Grammar Tips Integrated with Telegram Bot: Strategies to Facilitate Learning English Grammar

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Abstract
The development of technology is very useful to support students in learning linguistics. This study aims to explain the design and ground in multimodal communication to facilitate students in learning English grammar. This research is a field research located in the English Literature Study Program, Faculty of Letters, at Universitas Warmadewa, which applies qualitative methods. This study employs the theory of multimodal communication. Databases related to grammar tips and evaluations were added and presented with appropriate design through ELIA. The data were taken from the communication logs, and the learn and practice dashboard. Based on the analysis, the design includes three important parts, namely genre, mode, and discourse. The focus of the design is the mode chosen to deliver information (ground). The mode is presented in the form of text such as grammar materials and MCQs. However, the visual mode is presented in the form of graphs and charts that show the progress of students learning grammar materials.

Keywords: English grammar; multimodality; Telegram bot

1. INTRODUCTION

Mastering English grammar is a must for students pursuing the field of English or linguistics. By mastering good English grammar, students can expand their job opportunities or even create jobs, such as becoming proofreaders or content writers. Although English grammar is essential, many students think that English grammar is rigid and rarely used in practical communication. This research emphasizes the study of design and ground in presenting grammar tips through the Telegram Bot: ELIA.

There has been a lot of research on chatbots and it focuses on the development of programming languages and the utilization of artificial intelligence (AI). Chatbots that have been developed use Artificial Intelligence Markup Language (AIML) to answer FAQs (Ranoliya et al., 2017). In addition, chatbots have also been developed using AI and Natural Language Processing (NLP) (Lalwani et al., 2018; Nagarhalli et al., 2020).

Chatbots are also applied to support the world of education, such as research that discusses the implementation of chatbots in e-learning by employing Natural Language Processing (NLP) techniques to provide answers to questions precisely and quickly (Francesco Colace et al., 2018). Chatbots are also developed for educational systems based on local and web databases (Hiremath et al., 2018). Chatbots are also applied to support the travel experience (Casillo et al., 2020).

This research is a study that utilizes chatbots to support the world of education. ELIA (English Literature Information Assistant) which has previously been developed to answer Frequently Asked Questions (FAQs) about the English Literature study program, Universitas Warmadewa has succeeded in assisting the study program managers in providing faster services compared to contacting study program managers directly. This certainly makes it easier for students to find information related to the study program. In addition, the thesis examination flow chart, which is originally only a display on the faculty wall, was upgraded to a flow chart that can interact directly with students and has been provided through ELIA.

Creating a ChatBot by utilizing AI is not a simple thing in terms of funding. Making ChatBot by utilizing ChatGPT and Make is the simplest example, namely by compiling the logic or communication scheme of the chatbot through Make by utilizing ChatGPT. The results are certainly very good because the chatbot response will be based on ChatGPT, but the obstacle lies in the financing, namely the financing of the Make and ChatGPT programs. Therefore, this research still applies ChatBot without AI but is based on a database that continues to be developed with various features. The first feature prepared is the Grammar Tips feature and exercises to monitor students' abilities on each topic studied.

This research examines ground through design which is believed to be able to convey grammar tips to support student learning. Ground and design are components of multimodal communication. Communication that utilizes various modes to support the success of communication. This research is important because it contributes to how language is used nowadays as one of the forms to support multimodal communication. Through this research, the form of multimodal communication used to deliver grammar tips can be arranged according to the ground to be conveyed which is adjusted to the design of Telegram Bot to increase the speed of information transfer from ELIA to students. In addition, this research is important for study programs as a form of continuous learning services. Through this research, learning methods through telegram chatbot can be known and evaluated further. In addition, this research is also important to help students improve their understanding of grammar outside of lecture time.

