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Pragmatization of the Speech Recognition System in Google Assistant Features on Android Smartphones

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Abstract

This study focuses on the use of Google Assistant (GA) on Android smartphones as an implementation of the Speech Recognition System. Google Assistant enables voice communication with the device without physical interaction. The objective of this research is to analyze and thoroughly describe the pragmatic communication governed by the speech recognition system in the Google Assistant features on Android. A descriptive qualitative research method is employed, involving Android smartphone users as research subjects and the Google Assistant feature as the research object. Data collection is carried out through direct observation and recorded interactions, then analyzed using content analysis techniques based on Searle's pragmatics: directives, declaratives, assertives, commissives, and expressives. The results show that Google Assistant demonstrates good capability in providing contextual and informative responses to users' assertive, commissive, directive, declarative, and expressive speech acts. The significant potential of GA is revealed when users give specific and communicative instructions, eliciting precise, informative, and relevant responses.

***Keywords**:* Pragmatics, Speech Acts, Google Assistant, Android

INTRODUCTION

In the rapidly evolving digital era, technology has become an integral part of society (Wahyudi & Sukmasari, 2018). One example of technology that has transformed how we interact with devices is Google Assistant, an intelligent virtual assistant developed by Google. Google Assistant has become a key feature on Android smartphones, and its usage is increasingly pervasive in daily life (Meganingrum et al., 2023; Siregar et al., 2022).

Google Assistant is a successful implementation of speech recognition technology (Arisman, 2022). This feature allows users to communicate with their devices using natural voice and language without the need to type or engage in complex physical interactions. As a result, Google Assistant has revolutionized the way people interact with their smartphones (Këpuska & Bohouta, 2017; Matarneh, 2017).

As technology advances, Google Assistant has become smarter and more integrated with various services and applications. Currently, users can utilize Google Assistant for a variety of daily activities, such as searching for information on the internet, sending text messages, checking the weather, setting alarms, playing music,

and much more, all through voice commands. This has transformed how people communicate with their devices, making it easier and more efficient (Savitri, 2019).

In the context of computational linguistics research, the development and enhancement of speech recognition systems, such as those used in Google Assistant, are highly relevant topics. Advances in speech recognition can help improve user experience by enabling more natural and efficient interactions with technological devices. Furthermore, within the framework of John Searle's theory of communicative speech acts (Searle et al., 1980), Google Assistant can be seen as a tool supporting various types of communication used as an approach to problem-solving (Naibaho et al., 2021). Firstly, in commissive speech acts, Google Assistant enables users to perform actions such as ordering food or tickets using voice commands. Secondly, in assertive speech acts, users can ask questions or seek information through voice commands, such as inquiring about the weather or the latest news. Thirdly, it supports directive speech acts, where users can give commands to the virtual assistant, such as setting reminders or controlling smart home devices. Fourthly, in expressive speech acts, Google Assistant can provide views or information based on user queries. Lastly, declarative speech acts are used to announce or confirm something, and Google Assistant can respond by affirming or providing additional information. Therefore, from the perspective of communicative speech act theory, Google Assistant serves as a tool supporting various types of conversation and interaction, facilitating many aspects of daily life and enhancing efficiency in communicating with technological devices.

Based on the above background, this study will focus on how pragmatic aspects function in the Google Assistant feature as a Speech Recognition System within computational linguistics. The pragmatic aspects used are as per Searle's theory of illocutionary speech acts, consisting of directives, declaratives, assertives, commissives, and expressives.

Focusing on pragmatic aspects in this study is essential because pragmatic competence is crucial for effective human-computer interaction. Pragmatics in language use involves understanding the context and intention behind utterances, which is vital for a system like Google Assistant that aims to interpret and respond to user commands accurately. Speech acts, as defined by Searle, encompass various functions of language such as making requests (directives), providing information (assertives), making commitments (commissives), expressing emotions (expressives), and making declarations (declaratives). Understanding and correctly implementing these speech acts allows Google Assistant to more effectively meet user expectations and provide relevant responses. For example, when a user makes a directive speech act like "Set an alarm for 7 AM," Google Assistant needs to recognize the intention behind the command and act accordingly. Therefore, focusing on pragmatic aspects allows for a deeper evaluation of Google Assistant's functionality in real-world scenarios, highlighting its strengths and areas for improvement in understanding and responding to human language in a way that feels natural and intuitive for users.

