DESIGNING A MULTIMODAL WORKBOOK FOR PROSPECTIVE EFL TEACHERS IN THE ACADEMIC WRITING CONTEXT

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Article Info	Abstract
	Proficiency in multimodal writing is becoming progressively crucial for students, particularly in the realm of academic writing. Nevertheless, the existing learning materials in higher education fail to adequately meet those requirements. Hence, the goal of this study is to create a workbook that will assist students in improving their ability to write using various modes in academic writing classes. This study employs Research and Development, with a specific focus on the Analysis and Design phases of the ADDIE approach. The investigation had a total of 114 participants. We employed triangulation techniques to develop a questionnaire and gathered data in July 2024. Subsequently, we analyzed and displayed the data using descriptive statistics, elucidating its meaning in accordance with the pre-established categories. The requirements assessment revealed that students necessitate support in academic writing, including obtaining credible sources, employing technological tools, completing plagiarism checks, and maintaining citations. Students desire a customizable learning structure that allows them to produce multimodal (digital) texts and engage in activities both individually and collaboratively. The needs analysis determines the structure of the multimodal project workbook, which consists of five sections arranged according to the syntax of project-based learning. To achieve more effective and practical outcomes, it is critical to proceed with the research by carrying out the Development and Implementation stages.

INTRODUCTION

Technological progress has facilitated students' access to knowledge in diverse formats, encompassing both conventional written text and multimodal content (Mammadova, 2023). Students now have convenient access to a wide range of educational resources, including e-books, photos, videos, and interactive applications or platforms. This can facilitate the learning process in a dynamic manner. Conversely, this evolution also necessitates that students not only consume multimodal texts, but also possess the ability to create multimodal texts for their future (Kress, 2010; Mammadova, 2023). Hafner (2014) emphasized that the utilization and production of multimodal texts by second and foreign language learners can effectively meet their linguistic education requirements. Therefore, the capacity to express concepts in a multimodal manner becomes progressively crucial for students, particularly in the context of academic writing.

Nevertheless, students encounter difficulties when it comes to expressing concepts or incorporating other forms of media into their writing (Gómez-Zará et al., 2019). They need clear and specific instructions, as well as a supportive structure to complete their academic task in the new context (Yana et al., 2023a). Hence, it is imperative to revolutionize the process of

education by embracing cutting-edge technology in order to instruct students in creating multimodal texts within the context of academic writing.

In this regard, an innovation that has attracted attention is a multimodal pedagogy. The multimodal pedagogy incorporates various resources (Archer, 2017), including visuals, music, written text, and videos, to support students in their writing. It is believed to have the capacity to improve student involvement and enthusiasm in writing (Christiansen, 2019), while also having the potential to assist students in presenting information in a captivating and efficient way (Jiang, 2018; Cho & Kim, 2021; Tseng, 2021; Cheung, 2022; Bell & Hotson, 2021; Muraina et al., 2019; Ekawati, 2019; Allagui, 2022). Additionally, it can support the development of technological skills and creativity, ultimately leading to proficiency in multimodal literacy (Sukiawati & Nurfaidah, 2021; Tan, 2023; Bell & Hotson, 2021; Mohamed, 2023; Kweldju, 2019; Christiansen & Kasarcı, 2016).

Although multimodal pedagogies have been widely researched, studies focusing on the supporting tools of multimodal pedagogy are still limited. Currently, higher education does not sufficiently meet the needs of EFL students to develop skills in creating multimodal texts (Yana et al., 2023b). The syllabus for academic writing largely emphasizes conventional writing models and provides little opportunity for students to explore various modalities (Yana et al., 2023a). A study appears to seek to explore the process of syllabus design that focuses on enhancing students' abilities to compose multimodal texts (Yana et al., 2024). However, the opportunity to continue pursuing it is still wide open. Hence, our research serves as a continuation of that endeavor.