2. REVIEW OF LITERATURE

The multimodal communication theory applied in this study is the theory proposed by Kress in his book entitled "Multimodality: A social semiotic approach to contemporary

communication" (Kress, 2010). The book states that social semiotics emphasizes how meaning is made and constructed in the communication process and states that semiotic acts and products are shaped through history, culture, and the social use of signs. There are four basic components in the theory of multimodal communication proposed by Kress, including (1) rhetor, which is the author of the message/information, (2) design, which is the center of multimodal communication which includes genre, mode, discourse, and the medium used, (3) ground, which is the message or information presented through design, and (4) interpreter, which is someone who reads or sees the form of information presented.

Chatbots have been implemented to support the world of education, such as research that discusses the implementation of chatbots in e-learning by applying Natural Language Processing (NLP) techniques to provide answers to questions precisely and quickly (Francesco Colace et al., 2018). Chatbots are also developed for educational systems based on local and web databases (Hiremath et al., 2018). In addition, TelegramBot is also utilized as the latest learning method related to foreign languages (Freidkin & Ksenofontova, 2021; Mandalika et al., 2023). Writing learning through TelegramBot was also developed to see its impact on students (Syahreza & Hartina, 2023). Easily accessible learning certainly makes it easier for students to learn so that it can increase student creativity and innovation (Manullang et al., 2023). These studies have used chatbots to support education. In brief, this research also uses a chatbot integrated with web-based grammar tips that can only be accessed by registered students.

Chatbots are also developed for medical purposes to answer questions related to health issues according to the information used by users. This medical chatbot applies Google API for voice-text and text-voice conversion (Dharwadkar & Deshpande, 2018). The research shows the rapid development of chatbots that are useful for various fields including the health sector. Other research examines human-chatbot relationships which are not much different from human relationships (Chaves & Gerosa, 2020; Skjuve et al., 2021). Chatbots are also used as agents to facilitate discussions in group chats for time management, encourage expression of opinions, organize opinions, and summarize all collected opinions (Kim et al., 2020).

3. METHODS

This research is a field research located in the English Literature Study Program, Faculty of Letters, at Universitas Warmadewa, which applies qualitative methods. The qualitative method is used to see how the design delivers information related to English grammar through ELIA as a practical learning resource. The grammar tips were taken from grammar materials taken from several grammar references. The materials were chosen to be integrated with ELIA.

Prior to the data collection process, ELIA was upgraded to be able to present materials and evaluations on grammar materials. ELIA was also developed to be able to validate users/students. Databases related to grammar tips and evaluations were added and presented with appropriate design through ELIA. The data were taken from the communication logs, and learn and practice dashboard.

The data that have been collected and classified were inventoried and used as ground following the theory of multimodal communication by Kress (2010). Through the theory of Multimodality: A Social-Semiotics, this research analyzes the appropriate mode used (design stage). In addition, analysis is also carried out at the stage of building information or messages conveyed through the modes presented on the website (ground stage). The last stage is to interpret the effectiveness of using the grammar tips feature in describing students' ability to understand English grammar.

4. FINDINGS AND DISCUSSION

In multimodal communication research, four basic components of the multimodal communication model are taken into consideration in analyzing the communication that occurs. The four basic components in the implemented multimodal communication model include the rhetor, design, ground, and interpreter. The four basic components in multimodal communication are applied and adjusted to the needs of the study program. These components become parts that support each other in the communication that is formed. By considering the interpreter as the target in communication, the rhetor conveys the ground presented in a certain design that is appropriate and is felt to have a positive impact on communication. By utilizing several modes in the design, the rhetor tries to instill ideology/concept/information to the interpreter. In short, communication between humans and chatbot or human-chatbot relationships are not much different from relationships between humans (Chaves & Gerosa, 2020; Skjuve et al., 2021).

The rhetor and interpreter components are not the focus of this study. In other words, the rhetor component can already be determined, namely the research team and the study program manager. On the other hand, the interpreters are students of the English literature study program, at Universitas Warmadewa. The important point of this study lies in the design and ground of ELIA which is integrated with grammar tips built on a website. Then, how ELIA works as a team of study program managers is the final purpose of this study. As is known, chatbots are also used as agents to facilitate discussions in group chats for time management, encourage opinions to be expressed, organize opinions, and summarize all opinions collected (Kim et al., 2020).

