DESIGNING AN ONLINE IDIOM LEARNING PLATFORM TO ENHANCE ACQUISITION THROUGH VISUAL REPRESENTATION METHODS

THIẾT KẾ NỀN TẢNG HỌC THÀNH NGỮ TRỰC TUYẾN TĂNG CƯỜNG KHẢ NĂNG TIẾP THU QUA PHƯƠNG PHÁP BIỂU TƯỢNG HÓA HÌNH ẢNH

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(Received: January 22, 2026; Revised: March 23, 2026; Accepted: March 30, 2026)

DOI: 10.31130/ud-jst.2026.24(4).059

Abstract - This study describes the design and evaluation process of the online idiom learning platform UTOPIDIOM, employing an explanatory sequential mixed-methods approach. The research combined quantitative survey data from 100 users and semi-structured interviews with 10 third-year students. The analysis results reveal that, learners reported a positive and relatively consistent experience regarding the platform's usability, particularly in terms of its visual interface and navigational structure. Furthermore, pedagogical factors grounded in illustrations and interactive activities were acknowledged for their supportive role in the process of comprehending and retaining idioms. Overall, these findings affirm that UTOPIDIOM serves as an online idiom learning environment featuring a tight integration of interface design and pedagogical orientation, thereby contributing to the enhancement of both learner experience and learning efficiency.

Key words - Educational website design; English idioms; visual representation; multimodal learning.

Tóm tắt - Nghiên cứu này mô tả quá trình thiết kế và đánh giá nền tảng học thành ngữ trực tuyến UTOPIDIOM bằng phương pháp nghiên cứu hỗn hợp tuần tự giải thích, kết hợp dữ liệu khảo sát định lượng với 100 người dùng và phỏng vấn bán cấu trúc với 10 sinh viên năm ba. Kết quả phân tích cho thấy, người học có trải nghiệm tích cực và tương đối nhất quán về tính khả dụng của nền tảng, đặc biệt liên quan đến giao diện trực quan và cấu trúc điều hướng. Bên cạnh đó, các yếu tố sư phạm dựa trên hình ảnh minh họa và hoạt động tương tác được ghi nhận là có vai trò hỗ trợ trong quá trình hiểu và ghi nhớ thành ngữ. Nhìn chung, những kết quả này khẳng định UTOPIDIOM là một môi trường học thành ngữ trực tuyến có sự kết hợp chặt chẽ giữa thiết kế giao diện và định hướng sư phạm, góp phần nâng cao trải nghiệm và hiệu quả học tập của người học.

Từ khóa - Thiết kế website giáo dục; thành ngữ tiếng Anh; biểu tượng hóa hình ảnh; học tập đa phương thức.

1. Introduction

Idioms are a fixed component of language and are recognized as an indispensable element for achieving high-level communicative competence and natural, native-like use of English, especially for learners of English as a Foreign Language (EFL). However, learners often encounter difficulties in acquiring idioms due to their non-compositional nature and semantic ambiguity, which leads them to translate word by word and easily causes misunderstanding in communication [1], [2]. In addition, the lack of cultural context, limited exposure opportunities, and constraints in teaching methods also reduce learning effectiveness and learners' confidence. This indicates an urgent need for new learning approaches and more effective digital platforms to support idiom learning, particularly through visual representation.

This study aims to: (1) design and develop the online idiom learning platform UTOPIDIOM; and (2) evaluate the usability and pedagogical potential of this platform. The expected findings are intended to contribute a practical model to the field of foreign language teaching.

To achieve these objectives, the study focuses on addressing the following two questions:

1) How do learners evaluate the usability of an online idiom learning platform that applies the visual representation method?

2) What is the potential of applying the visual representation method on this online platform in supporting learners in decoding and retaining English idioms?

2. Literature review

2.1. The basis for using images in language acquisition

Many studies on second language vocabulary acquisition have confirmed the important role of images in supporting the learning of vocabulary and abstract linguistic units such as idioms. Based on Dual Coding Theory, the combination of linguistic and visual information helps learners process knowledge through two parallel cognitive channels and creates more durable memory traces [3]. Empirical studies have shown that pictorial annotation functions as an effective retrieval cue, helping increase accuracy, maintain retention in delayed tests, and strengthen the link between word form and meaning [4]. In online learning contexts, the combination of text and images also promotes incidental vocabulary acquisition, reduces incorrect inference from context, and optimizes working memory [5]. At the same time, multisensory learning environments have been proven effective for both immediate acquisition and long-term retention, especially for abstract linguistic units, due to their ability to clarify meaning, reduce cognitive load, and

increase attention as well as deeper information processing [6].