In previous studies, Zulfriansyah (2023) discussed the use of Voice Assistant technology in Smart Home devices, while Hanani and Hariyadi (2020) explored IoT-based Smart Home with Google Assistant, and Gozali and Suharto (2019) investigated the use of Google Voice Recognition on smartphones to control household appliances. However, these studies did not focus on the use of Voice Assistant on Smart TVs but rather on Smart Home, and they did not delve into pragmatic language aspects. Additionally, the study on Smart TV by Khan et al. (2022) only addressed the design and general features of smart televisions without relating to language use. Therefore,

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this research fills the gap in previous studies by focusing on the use of pragmatic language in interaction with Google Assistant technology on Android smartphones. Unlike previous studies that focused more on the use of voice assistants in the context of smart homes and household appliances, this research explores how pragmatic language concepts can be applied in the development of speech recognition systems to improve the system's response to user utterances.

With a focus on commonly used Android smartphones, this study aims to provide new insights into how pragmatic language can be utilized to enhance human-machine interaction in the use of voice assistant technology. Furthermore, this research has significant implications for language education. By understanding how Google Assistant interprets and responds to various speech acts, educators can incorporate similar technologies into language teaching to help students practice and develop their communicative competence. For example, using Google Assistant in language classrooms can provide students with opportunities to practice making requests, providing information, expressing emotions, and other speech acts in the target language, thereby enhancing their overall language proficiency. This study's findings can inform the development of teaching strategies that leverage AI technologies to create more interactive and effective language learning environments.

METHODS

This research employs a descriptive qualitative approach to deeply understand the interaction between Android smartphone users and Google Assistant. The subjects of the study involve Android smartphone users (the researcher themselves) utilizing Google Assistant features in daily life. The data collection procedure in this study involved several steps. First, the researcher conducted direct observations of interactions between users and Google Assistant using an Android smartphone. These interactions were observed directly without recording to maintain the authenticity of the data obtained. Second, during the observations, the researcher meticulously noted every conversation and response that occurred between the users and Google Assistant. Third, these observation notes were then transcribed carefully to ensure no details were missed and to facilitate the subsequent analysis process. These steps were carried out systematically to obtain valid and reliable data regarding the use of Google Assistant features by Android smartphone users.

The utterances interactions with smartphone in this study were chosen by the researcher considering contextual relevance, variety of speech acts, and the ability to elicit informative responses from Google Assistant. Topics such as music, entertainment, podcasts, public policies, and climate issues were selected because they are common parts of everyday conversations, allowing for the evaluation of Google Assistant's responses in realistic contexts. These utterances encompass all the main categories of speech acts according to Searle's theory (assertive, commissive, directive, declarative, and expressive) to obtain a comprehensive understanding of Google Assistant's capabilities. By using utterances with clear context and specific communicative purposes, the researcher can more easily observe and analyze Google Assistant's responses, ensuring that the data collected is relevant and useful.

The data analysis in this study will involve identifying speech acts in the user's conversations with Google Assistant based on Searle's pragmatic theory (Searle et al., 1980). Speech acts such as assertive, commissive, directive, declarative, and expressive will be identified and analyzed. A speech act is a way of speaking or acting in conversation that has a specific communicative purpose. The five speech acts mentioned (assertive, commissive, directive, declarative, and expressive) are the main

categories in John Searle's speech act theory (Searle et al., 1980): Assertive speech acts convey information or beliefs. Commissive speech acts involve commitments. Directive speech acts include requests or commands. Declarative speech acts announce changes in status. Expressive speech acts express feelings or attitudes. The researcher will categorize data based on these speech acts to form theoretical and practical implications for using Google Assistant pragmatically.

To ensure the validity of the instruments and data in this study, several steps were taken. First, the content validity of the observation and transcription guidelines was assessed through consultations with experts in pragmatics and technology to ensure comprehensive coverage. Second, triangulation was employed by comparing direct observation notes with detailed transcriptions to check for consistency and accuracy. Third, peer reviews were conducted by colleagues knowledgeable in the same field to examine the data collection and analysis processes and provide feedback. Additionally, pilot observations were carried out before the main data collection to test and refine the instruments. These validation strategies ensured robust instruments and accurate, reliable data.

