performance. It highlighted that consistent engagement with the digital platform led to improvements in participants' understanding of idiomatic expressions, suggesting that digital tools can significantly enhance phraseological competence. Despite a decrease in performance over time, the overall improvement in post-test scores indicates that, even with challenges such as task complexity and potential cognitive fatigue, participants benefited from sustained exposure to idiomatic content. The results further revealed that distributing learning over time, rather than completing all tasks in a single session, contributed to more effective knowledge retention. Participants who spread their learning across multiple sessions showed higher progress rates, supporting the cognitive advantages of spaced repetition. This approach allowed for deeper processing and reinforced the idiomatic expressions, enhancing long-term retention. Participants' subjective feedback also emphasized the importance of engaging and interactive content. Exercises incorporating storytelling, music, and pop culture references, such as animated movies, were particularly appreciated for making the learning process more enjoyable and memorable. The online format of the platform facilitated the inclusion of such culturally relevant content, allowing for the seamless integration of songs, movies, and other multimedia elements. This flexibility not only enriched the learning experience but also helped create stronger associations between the idiomatic

expressions and participants' existing cultural knowledge, further enhancing retention. Additionally, the study examined idiom acquisition across different levels of complexity, revealing that participants found the idioms used in the study relatively easy to learn. This outcome may be attributed to two factors. First, the idioms selected for the study were among the 50 most popular idioms on the Treedioms platform, suggesting that they are commonly encountered and widely recognized. Second, the participant group consisted of students from various philological faculties, who likely had a stronger foundation in language learning and greater exposure to idiomatic expressions than the general population. Their prior linguistic competence and familiarity with idiomatic structures may have contributed to their relatively high performance in the study (as demonstrated in the initial survey). The use of flashcards emerged as a key factor in improving performance. Participants who consistently used flashcards demonstrated higher scores, reinforcing the value of repetitive learning and active recall in reinforcing idiomatic knowledge. However, the study also identified issues with the monotony of certain tasks, which led to decreased motivation, and the absence of clear feedback, which hindered participants' ability to gauge their progress effectively.

A limitation of the current study was the lack of direct comparison between different instructional methods. To further validate the findings, future research should replicate the study using two separate experimental groups: one using a traditional learning approach (paper-based exercises and direct instruction) and another using a digital platform with interactive and multimedia elements. Comparing these two groups would provide clearer insights into the efficacy of digital tools in idiom acquisition and phraseological competence development. Such a comparative approach would also allow for a deeper analysis of engagement, motivation, and long-term retention between traditional and digital learning environments. Another key factor to consider for future research is setting the correct level of difficulty for the participants, to enhance average progress scores.

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