2.2. Educational websites and the trend of digital transformation in teaching

Educational websites are online learning environments designed to provide knowledge and support pedagogical activities. They are not only channels for delivering information but also enable learners to actively access knowledge anytime and anywhere [7]. Empirical evidence from a survey conducted at The University of Danang - University of Foreign Language Studies (UD-UFLS) shows that 61.67% of students consider "anytime, anywhere learning" to be the most significant advantage of online environments [8]. In addition, modern educational websites integrate diverse formats and personalized learning pathways, further reinforcing their crucial role in the context of digital transformation in education, which is widely regarded as an inevitable trend. At UD-UFLS, more than 89% of students evaluated the necessity of e-learning, while 50.37% reported that the integration of multimedia elements such as images, audio, and video is a key advantage that enhances knowledge acquisition [8]. This development is fully aligned with the strategic direction of the education sector. According to Vice Minister of Education and Training Nguyen Van Phuc, digital transformation is no longer an optional or superficial choice but has become a mandatory requirement and an inevitable trend to ensure national competitiveness and sustainable development [9]. This highlights that online educational websites are not merely supportive teaching tools but also key drivers of educational innovation, helping meet the demands of modern society.

2.3. Design criteria

Many studies on educational web design have shown that the quality of the user interface has a significant influence on user experience and acceptance. Three core criteria frequently mentioned are usability, accessibility, and flexibility, which are regarded as foundational in the design of educational websites. Among these, usability plays a central role. According to Nielsen [10], a highly usable system should adhere to user-centered design principles in order to improve interaction efficiency and reduce cognitive load. This view is reinforced by the evaluations of Alqurni [11], which affirm that interface optimization helps learners focus on knowledge acquisition rather than dealing with technical barriers. Similarly, Vlasenko et al. [12] emphasize that the comprehensive application of usability criteria is key to designing effective online learning environments. In addition, according to the World Wide Web Consortium (W3C) - the main international standards organization for the World Wide Web [13] - the Web Content Accessibility Guidelines (WCAG) have been established, requiring website content to be designed so that all groups of learners can access and interact with it easily. The study by Campoverde-Molina et al. [14] also demonstrates that compliance with W3C standards is a prerequisite for building equitable learning environments. At the same time, the system needs to allow learners to control their learning progress; this not only aligns with Nielsen's principle [10] but is also identified by Alqahtani and Rajkhan [15] as a key factor in maintaining engagement in e-learning systems.

In summary, previous studies indicate that the use of pictorial annotation and multimodal learning has been proven clearly effective in supporting vocabulary acquisition, especially in enhancing retention. At the same time, the development of educational websites in the context of digital transformation has created flexible learning environments in which criteria such as usability, accessibility, and flexibility are considered core factors in the design of effective online learning systems. However, there remains a research gap in applying these theories to a specialized digital platform for learning English idioms in Vietnam. In particular, in Vietnam, there have been few in-depth studies on learning idioms through images as well as on developing a flexible platform for learners to access proactively. Existing content on social media mainly uses images for entertainment or promotional purposes rather than being seriously developed from a pedagogical perspective. At the same time, the challenge of representing idioms in a way that balances literal and figurative meaning without causing cognitive overload has not yet been addressed. To fill these gaps, the present study aims to develop and evaluate the UTOPIDIOM website - an online learning platform that supports Vietnamese learners in acquiring English idioms.

3. Methodology

3.1. Research design

The study employed an explanatory sequential mixed-methods design to evaluate the online idiom learning platform UTOPIDIOM. First, quantitative data were collected through a survey to measure learners' perceptions of the system's usability and the platform's pedagogical effectiveness, while the reliability of the scales was tested using Cronbach's Alpha coefficient. Subsequently, semi-structured interviews were conducted with several students who had experienced the platform in order to clarify and provide deeper interpretation of the quantitative results. This approach allows for the combination of statistical evidence with learners' actual experiences in evaluating the effectiveness of UTOPIDIOM.