RESULTS AND DISCUSSION

Results

This research reveals the interaction of Android smartphone users with Google Assistant through an in-depth descriptive qualitative approach. Data analysis in this study details the identification of speech acts in users' conversations with Google Assistant, based on Searle's pragmatic theory (Searle et al., 1980). The main categories of speech acts—assertive, commissive, directive, declarative, and expressive—are the primary focus of this analysis. By categorizing data based on the speech acts stimulated on Android devices, the findings of this research provide a foundation for discussing theoretical and practical implications related to the use of Google Assistant in a pragmatic context in daily life. The conversational stimuli used include discussions about favorite daily activities, listening to music, watching movies or dramas, and random online activities. These favorite activities are classified based on the most popular activities among the public according to Dihni's research (2022). In this section, the term Google Assistant will be abbreviated as GA.

1. Google Assistant's Response to Assertive Speech Acts

Assertive speech acts occur when the speaker states or claims something, whether it be a fact, belief, or opinion. Essentially, assertive speech acts are used to convey information, express beliefs, or state personal views (Tarmini, 2016). The response of GA to assertive speech acts can be observed in the following table.

Table 1. Stimulation of GA through Assertive Speech Acts

No	Utterance	Google Assistant Response
1	I like old pop music because the lyrics have deeper and more philosophical meanings than today's music.	GA responds by providing several popular and scientific articles about old songs, including general reviews and scientific analyses.
2	Stand-up comedy shows make me laugh until my stomach hurts, very entertaining!	GA responds by recommending YouTube videos featuring stand-up comedy shows with titles relevant to the phrases "I laugh, stomach hurts." It also provides references to popular

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		articles related to stand-up comedy and the health benefits of laughter.
3	Deddy Corbuzier's podcast provides in-depth insights on current issues, very beneficial for the public.	GA responds by recommending scientific articles at the top about the analysis of Deddy Corbuzier's podcast. It also recommends videos discussing current issues on YouTube from Deddy Corbuzier's podcast.
4	In my opinion, Afgan's vocals in the song 'Bukan Cinta Biasa' (Decade version) are so powerful and touching.	GA responds by recommending the music video of Afgan's "Bukan Cinta Biasa" on YouTube, taken directly from the official channel. Additionally, it recommends popular articles discussing the meaning of the song "Bukan Cinta Biasa."
5	The odd-even vehicle policy does reduce traffic congestion at certain points but increases it at others.	GA responds by providing popular articles from mainstream media with expert opinions on the odd-even vehicle policy.
6	The year 2023 is the hottest year of my life.	GA responds by providing articles discussing the 2023 temperatures as the hottest on record. The recommended articles also cover the climate crisis.

The analysis of interactions between users and Google Assistant shows that this virtual assistant is capable of providing precise and relevant responses to users' assertive speech acts. In the first example, when a user expresses their love for old pop music, Google Assistant recommends articles discussing songs from that era. This response reflects a good understanding of the user's preferences and interests in music. Next, in the user's statement about stand-up comedy entertainment, Google Assistant actively provides video recommendations that match the user's taste, along with references to popular articles about the benefits of laughter and stand-up comedy. This response demonstrates Google Assistant's ability to provide informative and entertaining content.

In the context of Deddy Corbuzier's podcast, Google Assistant responds by recommending scientific articles and videos related to current issues discussed in the podcast. This response shows a good understanding of the user's context and interest in a particular podcast. Furthermore, when a user expresses their opinion about Afgan's vocals in a specific song, Google Assistant recommends the music video and articles discussing the song's meaning, demonstrating its ability to provide information directly related to the topic discussed by the user. In response to the user's statement about the odd-even vehicle policy, Google Assistant provides popular articles discussing experts' views on the policy. This response shows the virtual assistant's ability to provide relevant information on transportation issues and public policy.

Finally, when a user states that 2023 is the hottest year of their life, Google Assistant provides articles discussing that year as the hottest on record. These recommendations help the user gain a deeper understanding of global climate phenomena. The analysis of assertive speech acts indicates that Google Assistant can provide contextual and informative responses, demonstrating a good level of understanding of the user's utterances and the ability to present appropriate and

relevant information. Its responses reflect the integration of data from various sources and its analytical capabilities to provide answers related to the discussed topics.

2. Google Assistant's Response to Commissive Speech Acts

Commissive speech acts occur when the speaker not only says or describes something but also actively commits or promises to perform an action in the future (Tarmini, 2016). These speech acts involve the speaker expressing an intention or commitment to change a situation or perform a deed. Common examples of commissive speech acts include promises, oaths, or pledges that demonstrate the speaker's willingness to act according to what is expressed in their utterance.