The objective of the research is to create a workbook that facilitates multimodal projects in the context of academic writing for English as a Foreign Language (EFL) students in higher education. A workbook is a collection of worksheets. These worksheets include a series of activities and exercises that provide students with the opportunity to gain an understanding of the material and apply it (McGrath, 2012). This study contributes to the existing body of knowledge on multimodal pedagogies that improve students' skills in creating multimodal texts. It is in line with their academic and professional objectives in the future (Sherekhova, 2022; Mammadova, 2023). Therefore, this study seek to answer two research questions form the basis of this study: What are the results of the student's need to design multimodal workbooks in the context of academic writing? How is the design of a multimodal workbook for EFL students in an academic context?

RESEARCH METHOD
Research Design

This study employs Research and Development (Richey & Klein, 2010), specifically focusing on the Analysis and Design phases of the ADDIE approach. The limitation of this research to the Analysis and Design phases has several strong reasons. Time and resource constraints lead researchers to focus more on these two initial stages, which do not require as much cost and effort as the development and implementation stages. Additionally, these stages can present a solid theoretical foundation before moving into the practical realm, as well as allow for initial validation through literature review and input from the academic community. By only publishing the Analysis and Design phase, researchers can also provide a solid conceptual blueprint as a foundation for further research. During the Analysis phase, the researchers perform a needs assessment. To begin, the researchers created a questionnaire to collect data on the particular requirements of students about workbooks. Before delivering the questionnaire to the respondents, it was assessed and decided to be suitable by two seasoned validators who had both conducted research and taught. The data obtained from the validation findings were examined using the Aiken index. Subsequently, the researchers disseminated the questionnaire using Google Form. During the Design phase, the workbook scheme entails

developing an initial framework that is informed by the results of needs assessment and the analysis of pertinent literature.

Research Participants

The study involved a total of 114 participants (Female:89.5%, and Male 10.5%), consisting of 71 (66.3%) individuals who are currently or were previously enrolled in academic writing courses, and 43 (37.7%) alumni who have finished writing courses ranging from Level I to Level IV in the English Language Education Program at a university of Riau Kepulauan (UNRIKA) Batam, Indonesia. Involving alumni in the needs analysis stage offers several benefits. They have direct experience with the material, providing realistic feedback on needs, shortcomings, and expectations. They often face workplace or education challenges, providing practical perspectives on necessary skills. Alumni also have broader insights into how their learning has influenced their careers and personal development. Their input helps researchers obtain in-depth information on areas for improvement, aligning development results with end users' needs.

Research Instruments

A needs analysis was performed by distributing a survey to participants in order to gather data that is pertinent to the development of a multimodal workbook for the Academic Writing course. During this phase, the researchers develop precise inquiries that address the students' needs, focusing on seven key elements: academic types, necessary academic skills, supporting technology, required learning materials, text modes, expected learning activities, and desired learning setting. The questionnaire is organized using a triangulation approach, employing semi-structured questions. The questionnaire was developed using a triangulation approach, employing semi-structured questions. The researchers presented the questions in multiple-choice format and provided additional options in the comment box at the end of the questionnaire. .Survey participants can express their preferences by selecting the checkboxes that correspond to their requirements. Participants are afforded the chance to select many answers and have the option to provide written responses if the offered choices do not align with their expectations. Subsequently, the questionnaire underwent evaluation and was pronounced satisfactory by two seasoned validators with extensive experience in research and teaching. Once the validator determined its eligibility, the questionnaire was subsequently disseminated to responders.

Data Analysis

Following the collection of data, the researchers engage in data coding. Every response given by the participant is assigned a numerical value. If the response was not checked, the value is 0, and if it was checked, the value is 1. If the respondent selected multiple answers, each option they choose is assigned a value of 1. Next, the encoded data is entered into Excel and the frequency and percentage are computed. Additionally, the responses provided by the participants in the additional options are categorized according to the relevant components and their frequencies are tallied, if applicable. If the categories do not correspond, they are recorded as alternative responses that have arisen. To ensure the consistency of reliability, the researcher performed double coding twice on the dataset. Subsequently, the data was thoroughly evaluated and presented in an descriptive way. Finally, it was interpreted according to the hierarchical structure of its categories.