4.1 Design

Design can be stated as a pattern or composition formed by a rethor to convey an ideology/message/information. ELIA has a design that is designed to facilitate the delivery of information. By considering various conditions, such as readability, speed of searching for information, suitability of search results, how to search for information, and the form of information delivered. The development of chatbots, especially those that are in contact with customers, must be given great attention so that they can provide solutions and not increase customer dissatisfaction (Crolic et al., 2022). In short, the design of ELIA in providing information and grammar tips must be simple and clear to increase student satisfaction. However, building a conversational system on AI (Yan, 2018) is quite hard for those who are limited in funding and teamwork.

Design can include three important parts, namely genre, mode, and discourse. The genre is the media chosen to convey information. In this case, the Telegram Bot is the media chosen to convey information related to the study program. In addition, a Telegram Bot named ELIA is also used as a learning medium for students outside of lecture time, so ELIA is expected to be a source of learning and practice for students to improve their knowledge.

Mode can be said as a way of conveying information. The previously designed ELIA has several weaknesses including privacy and the use of language and keywords to increase the speed of information acquisition. ELIA still prioritizes textual mode to provide information compared to visual mode. Textual mode is also made in English to train students in using English. The changes made to this communication mode lie in the addition to a 'menu' button which is used to classify information contained in ELIA so that students can see the main components available to support student communication with ELIA.
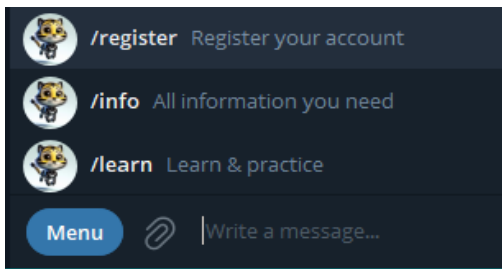
Figure 1 The menu button to clarify information

Based on the new components, ELIA indirectly provides information to students that the new ELIA requires registered students to be able to access information and create their own learning and practice portfolios. In this mode, ELIA can only provide information to students who are already registered in the ELIA database. Students who are not registered will always be directed to register with the study program manager which will then be validated through the register menu. In addition to training students to follow the communication process provided, this mechanism is also used to record students' personal data and student activities in communication logs that will be used for the development of ELIA in the future, including finding out general information on student abilities.
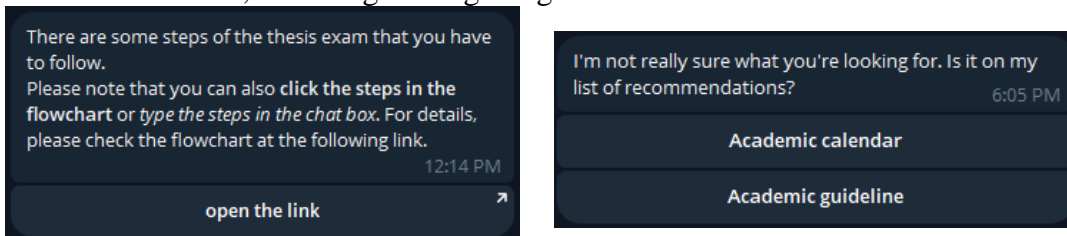

Figure 2 The responses delivered by ELIA

The textual mode is also improved and refined. In responding to students, ELIA will use bold and italic text to indicate important information, so that students can obtain important information in a faster way. In addition, some main keywords and alternative keywords are adjusted based on student input during the trial process. ELIA is also designed to provide suggestions for the information sought if students request general information or information related to more than one piece of information. In this case, students can select information from the list of recommendations provided. This is also input from students to make ELIA more effective in searching for information.