Table 2. Stimulation of GA through Commissive Speech Acts

No	Utterance	Google Assistant Response
1	I will continue listening to old pop music because the lyrics provide deep meaning.	GA responds by providing popular articles about the benefits of listening to old music, especially in creating a positive mood. Additionally, GA recommends relevant YouTube videos of old pop songs, both authentic and remake versions.
2	I will continue watching stand-up comedy shows because they are very entertaining.	GA responds by directly providing a list of YouTube videos about stand-up comedy shows. Additionally, it recommends popular articles about the benefits of watching stand-up comedy as entertainment and a tool for social critique.
3	I will continue watching Deddy Corbuzier's podcast because it provides deep insights on current issues.	GA responds by directly providing a list of YouTube videos of Deddy Corbuzier's podcast discussing current issues with the most views. Additionally, GA recommends several scientific articles analyzing the show.
4	I will continue to support Afgan's work because his vocals are so powerful and moving.	GA responds by providing a list of Afgan's songs on YouTube that have deep/melancholic lyrics and showcase strong vocal performance.
5	Despite the complex impact of the odd-even policy, I will contribute to and support the policy.	GA responds by providing popular articles from mainstream media about the success of the odd-even program.
6	I commit to adhering to policies that support combating climate change.	GA responds by providing articles from ministries discussing government efforts to address the impact of climate change. Similar articles are also recommended from popular media websites.

In the interaction between users and Google Assistant, the assistant provides cohesive and informative responses to users' commissive speech acts. When users express their commitment to listening to old pop music, Google Assistant responds comprehensively, offering popular articles discussing the benefits of music from

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that era. Recommendations for YouTube videos, including both authentic and remake versions, reflect Google Assistant's dedication to providing diverse content that aligns with user preferences.

In the context of users' commitment to continue watching stand-up comedy shows, Google Assistant delivers a thorough response by providing a list of YouTube videos related to such shows. The assistant also recommends popular articles discussing the benefits of watching stand-up comedy as a form of entertainment and a tool for social critique, thereby adding an informative dimension to its response.

A similar response pattern is observed when users declare their commitment to Deddy Corbuzier's podcast. Google Assistant offers a list of the most popular YouTube videos from the podcast and recommends scientific articles analyzing the show. This demonstrates Google Assistant's effort to provide in-depth and relevant content aligned with users' interests.

When responding to users' commitment to supporting Afgan's work, Google Assistant provides a list of Afgan's songs on YouTube featuring deep lyrics and strong vocal performances. This response reflects Google Assistant's intention to deliver content recommendations that resonate with users' preferences and commitments. When users express their commitment to contributing to and supporting the odd-even policy, Google Assistant provides popular articles discussing the success of the program, showcasing a good understanding of public policy and delivering relevant information.

Lastly, in response to users' commitment to adhering to climate change mitigation policies, Google Assistant provides articles from governmental ministries discussing efforts to address the impact of climate change and recommends similar articles from popular media outlets. This reflects Google Assistant's effort to offer information from diverse and reliable sources. Overall, the consistent and informative responses from Google Assistant to commissive speech acts demonstrate its ability to provide in-depth and relevant informational support, as well as a good understanding of users' contexts and needs.

3. Google Assistant's Response to Directive Speech Acts

Directive speech acts are a type of utterance that focus on giving instructions, commands, or directives to the listener to perform a specific action or behavior. The primary goal of these speech acts is to influence the actions or responses of the recipient to align with the speaker's desires or expectations (Ibrahim et al., 2020).

Table 3. Stimulation of GA through Directive Speech Acts

No	Utterance	Google Assistant Response
1	Play old pop music!	GA only responds by opening YouTube (without playing). When the command is more specific, "Play old songs!" GA also only responds by opening YouTube. However, when the command is even more specific, "Play the song ‘Kisah Kasih di Sekolah’," GA responds by playing the song (with a random singer). Finally, when the directive command is most specific, "Play the song ‘Kisah Kasih di Sekolah - Chrisye’," GA responds correctly and plays the song by Chrisye.