RESEARCH FINDINGS AND DISCUSSION
Result of The Analysis Phase

This phase identifies students' needs for multimodal workbooks in the realm of academic writing. Table 1 delineates data concerning students' requirements for essential skills

in academic writing; Table 2 illustrates data regarding students' needs for technological tools in academic writing; Table 3 encapsulates data pertaining to students' needs for input in academic writing; Table 4 exhibits data about students' requirements for text forms; Table 5 presents data on students' needs for learning activities; and Table 6 reveals data concerning students' needs for learning environments in academic writing.

Table 1
Students' Need on the Valuable Skills for Academic Writing

Skills	Descriptions	
	Mean	Category
Browsing credible references	0,737	Highly Needed
Create notes	0,518	Needed
Create a summary	0,491	Needed
Paraphrasing	0,614	Needed
Editing	0,579	Needed
Proofreading	0,491	Needed
Citing and referencing	0,526	Needed
Digital Literacy	0,412	Needed

Based on the data in Table 1, it is evident that the most needed skill is the ability to find credible references, with a mean of 0.737, categorized as 'Highly Needed'. Next, paraphrasing skills have an average score of 0.614, followed by editing skills with an average score of 0.579, and note-taking skills with an average score of 0.518. Furthermore, citing and referencing skills are also important, with an average score of 0.526, followed by summarizing skills and proofreading, each with an average score of 0.491. Lastly, digital literacy skills have an average score of 0.412; although they are at the bottom, they still fall into the 'Needed' category. This data indicates that students greatly require skills in finding credible references, as well as other skills that support the academic writing and editing process.

Table 2
Students' Need on Technology Tools for Academic Writing

Technology tools	Mean	Category
Citation and reference processing technologies	0,737	Highly Needed
Usage and language verification technologies	0,868	Highly Needed
Plagiarism checking technologies	0,798	Highly Needed
Notion, evernote	0,009	Less Needed

Table 2 displays the needs of students for several technological instruments that aid in academic writing. The technology that is most in demand is language use verification technology. Subsequently, the technologies that are classified as highly essential are plagiarism detection technology and citation and reference management technology. The findings show that students possess a significant requirement for technical resources that facilitate language verification, plagiarism detection, and citation and reference management during their academic writing course.

Table 3
Students' Need on Input for Academic Writing

Inputs	Frequency	Mean	Category
Relevant videos	55	0,482	Needed
Audio/podcast/relevant	53	0,465	Needed
Relevant printed reference books	51	0,447	Needed
Relevant electronic reference books	89	0,781	Highly Needed
Relevant scientific articles / journals	83	0,728	Highly Needed

Relevant website/webpage	60	0,526	Needed

Table 3 displays many requirements pertaining to educational materials for students in the field of academic writing. The primary source that is most essential is electronic reference books that are relevant (mean 0.781), classified as "Highly Needed." Furthermore, related articles or scientific journals possess an average score of 0.728, which is similarly categorized as 'Highly Needed.' Additional essential resources include relevant websites or web pages, which have an average rating of 0.526, appropriate videos with an average rating of 0.482, suitable audio or podcasts with an average rating of 0.465, and appropriate printed reference books with an average rating of 0.447. All of these resources are classified as 'Needed.' The data indicates a strong demand among students for digital materials, including e-books and scientific publications, as well as other sources that enhance their learning process.

Table 4
Students' Needs on Text Forms

Text forms for academic context	Mean	Category
Monomodal text	0,219	Less Needed
Multimodal text	0,737	Highly Needed
Digital multimodal text	0,579	Needed
Text forms for professionalism future	**Mean**	**Category**
Monomodal text	0,175	Less Needed
Multimodal text	0,605	Needed
Digital multimodal text	0,684	Needed

According to the given data, students show a distinct preference for the specific types of texts that are necessary for academic writing and future professional training. In an academic setting, there is a strong demand for multimodal texts, which have an average score of 0.737. Additionally, digital multimodal texts are also seen as significant, with an average score of 0.579. In contrast, monomodal texts have a lower level of need, shown by an average score of 0.219. To enhance future professionalism, it is necessary to create digital multimodal texts with an average score of 0.684, followed by multimodal texts with an average score of 0.605. The demand for monomodal texts remains low, with an average score of 0.175. These findings indicate that students need texts that integrate different forms of communication and interactive digital texts in both situations, as opposed to more conventional single-mode texts.