Registered students can search for the information they need related to their study program. In addition, students can also utilize the learn and practice feature integrated with website-based grammar tips. This feature is also personal and will record student learning activities including the grammar topics provided, exercise reports that explain the number of questions answered correctly and incorrectly, point graphs from the exercises performed, and progress reports on the exercises that have been performed. These features will indirectly communicate with students regarding their abilities on a particular topic.
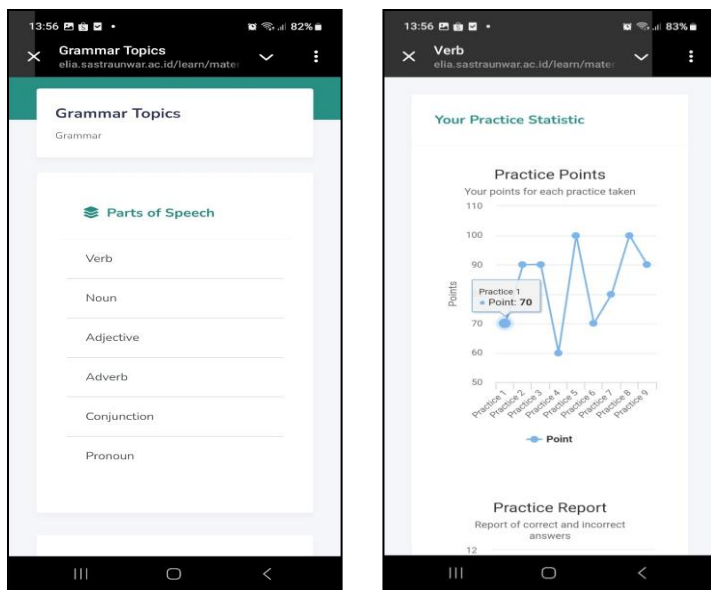
Figure 3 Grammar topics and practice points

The mode in this grammar tips is a way used to provide a direct description of students' abilities, so that this can help students hone their skills related to English grammar. In other words, ELIA will help lecturers and study program managers to monitor student learning progress.
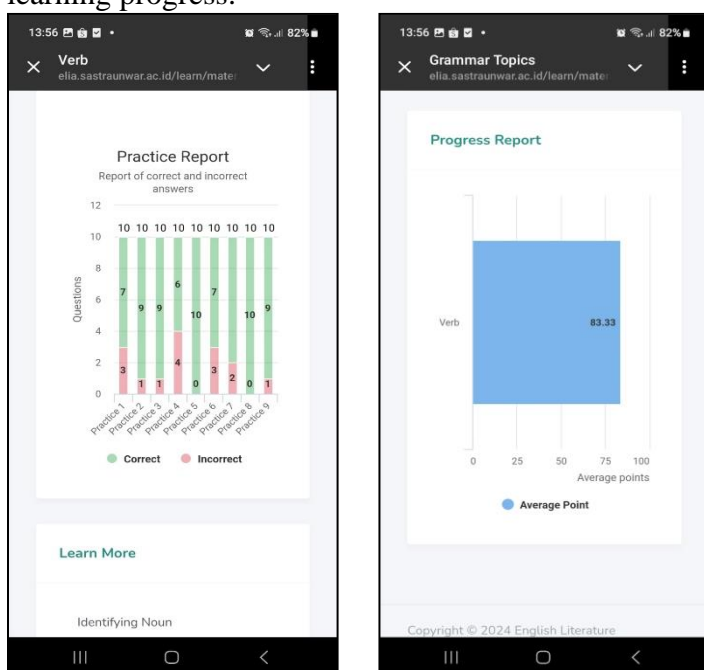
Figure 4 Practice report and progress report

On the other hand, study program managers also have access to the ELIA dashboard, especially the learn and practice section. Through this dashboard, study program managers can see in detail the abilities of each student. In addition, the dashboard can be used as an overview of topics that are less mastered by students so that this will help study programs and lecturers in charge of courses to plan the right learning methods according to student needs.