2	Open the funniest stand-up comedy video!	GA only responds by opening YouTube (without playing). When given another keyword, "Funniest stand-up comedy video," GA only creates a list of videos without playing them. When the command is more specific, "Play a funny stand-up comedy video by Abdur (a comedian)!" GA only responds by opening YouTube, not playing the video.
3	Play the latest issue discussion on Deddy Corbuzier's podcast!	GA only responds by providing a list of the latest Deddy Corbuzier podcast videos (without playing the videos). When the command is more specific, "Play Deddy Corbuzier - Felix Siaw podcast video," GA also only responds by opening YouTube (without playing the video).
4	Play a song by Afgan with deep meaning and strong vocals!	GA only responds by opening YouTube without playing the video. However, when the command is more specific, "Play Afgan's song, Bukan Cinta Biasa," GA immediately plays the music video on YouTube.
5	Provide support for the odd-even traffic policy!	GA responds by providing popular and academic articles from various media about public and expert support for the odd-even policy. It also recommends articles about the benefits of the odd-even traffic rule.
6	Open government regulations on tackling climate change impacts.	GA responds by providing popular and academic articles from various media about government support and policies related to mitigating and addressing the dangers of climate change.

The stimulation of directive speech acts towards Google Assistant (GA) reveals several interesting findings. In the first experiment, GA responded to a general command to play old pop music by merely opening YouTube without playing any songs. However, GA's response became more accurate and satisfactory when the command was specified with the song title and artist's name.

In the second experiment, GA's response to a general command to open the funniest stand-up comedy video resulted only in opening YouTube without playing any video. The same response occurred when the command was slightly more specific with certain keywords. A more positive response was achieved only when the command became very specific, such as mentioning the name of the desired comedian. In the third experiment, GA's response pattern remained consistent. GA provided a list of Deddy Corbuzier's podcast videos without playing them when given a general command. A better response was only observed when the command became more specific by mentioning the podcast guest's name.

The fourth experiment showed that GA responded better when the command was more specific. An unsatisfactory response occurred for a general command to play an Afgan song. However, GA provided a more accurate and satisfactory response when the command was specified with the song title.

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In the fifth and sixth experiments, GA provided more informative and appropriate responses when the commands were more specific. GA provided popular and academic articles about public support for the odd-even traffic policy, as well as articles about government policies addressing the impact of climate change when asked for support and contribution on these two issues. These findings indicate that GA tends to give more satisfactory responses when commands are given clearly and specifically, emphasizing the importance of detailed instructions to ensure more effective interactions with the virtual assistant.

4. Google Assistant's Response to Declarative Speech Acts

Declarative speech acts are a type of utterance where someone conveys information or announces a state, fact, or statement that can be considered true or false. Through this type of speech act, the speaker aims to convey knowledge or a depiction of something without posing a question or giving a command. Declarative statements are usually objective and verifiable, allowing the recipient to assess their truthfulness based on the available information (Ibrahim et al., 2020).

Table 4. Stimulation of GA through Declarative Speech Acts

No	Utterance	Google Assistant Response
1	I listen to old pop music!	GA responds by providing several recommended videos of old pop music clips (without playing them). To play them, a follow-up command is needed.
2	I watch the funniest stand-up comedy videos!	GA responds by providing several recommended stand-up comedy videos considered the funniest (without playing them). To play them, a follow-up command is needed.
3	I watch Deddy Corbuzier's podcast discussing the latest issues!	GA responds by providing several recommended videos of Deddy Corbuzier's podcast discussing the latest issues (without playing them). To play them, a follow-up command is needed.
4	I listen to Afgan's songs with deep meanings and strong vocals!	GA responds by providing several music videos of Afgan's songs that are considered to have deep meanings and strong vocal performances (without playing them). To play the videos, a follow-up command is needed.
5	The government has implemented the odd-even traffic rule for vehicles with four wheels or more.	GA provides several articles from popular media and official government websites regarding the odd-even rule for vehicles with four wheels or more.
6	The government has established regulations on mitigating the impact of climate change.	GA provides several articles from popular media and official government websites regarding measures to mitigate the impact of climate change.

The analysis of the results from stimulating Google Assistant (GA) with declarative speech acts reveals a response pattern that reflects the informative and descriptive nature of declarative utterances. In the first experiment, GA provided recommendations for old pop music video clips in response to the statement that the user listens to such music. This response demonstrates GA's ability to provide relevant information but not to take further action without more specific commands.