Table 5
Students' Needs on Learning Activities

Learning activities	Mean	Category
Given examples first	0,614	Needed
given guidance step by step	0,614	Needed
Given an opportunity for self-reflection (self-reflection)	0,474	Needed
Given support or feedback as Needed by the same classmates	0,465	Needed
Given support or feedback as required by the lecturer	0,570	Needed
Given the practice of case studies	0,439	Needed
Given project training	0,412	Needed
given a link to the reference source	0,298	Needed
Using technology during the learning process	0,623	Needed

Based on the provided data (Table 5), in the process of learning academic writing, students have various needs related to different learning activities, ranked by average scores and categories. The use of technology during the learning process is the most necessary, with an average score of 0.623, classified as 'Needed'. Providing examples first and step-by-step guidance each have an average score of 0.614 and are also categorized as 'Needed'. Support or

feedback from lecturers has an average score of 0.570, which is also categorized as 'Needed'. Opportunities for self-reflection have an average score of 0.474, while support or feedback from classmates has an average score of 0.465, both classified as 'Needed'. Case study practices (average score of 0.439) and project training (average score of 0.412) are also classified as 'Needed', albeit with lower average scores. Finally, despite having the lowest average score, providing links to reference sources (with an average score of 0.298) is still deemed 'Necessary'. This data indicates that students have a significant need for technology in their learning process, along with various forms of support, examples, and guidance to enhance effective learning.

Table 6
Students' Needs on Learning Setting for Academic Writing

Settings	Mean	Category
learn individually	0,544	Needed
learn in groups	0,632	Needed
learn both inside and outside the classroom	0,632	Needed
focus to study inside the classroom	0,070	Less Needed
learn outside the classroom	0,009	Less Needed
face-to-face learning	0,307	Less Needed
online learning	0,018	Less Needed

The data supplied indicates that students have certain preferences for distinct learning arrangements when it comes to studying academic writing. Students have a strong need for collaborative learning experiences, both within and beyond the classroom. This need is indicated by an average score of 0.632, which falls under the category of 'Needed'. Individual learning is of significant importance, as indicated by an average score of 0.544, which falls under the category of 'Needed'. Comparatively, the average score for learning inside the classroom is 0.070, while learning outside the classroom has an average value of 0.009. Face-to-face learning has the highest average score of 0.307, while online learning has an average score of 0.018. All of these learning methods are classified as 'Less Needed'. The research suggests that students have a preference for learning environments that offer flexibility and encourage collaboration, both in individual and group settings, as opposed to learning environments that are restricted to a single location or method.

Discussion

The objective of this study is to deign a workbook that facilitates the completion of multimodal text by prospective EFL teacher, specifically in the field of academic writing. The initial action is to perform a needs assessment in the Analysis Phase. Based on the results found, it followed with the Design Phase. The workbook has been designed into 5 sections (Table 7). Each section of the workbook consists of elements that correspond to the findings of the previous stage, such as input (Table 3), text form (Table 4), academic writing skills (Table 1), technology tools (Table 2), activities (Table 5), and settings. (Table 6). Next, incorporate a column dedicated to process evaluation that prioritizes introspection and constructive criticism in accordance with the discoveries. (Table 5). Each section outlines learning objectives that correspond to the syntax used in Project-Based Learning (Fleming, 2000; Larmer et al., 2015; Stoller, 2011; Patton & Robin, 2012 **;** Hugerat, 2016; Stoller, 2011).

Table 1 reveals that the primary skill required by EFL students in academic writing is the capacity to locate reliable sources. Obtaining reliable sources is a crucial aspect in bolstering an individual's performance in effectively communicating scientific concepts (Kumar, 2022), particularly in augmenting the influence and trustworthiness of research findings (Lubis et al., 2023). Therefore, it is imperative for EFL students to enhance their proficiency in identifying trustworthy sources. It is anticipated that they will receive training in the identification and differentiation of reliable and unreliable sources, and they should possess the ability to effectively   utilize   these   sources   to   bolster   their   written   arguments.

