

# ELIA's Responses to Directives Delivered by Students

I Gusti Ngurah Adi Rajistha<sup>1</sup>, Dewa Ayu Kadek Claria

{ngurah.adi.rajistha@gmail.com<sup>1</sup>}

Universitas Warmadewa Denpasar - Indonesia

**Abstract.** The use of chatbots is very widespread nowadays, even chatbots have been integrated with AI. On the other hand, AI development is not cheap so database-based chatbots are the second choice. To develop a chatbot that can communicate is not easy. There is a directive process from the user and a response from the chatbot accordingly. This research examines the chatbot's response, ELIA, to the directive strategies students use to obtain information. The data collection method used is a recording technique through the ELIA admin system so that all conversations between students and ELIA can be stored safely. The analysis was carried out by adjusting the keywords and responses given by ELIA. based on the results of the study, it can be seen that ELIA can very well provide a positive response to the directives submitted by students, which is around 94%. However, there are still 6% negative responses submitted due to unavailable information and typing errors when doing directives.

**Keywords:** chatbot, ELIA, responses to directives

## 1 Introduction

Chatbots are efficient tools for quickly providing information and are widely used today [1]–[7]. For instance, chatbots are used to support education. They are used in e-learning by applying Natural Language Processing (NLP) techniques to provide answers to the questions delivered [8]. another example is the use of chatbots for educational systems based on local and web databases [9]. ELIA was also developed to leverage the benefits that chatbots offer. ELIA is an assistant for the English Literature Study Program at the Faculty of Letters, Universitas Warmadewa. Its purpose is to provide students with information about the program and assist them during their studies. ELIA serves as a representative of the program's management and helps students obtain information promptly without having to speak to management in person. In addition, ELIA is not an AI-based chatbot [10], [11]. It is a chatbot that uses a database. In that case, the responses based on the directives delivered must be added from time to time.

This research centers on how ELIA responds to directives given by students. Previously, the directive strategies have been analyzed, showing that the direct strategy is the most used to get information from ELIA [12]. In addition, ELIA can also be used as a means to practice communication skills textually [4], [12]–[14]. ELIA's responses to the directives students deliver must be also improved to keep the directives and responses in line. This research gives a general viewpoint on how language is used by ELIA in responding to the directives delivered by the students.

## 2 Method

This research applies descriptive qualitative methods [15] and was conducted at the English Literature Study Program, Faculty of Letters, Universitas Warmadewa. We utilized the qualitative method to examine how ELIA responds to the directives delivered by students. The data sources were conversations between students and ELIA. We collected a total of 1,838 expressions sent by students to ELIA, covering 41 topics. However, we found 167 grammatical errors in the data, so we narrowed it down to 1,671 expressions for our analysis.

Before collecting data, ELIA's system was upgraded to include recordings of communication between students and ELIA. This was done to understand student habits when accessing ELIA. Additionally, ELIA is being developed to verify users/students. The data for this project was gathered from the student executive board at the Faculty of Letters and used as a sample before being implemented for all English Literature Study Program students at the Faculty of Letters, Universitas Warmadewa.

The data were gathered using the ELIA administration system. The ELIA admin system was utilized to collect conversations between students and ELIA. We can analyze ELIA's responses to students based on the conversations. The purpose was to identify students' use of directive expressions while communicating with ELIA. All the collected data were saved in Excel format for easier analysis. The data were analyzed under the applied theory using descriptive methods.

## 3 Result and Discussion

Study program information must be disseminated to all students. The study program has used the Telegram channel to disseminate this information. In addition, the study program also uses Google Drive to accommodate some useful information for students. However, the information has not been conveyed optimally because some students miss the information that is informed through the Telegram channel. To improve the quality of service to students, study programs need an information system that can be accessed anywhere and anytime, so a chatbot was chosen as an intermediary for information from study programs to students.

Students or users who have registered with ELIA will get a ChatID that can be accessed through the ELIA admin system. Communication that occurs between students and ELIA will be recorded on the admin system. This aims to observe the language behavior of students when looking for information, besides that this admin system is also used to see the number of active ELIA users so that study programs can see how many students see the information provided.

In addition to seeing ELIA as a system that helps study program managers disseminate information, ELIA is also seen as a digital individual who should also be able to provide information accurately, easily understood, and of course polite, so that the forms of politeness in language used by ELIA can be imitated by students in communication. Thus, ELIA is not only a source of information but also an object of practice in communication. The following table 1 shows an example of communication between students and ELIA.