3.2. Participants

The study collected quantitative data through a survey with 100 participants of diverse ages, ranging from 15 to over 30 years old, in order to reflect learners' general perceptions of the experience of using the platform. From the group of participants who had completed this questionnaire, 10 third-year students were selected through purposive sampling to participate in semi-structured interviews in the qualitative phase to further clarify the quantitative results, as they were considered to possess sufficient knowledge and learning experience to provide in-depth evaluations. This interview sample size was selected based on the model of Nielsen and Landauer [16], which states that a small group of target users can identify the majority of a system's usability problems. Therefore,

10 participants were considered appropriate for effectively eliciting qualitative data while still ensuring the feasibility of the study.

3.3. Research instruments

The study used two main instruments: a quantitative questionnaire and semi-structured interviews. The survey questionnaire was designed on the Google Forms platform using a 5-point Likert scale (from 1 – Strongly disagree to 5 – Strongly agree). The questionnaire consisted of 35 items, divided into two groups: system usability evaluation (21 items) and pedagogical effectiveness (14 items). The research questionnaire was adapted and modified based on the TUXEL framework [17] for usability assessment and pedagogical items proposed by Nicholas in [18] to investigate the correlation between visual illustrations and literacy skills. The survey criteria were refined to ensure compatibility with the platform's functions, focusing on measuring learners' perceptions and the interaction effectiveness of the online environment. In addition, semi-structured interviews were conducted with open-ended questions to explore more deeply learners' personal experiences when using the platform, as well as their detailed comments on the applicability of English idioms in the learning process. These qualitative data helped supplement and clarify the results obtained from the quantitative survey.

3.4. Data collection methods

The data collection process was conducted online following the sequential mixed-methods design. In the quantitative phase, the questionnaire was distributed to learners through Google Forms. Based on the preliminary responses, the qualitative phase was then conducted through in-depth interviews on Google Meet. Each interview lasted from 15 to 20 minutes, and the entire content of the discussions was audio-recorded, enabling the research team to interact directly and closely capture feedback on students' learning experiences.

3.5. Data analysis methods

The data analysis procedure was carried out through two closely coordinated phases, ensuring the multidimensionality and reliability of the research results. First, for the quantitative data collected from Google Forms, the process began with data cleaning and the filtering of invalid responses, after which the data were entered and analyzed using SPSS to identify general evaluation trends through descriptive statistics. At the same time, the qualitative data from the interviews were transcribed into text for in-depth processing using thematic analysis. At this stage, the data were segmented and systematically coded in order to analyze the core units of meaning. The qualitative findings focused on highlighting two main thematic strands: interface usability and pedagogical effectiveness (including the role of illustrations and the added values in the learning experience). These qualitative findings played a key role in comparing, supplementing, and clarifying the quantitative variables, helping the research results achieve greater depth and persuasiveness.

4. Findings

4.1. Product description

UTOPIDIOM (https://sites.google.com/view/utopidiom) is a specialized educational technology platform designed to optimize the learning of English idioms through visual illustrations and a scientifically organized knowledge system. The website content is logically categorized according to familiar themes (Animals, Body Parts, Colors, etc.) based on the Segmentation Principle [19], helping reduce cognitive load and create a gradual learning pathway for users. Each idiom is presented through a dual-coding mechanism with a parallel layout: the illustration on the left serves as a visual "hook," combined with explanations and contextual examples on the right to increase the depth of information processing. To transform knowledge into long-term memory, the system integrates a review pathway from recognition level (Flashcards) to higher-level contextual application (Complete the Sentence, Gameshow Quiz). The entire interface is designed with a hierarchical navigation structure and ensures strict consistency according to Nielsen's principles, enabling users to focus maximally on memorization without being distracted by technical factors, thereby enhancing learning effectiveness and maintaining sustained review motivation.

Compared with many current idiom-learning websites that mainly provide definitions and usage examples, the UTOPIDIOM platform is designed in a visual and interactive manner to help learners retain idioms more effectively. Specifically, each idiom on the platform is not only explained in terms of meaning but is also accompanied by an illustration depicting both its literal and figurative meanings, helping learners easily form associations and better understand the symbolic nature of the idiom. In addition, UTOPIDIOM also provides information about the origin or formation story of each idiom, thereby helping learners gain further understanding of the cultural and historical background of the expression. Besides the learning content, the platform also integrates review games and interactive activities, contributing to knowledge reinforcement and creating interest during the learning process. Thanks to the combination of symbolic images, background information, and lively practice activities, UTOPIDIOM offers a fresher and more effective approach than many traditional idiom-learning websites.