Furthermore, the study also identified additional competencies required by EFL students to enhance their academic writing, such as the ability to take notes, summarize information, rephrase content, revise their work, and properly cite and reference sources, including proficiency in digital literacy. Students can enhance their ability to structure and arrange their thoughts and information by engaging in note-taking and summarizing (Bailey, 2022). Additionally, they can guarantee that their writing is clear, logical, and unique by employing paraphrasing and editing techniques (Read, 2019).

According to the research data on technology needed (Table 2), it was discovered that EFL students require multiple supportive technologies in order to successfully finish their academic work. This is consistent with Johnston et al., (2024) study, which demonstrates that students are progressively using artificial intelligence for educational and personal objectives. Moreover, they proposed that educational institutions should endorse this requirement instead of forbid it, with the aim of augmenting students' creativity and capacity for output (Johnston et al., 2024).

Therefore, it is important that the designed workbook have unambiguous directions to enable students to effectively apply the technology to improve the efficiency, precision, creativity, and professionalism of their writing. Artificial intelligence, the most recent technological advancement, has been extensively utilized to aid in the language acquisition process, specifically in improving academic writing abilities (Ou et al., 2024). Several AI applications such as Grammarly, Quilbot, ChatGP can be utilized for language processing, specifically for enhancing writing proficiency for EFL Learners (Zhang & Umeanowai, 2024). These products include ProWritingAid, Hemingway Editor, Quillbot, and Ginger (Núñez-Naranjo et al., 2024). AI technology can assist in detecting grammar faults, spelling mistakes, language style inconsistencies, and selecting acceptable vocabulary (Zhang & Umeanowai, 2024). AI tools can improve language skills, streamline the writing process, and provide immediate feedback, thereby enhancing academic writing (Al Hosni, 2024). For example, they can assist non-native English speakers in surmounting language barriers and enhancing the quality of their writing (Koos and Wachsmann 2023).

Nevertheless, these benefits are accompanied by substantial ethical concerns, particularly in the context of academic integrity. The primary concerns encompass the potential loss of critical thinking skills, the overreliance on AI-generated content, and the risk of plagiarism (Kim 2024). Adult students may utilize such technologies while maintaining a focus on ethics, academic integrity, and suitable evaluation mechanisms (Dillon et al., 2024). Furthermore, studies emphasized the needs of higher education officials implementing explicit rules to ensure the efficient, secure, and ethical use of AI to help students in academic purpose (Bozkurt, 2024) (Yousofi, 2022; Johnston et al., 2024; Črček & Patekar, 2023).

Moreover, the data displayed in Table 3 illustrates the required input from the students. This can be used as a basis for creating the anticipated multimodal workbook. The acquisition of knowledge is of utmost significance and pertains to the diverse origins of linguistic information encountered by individuals learning a second language (Bahrani & Nekoueizadeh, 2014). This input aims to aid students in locating reliable and current information to supplement their academic writing tasks. The primary requirement is the availability of appropriate electronic reference sources or scientific journals. Furthermore, students generated input through the production of movies, podcasts, and relevant websites. This suggests that the workbooks that are created should incorporate several types of educational input. This is anticipated to enhance students' comprehension of the subjects they are presently deliberating. This aligns with the actions taken by Celik (2024) . He offers a range of educational resources, including videos, articles, and presentations, to improve the writing abilities of students learning English as a foreign language (EFL). The input he provides is commonly known as "flood input." (Celik, 2024).

In addition, it was discovered that EFL students had a strong demand for multimodal texts and digital multimodal texts (see Table 4). It means, it is crucial to highlight the utilization and enhancement of students' abilities in creating multimodal or digital multimodal text during their project. Olivier (2022) has underscored the significance of composing multimodal texts for students in the contemporary digital age, wherein conventional printed texts are no longer appropriate. Engaging in the creation of multimodal texts offers students the opportunity to develop autonomy in their writing (Tan, 2023). Therefore, creating multimodal texts is not only important for the current academic requirements of English as a Foreign Language (EFL) students, but also to equip them with the necessary skills to tackle the progressively intricate demands of academic and professional writing in the future (Mammadova, 2023).

