

# Google Assistant Assisted Language Learning (GAALL): ESL Learners' Perception and Problem towards AI-powered Google Assistant-Assisted English Language Learning

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## Abstract

The New-fangled strategy called Artificial Intelligence (AI) Assisted Language Learning (AI-ALL) incorporates Google Assistant (GA) to support the learning activities of learners. At present, it is considered Google Assistant Assisted Language Learning (GAALL). For many years, academicians have been exploring ways to use AI for tasks that are related to education. The major objectives of this study are to emphasize 1) The ESL learners' perceptions of using AI-powered Google Assistant for learning the English language; 2). The ESL learners' problems are concerned with utilizing AI-powered Google Assistant to support language learning, especially in English. A survey instrument was employed to the data, including primary research objects, from (n = 141) engineering stream undergraduates. The data was gathered using a questionnaire with 5 points Likert scale. According to the survey, the vast majority of students, especially individuals who were learning English, had a positive opinion of AI-driven GA. The major problem is the lack of quality in GA on smartphones. However, it is envisaged that AI-powered GA in language learning, also known as GAALL, would be deployed as one of the instructional media that might help learners to learn English efficiently as a Second Language. This study suggests that further research studies in this field could be conducted to test the efficacy of AI in ESL contexts.

**Keywords:** artificial intelligence, google assistant, English as a second language, survey, Likert scale, language curriculum

## 1. Introduction

Artificial Intelligence (AI) technologies have undoubtedly revolutionized communication and networking during the past decade. The advancement of artificial intelligence (AI) during the last decade has had a constructive role in promoting improvements in how individuals connect and access the plethora of information that surrounds them in society. As a result of AI technology, the world of education has undergone a paradigm shift placing more focus on new standards like customer content, interaction, and personalization. It is unavoidable that the youth of today, who are all technological natives, would have specific expectations about how learning should be carried out with AI, especially for language learning. Familiarity with these innovative pedagogical changes related to AI technology is essential for a modern-day teacher. Employing Google Assistant, which is driven by AI, may be easier for many individuals and language experts, but they will likely need assistance. Due to the substantial research on the use of Google Assistant in English language learning and the growing interest among students in enhancing their English language abilities, the researchers are interested in conducting an inquiry based on this behavior. The main significance of this investigation is that it represents an effort on the part of the researchers to investigate how ESL learners perceive and experience Google Assistant-Assisted Language Learning (GAALL), especially for the English language.

## 2. Objective of the Study

### 2.1 Aim

The primary goal of this research is to investigate the perceptions and problems concerning Google Assistant-Assisted

Language Learning especially, the English language. The current study aims to know the effectiveness of learning and teaching activities from Google Assistant powered by artificial intelligence among ESL learners.

## 2.2 Objectives

This investigation is guided by the following research objectives

- To inquire about the perception of ESL learners towards Google Assistant–assisted English language learning
- To investigate the difficulties faced by ESL learners in fostering Google Assistant for English language learning

## 3. Review of Literature

### 3.1 Artificial Intelligence in Language Learning

The Fourth Industrial Revolution (IR 4.0) is changing the business and industrial landscapes as well as the educational system. Higher education institutions are encouraged to implement Education 4.0 by the development of the 4th industrial revolution. The setting of Education 4.0 integrates a smart environment with cutting-edge pedagogical approaches, significant levels of creativity, friendly individualized instruction, and environmental sustainability (Mansor et al., 2020). Numerous AI technologies have been incorporated into the teaching and learning of languages. The effect of AI causes a substantial change in language curricula, particularly for second language acquisition and instruction. Artificial intelligence applications encompass robotic technology, machine vision, automated theorem proving, automatic programming, natural language processing, and intelligent retrieval of data. In recent years, these major AI applications have expanded to the point that each one can now be viewed as a distinct discipline. The most effective way to think of artificial intelligence (AI) is as a set of core ideas that form the cornerstone of many of these applications (Ribeiro et al., 2021). Even though Natural Language Processing (NLP) has so far had minimal influence on Second Language Acquisition (SLA) and meaningful communicative instruction, there are significant prospects for building applications that will benefit both learning and teaching languages together with Second Language Acquisition research.