**Table 1.** ELIA's Responses to Students' Directives

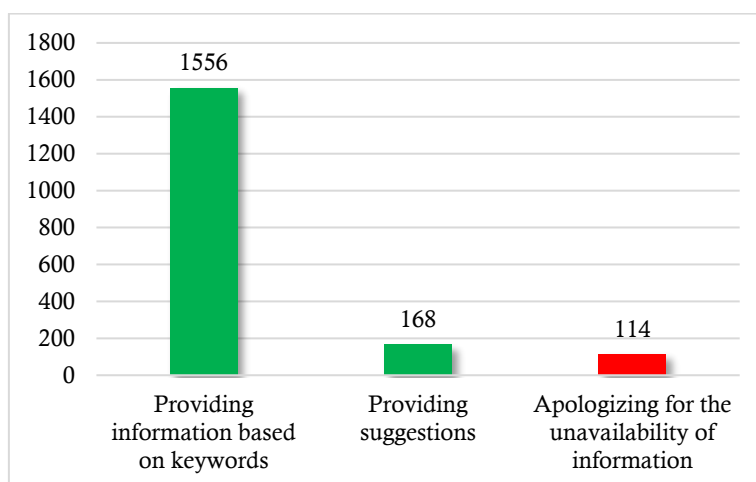
No.	Directives by Students	ELIA's Responses
1.	Give me information academic calender	I'm sorry I couldn't find the information you were looking for, maybe it's because it wasn't available or maybe I misunderstood what you meant. Try using other keywords to provide the information you need.
2.	Show me academic guideline	The academic guideline includes information on the vision and mission, the organization's structure, our study program, curriculum, credits, academic rules, rules of order, penalties, and other related information. It can be checked at this link.   <a href="https://drive.google.com/file/d/1TPHt1rjqE5q687_ntPechT46_KbELizS/view?usp=sharing">https://drive.google.com/file/d/1TPHt1rjqE5q687_ntPechT46_KbELizS/view?usp=sharing</a>
3.	Send me accreditation certificate	Some companies and government institutions require an accreditation certificate when you apply for a job. You can download the accreditation certificate of Universitas Warmadewa and the English Literature Study Program at the following link.   <a href="https://drive.google.com/drive/folders/118cvTn61DC-RD-rar_wUTJi4A9K6eyUK?usp=sharing">https://drive.google.com/drive/folders/118cvTn61DC-RD-rar_wUTJi4A9K6eyUK?usp=sharing</a>
4.	Do you have bachelor thesis template	The template for the bachelor thesis can be downloaded at the attached link.   <a href="https://docs.google.com/document/d/1TXHJKlGoGRKwj0xT0S_rzvhBaQgvKk88/edit?usp=sharing&amp;oid=111629124646853774373&amp;rtpof=true&amp;sd=true">https://docs.google.com/document/d/1TXHJKlGoGRKwj0xT0S_rzvhBaQgvKk88/edit?usp=sharing&amp;oid=111629124646853774373&amp;rtpof=true&amp;sd=true</a>
5.	Do you know about decision letter on proposal examining board?	You can download your decision letter on the proposal examining board at the attached link. Don't forget to check the month and year to make the searching process faster.   <a href="https://drive.google.com/drive/folders/14yVrcTe1L3BIOA4UNhsNYeg89LvmPH3c?usp=sharing">https://drive.google.com/drive/folders/14yVrcTe1L3BIOA4UNhsNYeg89LvmPH3c?usp=sharing</a>

In giving commands or instructions to ELIA, students must pay attention to keywords that refer to the information they are looking for. These keywords become a reference for ELIA to send information. Based on the questionnaire results, these keywords need to be simplified to speed up information retrieval. Keywords that have a phrase structure need to be simplified, especially noun phrases modified by clauses. This is an important note for improving the performance of ELIA to present information, besides that this can also speed up the acquisition of information by students.

ELIA as a chatbot with static responses based on a database certainly has disadvantages compared to emerging AI chatbots, so ELIA sometimes cannot respond to information requested by students. To improve ELIA's service within this limitation, two conversation schemes were designed to be more informative. The first scheme is for ELIA to provide suggestions about information that may be sought by displaying several options that can be selected by students. The second scheme was for ELIA to apologize that the requested information was not found. In this case, there are two possible reasons for not finding the information. The first reason is that the student made a typing error so that the requested information could not be found. The second reason is that the information that is being sought is not yet available in the ELIA database so ELIA cannot find it either. Through the admin system that records the conversation between students and ELIA, the program manager can

see what information is requested by students but is not yet available in the database. In addition, the limitation of alternative keywords is an important note for researchers because alternative keywords to search for core keywords are an important part and are needed to speed up information retrieval if the main keywords are not written in full. These alternative keywords certainly provide alternative methods to display the requested information.

Based on the results of the analysis of ELIA's response to directive strategies, it can be seen that ELIA gives positive and negative responses to the directive strategies used by students. Based on Figure 1, ELIA will provide information based on the directive strategies used by students. Two schemes can be used as a reference to explain the response to the directive strategy used. First, if the requested information is in the ELIA database, ELIA will directly provide the information to students. Second, if the requested information is not in the ELIA database, ELIA will provide suggestions or apologize for the unavailability of the requested information. Based on this scheme, the positive response of ELIA can be known through providing information according to student requests and providing suggestions on related information requested. On the other hand, a negative response can be known when ELIA apologizes for the unavailability of information.



**Fig. 1.** ELIA's responses

Based on Figure 1, the positive responses are the ELIA responses that can provide information and suggestions to the students. In this case, ELIA can provide a positive response of about 94% of the total commands sent by students. Although the positive answer is very well, the negative answers of ELIA are still 6%.

#### **4 Conclusion**

ELIA's response to the directive strategies used by students can be said to be very positive, namely 94% of ELIA responses provide information requested by students while 6% of ELIA responses are negative responses. It can also be concluded that improvement in the case of alternative keywords will increase the accuracy of the responses. Applying other

schemes of communication will also give a positive value to ELIA as a chatbot that helps students provide information during their study while learning communication skills textually.

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