In relation to the sorts of learning activities required by English as a Foreign Language (EFL) students, it has been discovered that certain activities possess different degrees of importance (see Table 5). The two activities that are most necessary for students are receiving explicit and specific instructions in order to comprehend the prescribed job. This is analogous to offering scaffolding. Students can receive support in a gradual manner that is tailored to their specific learning needs and individual preferences (Phuong, 2023; Mai et al., 2023). Hence, the created workbook should provide specific instances and comprehensive guidelines for every stage of the multimodal project.

Furthermore, Table 5 presents the students' need for technological assistance in academic writing. Given its contemporary significance, the utilization of digital technology is deemed crucial in facilitating language learning activities (Zheltukhina et al., 2023). Hence, the designed workbook should have proper technology to aid students in generating academic multimodal texts, including reference search technology, plagiarism detection, and language usage verification. Furthermore, it is anticipated that this will foster the acquisition of suitable digital literacy competencies in the realm of academic writing. Proficiency in digital literacy is an essential and contemporary talent that students must possess in order to effectively and securely navigate through many sources of information (Zakia & Yana, 2023) , particularly in the present digital age (Murtadho et al., 2023).

Another essential activity is facilitating opportunities for self-reflection and receiving input from both peers and the course instructor. Self and peer-reflection are essential components of academic writing. Peer reflection can enhance peer assessment, but self-evaluation supports peer evaluation in five distinct ways: it provides guidance for making changes, contributes to peer evaluation in situations when access is restricted, reduces social and emotional costs, and assists both high-achieving and low-achieving students (Cheong et al., 2023). According to the study conducted by Afifi and his colleagues, the feedback given by teachers is more successful in enhancing student engagement and their writing skills. It is resulting in a profound emotional involvement (Afifi et al., 2023). This demonstrates the necessity for the workspace to be built in a way that allows students to engage in self-reflection and receive the necessary feedback to increase and improve the quality of their writing.

In relation to the learning setting required by EFL students in academic writing, it encompasses both independent and collaborative learning, which can occur both within and outside the confines of the classroom (see Table 6). Collaboration in groups is more effective for enhancing memory and understanding of material due to positive interaction, coordination, and shared responsibility (Courtney et al., 2022). Writing in groups also help improve social skills and self-confidence(Mutwarasibo, 2014) in providing peer-feedback at discussion stage (Ismail et al., 2020). However, individual learning is more suitable for developing academic writing skills that require focus and independence (Fanguy et al., 2023). Learning inside and outside the classroom complements each other, such as reinforcing the identity of a confident writer, and influencing students' engagement in academic tasks (Bankier, 2022).

To recap, the need assessment indicates that students require assistance in academic writing, namely in finding reliable sources, utilizing technology tools for language verification, checking for plagiarism, and managing citations. It is essential to have the ability to use digital resources, engage with multimodal texts, and have the option for flexible learning arrangements. Students exhibit a preference for adaptable and cooperative learning approaches as opposed to inflexible or location-dependent strategies. This suggests that while creating (digital) multimodal text, students should incorporate individual assignments to cultivate their own capabilities and group projects to improve their collaboration and discussion abilities. Furthermore, the workbook should prioritize the ability of students to engage in multimodal projects both within and beyond the confines of the classroom, while also allowing for adaptability.