Figure 1. *Main interface of UTOPIDIOM*

Figure 2. *Classification of idioms by theme*

Figure 3. *Idiom presentation layout*

Figure 4. *Review game*

4.2. Quantitative findings

4.2.1. Cronbach's Alpha reliability assessment

This study developed and tested measurement scales to evaluate the online idiom learning platform UTOPIDIOM based on two main aspects: (i) system usability, including the components of navigation, ease of use, and visual design; and (ii) pedagogical effectiveness, including the components of the effectiveness of illustrations and learning motivation.

First, for the usability scale group consisting of 21 observed variables, which reflect users' experiences regarding the clarity of the navigation structure, the controllability of operations, and the attractiveness of the visual interface, the test results showed that the reliability of the scales was very high, with Cronbach's Alpha coefficients as follows: navigation = 0.708, visual design = 0.732, and ease of use = 0.831. At the same time, most observed variables had item-total correlation coefficients greater than 0.4, indicating a strong relationship between the variables and the overall scale.

Second, for the pedagogical effectiveness scale group consisting of 14 observed variables, which reflect the actual impact of the learning website on users and are evaluated comprehensively through its ability to support knowledge acquisition and retention through illustrations, together with the level of interest and effort stimulated by interactive activities, the Cronbach's Alpha coefficients were as follows: pedagogical effectiveness of illustrations = 0.814 and learning motivation = 0.603, indicating high reliability. All observed variables contributed positively to the overall scale, with item-total correlation coefficients ranging from 0.358 to 0.563, ensuring the internal consistency of the data.

4.2.2. Descriptive statistics

The data indicate consistent user satisfaction with the platform's usability, with high mean scores ranging from 4.38 to 4.49. The most prominent groups were "Visual design" and "Navigation," reflecting strengths in the appealing aesthetic interface and the logical, accessible website structure. Although the "Ease of use" group had a slightly lower score, the small standard deviation confirms a high level of agreement in the participants' positive evaluations.

Table 1. *Descriptive statistics results (N = 100)*

	M	*STD*
Usability		
Navigation	4.42	0.424
Visual Design	4.49	0.398
Ease of Use	4.38	0.414
Pedagogical Effectiveness		
Effectiveness of Illustrations	4.42	0.344
Learning Motivation	4.36	0.502

The data confirm the platform's strong pedagogical effectiveness, with mean scores at very high levels, specifically 4.36 and 4.42. The small standard deviations demonstrate users' high agreement regarding the superiority of the idiom-learning method through images compared with traditional methods. Overall, the combination of illustrations and motivating interactive games provided a positive learning experience and received consistent evaluations from learners.

4.3. Qualitative findings

The qualitative data collected from semi-structured interviews with 10 participants were analyzed using thematic analysis. The results showed that the participants' opinions centered on the website interface, the role of visual illustrations in idiom learning, and the features considered useful on the UTOPIDIOM platform.

Regarding the website interface, most participants stated that UTOPIDIOM has an intuitive interface, is easy to use, and is easy to navigate. The content sections are clearly and logically organized by theme, helping learners search and operate easily. No participant reported experiencing any significant difficulty in using the platform. One participant commented: "The website

interface is quite intuitive, with a clear layout and easy operation" (SV1).

With regard to visual illustrations, all participants stated that learning idioms with illustrations helped them understand and remember idiom meanings more effectively than learning through text alone. The images were described as intuitive, vivid, and easy to associate with, helping learners quickly visualize the meaning as well as the situation the idiom intends to convey. One participant shared: "Just by looking at the picture, I understand it immediately and remember it longer" (SV5). Similarly, another participant stated: "Images help me associate and remember idioms more easily than just reading words" (SV7). In addition, some participants emphasized that the illustrations also helped them connect the literal and figurative meanings of idioms, especially for abstract idioms, as reflected in the comment: "Looking at the image helps me connect the literal and figurative meanings of the idiom" (SV3).