Question	Wrong Answer Ratio		
	Total	Wrong	Ratio
Identify the verb of the subordinate clause in the sentence "The cross-linguistic investigation aims to elucidate universal principles governing the acquisition of grammatical categories in early childhood."!	7	5	71%
Identify the verb of the subordinate clause in the sentence "The knowledge that they are tirelessly working towards bridging socio-economic disparities within their community imbues their actions with a sense of purpose and determination."!	3	2	67%
Identify the main verb of the superordinate clause in the sentence "Her greatest desire is to travel the world and experience different cultures."!	2	1	50%
Identify the main verb of the superordinate clause in the sentence "The first step in solving any problem is acknowledging that there is an issue that needs to be addressed."!	2	1	50%
Identify the main verbs of the superordinate clauses in the sentence "He practices yoga regularly, and he finds it helps reduce stress."!	2	1	50%
Identify the main verbs of the superordinate clauses in the sentence "They planned a beach trip, for they wanted to enjoy the sun and surf."!	2	1	50%
Identify the verb in the sentence "I listen to music while working."!	6	3	50%
Identify the verb of the subordinate clause in the sentence "Despite the intricate nuances of quantum mechanics, researchers are steadily advancing towards practical applications, elucidating the elusive behavior of particles at the subatomic level."!	7	3	43%
Identify the main verbs of the superordinate clauses in the sentence "He is allergic to cats, so he can't visit his friend's house."!	5	2	40%

Figure 5 Wrong answer report

The discourse built through ELIA is educational information and language skill improvement during studies in the English literature study program, at Universitas Warmadewa. Through the use of ELIA integrated with website-based grammar tips, the study program wants to highlight that all forms of information contained in the study program can be accessed from anywhere, anytime, and faster. In addition, the study program also provides opportunities for students to improve their knowledge through the learn and practice feature developed to provide short notes and exercises related to English grammar.

4.2 Ground

The ground can be explained as information/messages delivered by the rhetor (study program manager) to the interpreter (students). Directly, ELIA conveys that information about study programs, staff, and academic information, including final assignments can be accessed more quickly and easily. Through textual mode, ELIA provides concise information combined with the use of websites to support the information. The use of clear textual language has an impact on students because the language plays a significant role in motivating students to use ELIA. As a simple example, the use of polite language in promotional videos made by the police can improve good relations between the police and the community (Lowrey-Kinberg, 2019). Visual mode is still used to provide information on the final assignment flow. Multimodal communication through this visual mode not only provides information related to the flow but can also directly help students follow the flow because the visual mode has been adjusted so that students can interact with the visual mode.

Indirectly, ELIA provides information/message to students that the study program manager provides 24-hour service to serve students related to information in the study program. In addition, the study program manager through ELIA also facilitates very flexible learning and practice so that students can see short notes and test their understanding of certain topics.

In general, the form of communication applied through various modes always tries to convey information/messages created by the rhetor. For example, multimodal social-semiotic research on institutional discourse from Arcadia University's promotional website emphasizes education and tourism (Michelson & Valencia, 2016).

5. CONCLUSION

The language will continue to develop in line with technological developments. For example, the trend of using hashtags in social media communication emerged due to technological developments (Lee, 2018; Scott, 2018; Zappavigna & Martin, 2018). Then the next real example is the development of chatbots that indirectly affect the use of language, namely the language used is simpler and more concise. Viewed from a positive perspective, the use of simple and concise language will speed up communication between students and ELIA. Students will be able to immediately get the information they are looking for. Students can also be quickly directed to the learning and practice sections so that the time spent searching is shorter. On the other hand, the use of simple and concise language can have a negative impact on students' linguistic mastery if it is not followed by real-world communication. However, wise use of technology can help to improve the ability of its users. In this case, wise users will use technology to help improve linguistic mastery.

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