Based on the finding of the Analysis phase, the workbook was designed into five sections. Each section is called a worksheet. The sequence of the worksheets are incorporated to the proper syntax of the Project-Based Learning (PjBL). The initial section is entitled "How is multimodal text in academic context?". This worksheet is designed to introduce and prepare students to comprehend the necessary context and concepts before starting a multimodal project. The second section is entitled "How to do." The purpose of this worksheet is to offer students inspiration and to showcase examples of both traditional essays and multimodal essays. Consistent with the results presented in Table 5, students express a preference for being provided with examples first. The title of the third worksheet is "Creating Multimodal Text." The purpose of this worksheet is to offer a systematic and detailed instruction manual for students to successfully finish their assignments. During this stage, learners are provided with the chance to consistently contemplate and evaluate each step they are now engaged in. This aligns with the students' needs to be given guidance step by step (Table 5). The worksheet labeled as "Checking the Content" is the fourth one. The purpose of this worksheet is to allow students to evaluate the key elements of their content and projects, determining if they are consistent with the intended concepts or not. Furthermore, this worksheet offers the chance for individuals to obtain comments from both their peers and the lecturer or other knowledgeable professionals. This is determined by their expressed preferences, as indicated in Table 5. The last worksheet is named "Sharing the Final Product." The purpose of this worksheet is to provide students the chance to demonstrate their work. This stage was established as a venue for students to exhibit and promote their (digital) multimodal text. Students have the opportunity to present and exhibit their work to the entire class. The exhibition process can be flexibly executed based on specific requirements and time constraints, and can be accomplished using online or offline means, as well as in a synchronous or asynchronous manner. Following their presentation to all the groups in class, the team disseminated their final product (multimodal/digital multimodal text) to a broader audience, as per the target demographic they had previously identified, through platforms such as YouTube, TikTok, Instagram, Facebook, or others platforms.

The design of this multimodal workbook presents an innovative pedagogy for instructing academic writing, specifically designed to cater to the needs of EFL higher education students in the digital era. Despite being in the Analysis and Design stages, this research has demonstrated significant potential in improving the quality of learning by integrating several modalities of communication and media. This method is anticipated to offer a more comprehensive and pertinent learning experience, wherein students not only acquire the ability to write in a conventional manner but also cultivate the proficiency to communicate using many forms and technology tools.

This study not only enhances prior research findings on syllabus construction (Yana et al., 2024) but also provides a substantial addition to educational theory and practice. This novel design creates new possibilities for additional research and advancement, specifically in

exploring the effective application of multimodal and project-based methodologies in the field of academic writing. This workbook is anticipated to serve as a highly efficient instrument in facilitating students' proficiency in academic writing through a more interactive and experiential approach, thereby equipping them to tackle the communication barriers encountered in real-life scenarios. Essentially, this workbook is expected to aid students in confronting academic obstacles and equipping them for their future professional requirements (Mammadova, 2023). Additional research is also advised to investigate the Development and Implementation stages of the workbook, specifically in assisting EFL higher education students in efficiently producing multimodal text in academic context.

CONCLUSION

This study aims to develop a learning material for EFL students in higher education, focusing on the design of a multimodal workbook in academic writing contect. A needs assessment has been conducted to identify student needs and establish the ideal working environment. The need assessment indicates students require assistance in academic writing, including reliable sources, technology tools, plagiarism checks, and citation management. They prefer flexible learning arrangements, multimodal texts, and individual and group assignments. The workbook should prioritize students' ability to engage in multimodal projects both within and beyond the classroom. Therefore, the workbook is designed to provide clear instructions for each stage of the multimodal project, along with relevant technologies to assist students in creating academic multimodal texts. Self-reflection and feedback from peers are also considered needed. Then, the multimodal workbook was designed in five parts: "What is multimodal text in an academic context?", "How to do it," "Creating Multimodal Text," "Reviewing Content," and "Sharing the Final Product." This study emphasizes the importance of developing multimodal workbooks for students learning English as a Foreign Language (EFL) in higher education. It provides additional support for the existing literature on multimodal approach, learning materials development, and digital literacy, emphasizing the importance of integrating technology and various modes in language teaching. organizing and expressing academic ideas according to future academic and professional needs.

The study introduces pedagogical improvements by designing a structured multimodal workbook academic writing classroom for EFL students. However, there are some limitations in this study. This study exclusively focuses on the specific EFL university students; therefore, any generalizations made for a broader context should be carefully examined and verified. In addition, although the needs assessment has been carried out meticulously, there is still a possibility that unexpected findings or discrepancies may arise in the field. Therefore, it is very important for future research to explore various educational environments and examine differ need assessment contexts. Further research is also expected to explore the development and implementation of this workbook, particularly in assisting students to write multimodal texts more effectively.One of the challenges that must be considered during the implementation phase is the provision of time and budget for revisions in the case that feedback is received from students or users in the field regarding discrepancies in the workbook. Therefore,during and after the implementation phase, it is essential to allocate time and funds for adjustments in response to input from students or users concerning anomalies in the workbook.

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