Regarding the learning features, participants highly appreciated the review games, illustrated flashcards, and the images or stories accompanying each idiom. These features were believed to make learning more interesting and support effective retention. One participant stated: "The games help me review idioms in a more fun way, so I don't get bored" (SV4), while another also commented: "Learning idioms while also knowing more about their origins is very interesting" (SV10).

5. Discussion

The findings indicate that the UTOPIDIOM platform generally performs well in terms of both usability and learning effectiveness. All scales achieved high reliability, showing that learners had fairly consistent evaluations of their experience using the platform. The convergence between the quantitative results and the qualitative feedback suggests that these evaluations were grounded in actual user experience rather than merely momentary impressions.

In terms of usability, the results show that UTOPIDIOM possesses an intuitive design and a clear navigation structure, through which learners can quickly gain mastery of the platform. This reinforces Ally's [7] view of educational websites as online learning channels that allow learners to access knowledge proactively anytime and anywhere. It also indicates that the website has met user-centered design principles well, in which the interface not only supports operation but also contributes to reducing cognitive load when approaching new content. The organization of content by themes and its consistent presentation help learners focus on learning tasks rather than diverting attention to searching or handling operations, thereby enhancing acquisition effectiveness. Although ease of use was not the most prominent component in relative terms, the overall results show that this factor was ensured by UTOPIDIOM at a stable level and was widely accepted by learners. This suggests that the platform has reached a threshold of being "easy enough to use" so as not to become a barrier in the learning experience. Particularly in the context of digital transformation, ease of use functions as a foundational condition that allows UTOPIDIOM's other pedagogical factors to be effective without being hindered by technical or operational difficulties.

A closer look at the effectiveness of the visual representation method reveals a clear correspondence between Dual Coding Theory [3] and the empirical results obtained from UTOPIDIOM. From the high level of agreement in evaluating the effectiveness of illustrations (with a mean score of 4.42), combined with learners' qualitative feedback, UTOPIDIOM clearly demonstrates its role in helping learners understand and remember idioms through a system of visual illustrations. The combination of images with linguistic content helps learners visualize idiom meanings more intuitively, especially for idioms with abstract meanings or those that are difficult to infer from their literal meaning. As a result, learners not only memorize meanings but also understand how idioms are used in context. In addition, the effectiveness of this method is further strengthened by the multisensory learning environment provided by the website. The integration of activities such as flashcards and interactive games not only stimulates interest but also creates opportunities for repeated exposure to idioms in different forms. This is fully consistent with previous studies showing that images help reduce incorrect contextual inference and support long-term retention. It is precisely the process of actively decoding visual symbols combined with interactive review that promotes deep information processing, helping learners not only retain knowledge temporarily but also understand how to apply idioms in real contexts.

Overall, the research findings confirm that UTOPIDIOM is an idiom learning platform with a user-friendly design and a clear pedagogical orientation. The combination of an easy-to-use interface, appropriate illustrations, and interactive learning activities shows that this platform is capable of effectively supporting learners in accessing and retaining English idioms. Accordingly, the study shows that UTOPIDIOM meets the basic criteria of an online language learning platform and has the potential for broader application in the teaching and learning of English idioms.

6. Conclusion

The study successfully developed the UTOPIDIOM platform and confirmed the positive role of the visual representation method in supporting the learning of English idioms. The survey results show that the platform meets usability criteria well with a user-friendly and easy-to-navigate interface, while also achieving high pedagogical effectiveness by helping learners retain knowledge deeply and maintain learning interest. In particular, the combination of intuitive illustrations and an interactive game system has been proven to be an effective solution for addressing the abstract nature of idioms - a major challenge for EFL learners.

Although the study achieved positive initial results, it still has several limitations, such as the modest survey sample size and the fact that the range of idiom topics has not yet been comprehensively covered. In addition, the use of the Google Sites platform, although simple, remains limited in terms of advanced customization and personalized data management. In the future, the UTOPIDIOM platform can be further improved by expanding the idiom system, diversifying interactive activities, and integrating learning progress tracking features to support learners in personalizing their experience. At the same time, future development may move toward a mobile application in order to increase flexibility and learner autonomy, thereby overcoming the limitations of the current website platform. In the context of Vietnamese higher education, which is promoting digital transformation and increasing the application of technology in foreign language teaching and learning, UTOPIDIOM demonstrates potential as an online learning support tool, contributing useful digital learning resources for teachers to innovate teaching methods and encourage students' autonomous learning.