A similar pattern was observed in the second and third experiments, where GA recommended stand-up comedy videos and Deddy Corbuzier's podcasts discussing the latest issues but did not automatically play them. This indicates that while GA can offer suggestions or information related to declarative speech acts, further actions like playing videos require additional commands.

The fourth experiment showed a similar response when GA recommended music videos of Afgan's songs with deep meanings and strong vocals but did not automatically play them. This response underscores GA's role as a virtual assistant that responds to user declarations by providing relevant information but awaits further instructions to perform specific actions.

In the fifth and sixth experiments, GA provided more detailed information in the form of articles related to the odd-even traffic rule and climate change mitigation policies. These responses demonstrate GA's capability to provide information related to declarations involving policy and regulation contexts. The analysis results show that declarative speech acts directed at GA tend to produce informative responses that highlight the virtual assistant's characteristic of offering recommendations and information, while further actions require additional commands from the user.

5. Google Assistant's Response to Expressive Speech Acts

Expressive speech acts are a category of speech acts used to express the speaker's feelings, emotions, or subjective attitudes toward a situation. In these acts, the main focus is on self-expression and conveying the individual's psychological aspects. Speakers use expressive utterances to communicate joy, sadness, disappointment, or other feelings to express their psychological state to the listener. Expressive speech acts often involve the use of words or phrases that specifically reflect the speaker's feelings and emotions, making them a communication tool that focuses on the subjective aspects of human experience (Ibrahim et al., 2020).

Table 5. Stimulation of GA through Expressive Speech Acts

No	Utterance	Google Assistant Response
1	Old pop music is very pleasant to listen to.	GA responds by providing a selection of old pop songs on YouTube (without direct playback). Additionally, GA provides lists of popular old songs in popular articles.
2	Stand-up comedy videos are really funny.	GA responds by providing several recommendations for the funniest stand-up comedy videos (without direct playback). Additionally, GA provides popular articles about stand-up comedy.
3	Deddy Corbuzier's podcast is very inspiring and insightful.	GA responds by providing several recommendations for Deddy Corbuzier's podcast videos (without direct playback). GA also provides recommendations for popular

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		and scientific articles about Deddy Corbuzier's podcast.
4	Afgan's songs make me feel melancholic and give me chills.	GA responds by providing several music videos of Afgan's songs considered to have melancholic meanings and high vocal techniques (without direct playback).
5	The odd-even traffic policy really saves us from traffic jams.	GA provides several articles from popular media and official government websites regarding the socialization and benefits of the odd-even traffic rule.
6	I am worried about the current climate change situation.	GA provides several articles from popular media and official government websites about addressing the threats of climate change.

The results of stimulating Google Assistant (GA) with expressive speech acts show that such utterances tend to prompt GA to provide informative responses by offering choices or recommendations relevant to the theme of the utterance. For example, in numbers 1 and 2, GA provides relevant song choices and stand-up comedy videos. In number 3, GA offers recommendations for Deddy Corbuzier's podcast videos as well as popular and scientific articles related to the podcast. Then, in number 4, GA provides several music video clips of Afgan's songs that are considered to have melancholic meanings and high vocal techniques. This response reflects GA's effort to meet the user's specific music preferences.

Furthermore, in the fifth utterance, GA provides articles from popular media and official government websites about the odd-even traffic rule. This response aims to fulfill the user's need for information related to traffic policies. In number 6, GA provides articles from popular media and official government websites related to addressing climate change threats. This response shows that GA can provide information relevant to the user's concerns about climate change. Overall, these findings indicate that GA provides informative responses aligned with the theme of the user's expressive speech acts, demonstrating GA's ability to give relevant answers to the given expressive utterances.

Discussion and Implications of Research Findings in Language Teaching

In the category of assertive speech acts, Google Assistant (GA) demonstrates the ability to provide contextually appropriate and informative responses to user statements such as music preferences, entertainment choices, and views on policies. This aligns with previous studies that show AI-powered assistants can effectively process and respond to user queries by leveraging extensive databases of information (Meganingrum et al., 2023; Muhammad et al., 2023). GA's responses reflect a good understanding of the user's situation and desires by offering relevant recommendations from various information sources.

Additionally, GA's ability to respond to commissive speech acts also shows positive results. Studies by Ammari et al. (2019) and Batish (2018) indicate that virtual assistants are capable of understanding and processing commitments and promises, providing users with coherent and supportive responses. This supports our findings that GA can offer in-depth and relevant information support, showing a good understanding of the user's context and needs.