Acknowledgments: The authors would like to express their deepest gratitude to Dr. Nguyen Thi My Hang for her dedicated guidance, insightful direction, and invaluable feedback throughout this study. We would also like to thank the participants involved in the surveys and interviews, whose contributions were vital to the development and completion of this study.

REFERENCES

[1] S. Garg, "Examining the perspectives and attitudes of ESL students toward idioms in second language classrooms," *Journal of International Students*, vol. 15, no. 7, pp. 23–40, 2025. [Online]. Available: https://ojed.org/jis/article/view/7730

[2] M. A. A. Ta'amneh, "Strategies and difficulties of learning English idioms among university students," *Journal of Education and Practice*, vol. 12, no. 23, pp. 84–91, 2021, doi: 10.7176/JEP/12-23-10.

[3] J. M. Clark and A. Paivio, "Dual coding theory and education," *Educational Psychology Review*, vol. 3, no. 3, pp. 149–210, 1991, doi: 10.1007/bf01320076.

[4] A. A. Zarei and P. Mahmoodzadeh, "The Effect of multimedia glosses on L2 reading comprehension and vocabulary production," *Journal of English Language and Literature*, vol. 1, no. 1, pp. 10-18, 2014, doi: 10.17722/jell.v1i1.6.

[5] S. A. Shahrokni, "Second language incidental vocabulary learning: The effect of online textual, pictorial, and textual pictorial glosses," *TESL-EJ*, vol. 13, no. 3, 2009. [Online]. Available: https://tesl-ej.org/wordpress/issues/volume13/ej51/ej51a3/

[6] K. Alhazmi, "The effect of multimedia on vocabulary learning and retention," *World Journal of English Language*, vol. 14, no. 6, p. 390, 2024, doi: 10.5430/wjel.v14n6p390.

[7] M. Ally, "Foundations of educational theory for online learning," in *Theory and Practice of Online Learning*, 2nd ed., T. Anderson, Ed. Athabasca: Athabasca University Press, 2008, pp. 15–44.

[8] T. T. T. Oanh and P. V. P. Ho, "Experiences of the e-learning environment of students at the University of Danang - University of Foreign Language Studies," *The University of Danang - Journal of Science and Technology*, vol. 19, no. 12.2, pp. 41–46, Dec. 2021, doi: 10.31130/ud-jst2021-017E.

[9] Government News, "Digital transformation in education: Leaving no one behind," *baochinhphu.vn*, Aug. 07, 2025. [Online]. Available: https://baochinhphu.vn/chuyen-doi-so-trong-giao-duc-khong-de-ai-bi-bo-lai-phia-sau-102250807140451116.htm. [Accessed: Apr. 19, 2026].

[10] J. Nielsen, "10 usability heuristics for user interface design," *Nielsen Norman Group*, Apr. 24, 1994. [Online]. Available: https://www.nngroup.com/articles/ten-usability-heuristics/

[11] J. S. Alqurni, "Evaluating the user interface and usability approaches for E-Learning systems," *International Journal of Information Technology and Web Engineering*, vol. 18, no. 1, pp. 1–25, 2023, doi: 10.4018/ijitwe.333638.

[12] K. V. Vlasenko *et al.*, "Exploring usability principles for educational online courses: a case study on an open platform for online education," *Educational Technology Quarterly*, vol. 2023, no. 2, pp. 173–187, 2023, doi: 10.55056/etq.602.

[13] World Wide Web Consortium (W3C), "Web content accessibility guidelines (WCAG) 2.1," *W3C Recommendation*, Jun. 2018. [Online]. Available: https://www.w3.org/TR/WCAG21/

[14] M. Campoverde-Molina, S. Luján-Mora, and L. Valverde, "Accessibility of university websites worldwide: a systematic literature review," *Universal Access in the Information Society*, vol. 22, no. 1, pp. 133–168, 2021, doi: 10.1007/s10209-021-00825-z.

[15] A. Y. Alqahtani and A. A. Rajkhan, "E-Learning Critical Success Factors during the COVID-19 Pandemic: A Comprehensive Analysis of E-Learning Managerial Perspectives," *Education Sciences*, vol. 10, no. 9, p. 216, 2020, doi: 10.3390/educsci10090216.