In the category of directive speech acts (commands), the research results indicate that GA responds well to more specific and clear commands. Previous research

by Zulfriansyah (2023) emphasizes the importance of detailed instructions to enhance the effectiveness of virtual assistants. Our findings reinforce this, showing that more satisfactory responses occur when commands are detailed, such as asking GA to play a specific song or video by clearly mentioning the artist or title.

Furthermore, in the context of declarative speech acts, GA tends to provide informative and descriptive responses. Meganingrum et al. (2023) suggest that virtual assistants excel in providing relevant recommendations but often require additional commands to perform specific actions. This characteristic of GA as a virtual assistant that provides relevant information but awaits clearer instructions is evident in our study.

In expressive speech acts, GA gives informative responses by offering choices or recommendations aligned with the theme of the utterance. This effort to meet user needs related to preferences and emotional expressions aligns with findings by Avila Vazquez et al. (2023), who noted that virtual assistants can effectively handle user emotions and provide appropriate responses.

While Google Assistant (GA) has shown good capabilities in responding to user messages quickly and informatively, this research reveals that for specific features, such as playing videos or songs, GA still requires very specific instructions to function optimally. Studies by Batish (2018) and Avila Vazquez et al. (2023) highlight that detailed and clear instructions enhance the performance of AI assistants in executing specific tasks. Therefore, while appreciating GA's quick and informative responses, users should also be aware that the level of instruction specificity will affect GA's success in executing actions.

This study shows that Google Assistant (GA) can respond to various types of speech acts, such as assertive, commissive, directive, declarative, and expressive acts, accurately and informatively. In the context of language learning, these findings have significant implications. For instance, using GA can enhance students' oral communication skills by providing opportunities to practice speaking and understanding different types of speech acts in the target language. This is supported by previous research which shows that interactive tools like GA can significantly improve language proficiency (Ammari et al., 2019; Zulfriansyah, 2023).

GA's ability to respond to commissive speech acts demonstrates its potential in training students to make commitments or promises in the target language. This not only helps students understand how to properly construct commitments but also provides practical examples of appropriate language use in various social and cultural contexts. Through these interactions, students learn to appreciate the nuances of language used in everyday conversations and formal situations.

GA's responses to directive speech acts suggest that it can be utilized in teaching instructions and commands in the target language. Teachers can use GA to help students practice giving and following instructions in various scenarios. The ability to give and understand instructions is an essential communication skill, and using GA as an interactive practice tool allows students to receive immediate feedback, aiding in their language use improvement (Batish, 2018).

The ability of GA to provide informative responses to declarative speech acts highlights its potential as a rich source of information in language learning. Students can make declarative statements or ask questions and receive relevant information from GA, aiding in the development of skills in questioning, seeking information, and expanding their knowledge on specific topics in the target language. This enriches the learning experience by providing direct access to various information sources (Meganingrum et al., 2023).

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Regarding expressive speech acts, GA's ability to provide relevant responses to students' expressions of feelings or emotions is notable. Using GA to help students develop the ability to express feelings and emotions in the target language is very beneficial. Through these interactions, students can practice using appropriate emotional expressions and receive feedback that helps them understand the nuances of language used in different emotional contexts. This aligns with findings from Avila Vazquez et al. (2023), who emphasized the importance of emotional expression in language learning. Thus, GA not only assists students in the technical aspects of language learning but also in developing linguistic and cultural sensitivity crucial for effective intercultural communication. These findings underscore the potential of GA as an effective teaching tool, creating an interactive learning environment that supports the holistic development of students' language competencies.

CONCLUSION

Google Assistant's responses to various user speech acts in interactions demonstrate good capability across assertive, commissive, directive, declarative, and expressive speech acts. In assertive utterances, GA provides contextual and informative responses to user statements. For commissive speech acts, GA responds cohesively and informatively to user commitments or promises, emphasizing the need for specific instructions. In directive speech acts, GA's responses improve when user commands are more detailed. Additionally, declarative speech acts elicit informative responses from GA, but further actions require additional commands. Lastly, expressive speech acts trigger informative responses aligned with the theme of the user's utterances, showing GA's ability to provide relevant recommendations. GA has great potential to deliver precise, informative, and relevant responses as long as users provide specific and communicative instructions.

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