[16] J. Nielsen and T. K. Landauer, "A mathematical model of the finding of usability problems," in *Proceedings of the INTERACT '93 and CHI '93 Conference on Human Factors in Computing Systems*, Amsterdam, Netherlands, 1993, pp. 206–213, doi: 10.1145/169059.169166.

[17] W. T. Nakamura, "TUXEL: A Technique for User eXperience Evaluation in e-Learning," *Master dissertation*, Dept. Comput., Federal Univ. Amazonas, Manaus, Brazil, 2018. [Online]. Available: https://www.academia.edu/37998250/TUXEL_A_Technique_for_User_eXperience_Evaluation_in_e_Learning

[18] J. L. Nicholas, "An exploration of the impact of picture book illustrations on the comprehension skills and vocabulary development of emergent readers," *Ph.D. dissertation, Dept. School of Education*, Louisiana State Univ., Baton Rouge, LA, USA, 2007, doi: 10.31390/gradschool_dissertations.801.

[19] R. E. Mayer, *The Cognitive Theory of Multimedia Learning*. Cambridge: Cambridge University Press, 2005.

APPENDIX: SURVEY

SURVEY FOR RESEARCH PROJECT: "DESIGNING AN ONLINE IDIOM LEARNING PLATFORM TO ENHANCE ACQUISITION THROUGH VISUAL REPRESENTATION METHODS"

I. General information:

1. Your current English proficiency level:
- Beginner (A1, A2)
- Intermediate (B1, B2)
- Advanced (C1, C2)

2. Your age group:
- Under 15 years old
- 15-18 years old
- 19-22 years old
- 23-30 years old
- Over 30 years old

3. Frequency of access to the UTOPIDIOM website:
- First time
- A few times
- Frequently

II. Survey content:

Please rate your level of agreement on a scale of 1 to 5:

(1 - Strongly Disagree, 2 - Disagree, 3 - Neutral, 4 - Agree, 5 - Strongly Agree)

	1	2	3	4	5
A. USABILITY					
The options in UTOPIDIOM's navigation menus are visible and easy to remember.					
I can easily identify my current location and know where I can go on the site.					
I can easily navigate to any section on UTOPIDIOM.					
The information on the website is organized hierarchically to facilitate navigation.					
UTOPIDIOM provides a search tool to help me find the desired content.					
I can perform activities on UTOPIDIOM without difficulties.					
I can complete tasks without needing help from others.					
I can easily identify the functionality of each icon, button, or link.					
I can still use the platform even after a long time without accessing it.					
I can undo or redo an action with ease.					
I can exit an activity or the platform at any time.					
I have the autonomy to choose which idioms to learn, as well as the order and pace.					
I can easily review previously learned idioms to reinforce my knowledge.					
UTOPIDIOM allows me to track my progress and lesson completion.					
Overall, I find UTOPIDIOM easy to learn and get used to.					
The interface of UTOPIDIOM is aesthetically appealing.					
Important information is placed in visible positions that catch my eye.					
Related items are logically grouped together.					
The colors used provide high contrast, making the text easy to read.					
Thanks to the clear layout, I do not have to put in much mental effort to use the site.					
The icons and symbols used on the website are clear and intuitive.					
B. PEDAGOGICAL EFFECTIVENESS					
I find learning idioms through images more useful than traditional methods (e.g., textbooks).					
The images help me acquire and memorize English idioms more quickly.					
The illustrations clearly represent the meaning and context of the idioms.					
The illustration style matches the idiom content and sparks my imagination for its usage.					
I can learn new content faster or recapitulate previous knowledge more easily.					
Illustrations help me retain idioms longer compared to text-only learning.					
When seeing the image again, I can recall the idiom without looking at the vocabulary.					
Having illustrations reduces the need for constant repetition while ensuring memorization.					
The details in the images help me guess the meaning before reading the explanation.					
I tend to choose idioms to learn that have unique or impressive illustrations.					
Overall, I find UTOPIDIOM useful for learning idioms.					
I try to reach the highest possible score when playing the revision games.					
The games and interactive activities on UTOPIDIOM are interesting and engaging.					
Overall, the interactive activities on UTOPIDIOM motivate me to learn.					