The development of trustworthy annotation schemes and analysis processes that pinpoint the qualities that are important and significant for assessing student communication and analyzing communication for students will require additional interdisciplinary engagement between SLA and NLP (Meurers, 2021). NLP concentrates on the strategies that allow computers to understand, encode, organize, and attempt to retrieve the language productively. NLP analyses text, speech, translation, and other types of data. It seems intuitive to deploy natural language processing to aid with language acquisition (Nerbonne, 2003). Intelligent Personal Assistants (IPAs), a program that leverages inputs (such as a user's voice, vision (pictures), and contextual information, etc.) to assist by answering questions in natural language, providing suggestions, and executing activities, are now readily available because of technological breakthroughs in AI and NLP (Hauswald et al., 2015). Personal assistants with intelligence (IPAs), such as Google Assistant, Alexa from Amazon, or Apple's Siri can now provide high-quality input and communicate with consumers due to the development of AI and Natural Language Processing technologies (Tai & Chen, 2020). Speaking with AI-powered assistants attracted the attention of young children, who were eager to discover what computers could and could not offer. These kids regularly tried, reorganized their phrases, and persisted with AI-powered assistants even though their sentences were not comprehended. Speaking English was made engaging and frequently thrilling for them by asking questions, giving directions like "play some music," and hearing the replies (Underwood, 2017).

AI-driven apps, particularly for ESL, provide new avenues for the development of instructional frameworks and includes a wide selection of activities associated with individual inquiries. Students may decide not to put out the necessary effort to engage with others for a diverse range of reasons, such as worry, a shortage of time, or just plain unwillingness. Considering Intelligent Personal Assistants (IPAs) seem to offer a practical solution to these problems, it is essential to investigate Automatic Speech Recognition (ASR) based technologies like this and others (Dizon, 2020). A technological marvel in the area of artificial intelligence is Google Assistant. Google Assistant has become an indispensable part of everyone's lives, even though there are many other intelligent voice assistants. With reliable internet connectivity, Google Assistant is more user-friendly.

### 3.1 Burgeoning of Google Assistant in Language Learning

Google Assistant recognizes the language and completes the task based on linguistics associated with NLP. The increased capabilities of Google Assistant, such as speech recognition, encourage learners to participate more actively in conversations. An individual learning environment is encouraged and fostered by Google Assistant. The AI-powered Google Assistant might be a useful tool for language acquisition. Google Assistant might be modified by language instructors as an additional method of assistance. A personalized language-learning tool would be Google Assistant. Google claims that 500 million people use its voice-activated digital assistant, the Google Assistant, each month throughout the globe. From smartphones to home speakers, it is now there in everything (Eadicicco & Clark, 2020). The focus of Google's Natural Language Processing (NLP) activities is primarily on scalability, cross-linguistic, and cross-

domain algorithms (Harel et al., n.d.). Information retrieval is Google Assistant's area of expertise (Better and Grabham, 2018).

An experimental study employing GA, specifically for learning English, was carried out in the year 2020. These students thoroughly enjoyed taking part in GA and thought it was a useful tool for promoting English language acquisition, according to the questionnaire and interview data. They also realized that GA may improve their listening and communication skills. They claimed that GA had a very natural pronunciation and made clear phrases. The results also indicate that learners at higher levels had better success utilizing GA to achieve mutual comprehension (Chen et al., 2020). Comparing using Google Assistant to the conventional method of reading comprehension, the results show that using Google Assistant increased respondents' efficiency in terms of the number of questions they attempted and correctly answered (Sing et al., 2019)

Google Assistant can be a useful tool for those who have intellectual and other disabilities. Results from a few observational studies conclusively show the effectiveness of a teaching strategy that included a smartphone with Google Assistant, sound equipment, home devices, and a pretty small speaker in promoting individual access to numerous types of activation in individuals with intellectual disabilities plus sensory and motor multiple disabilities. The individuals in the baseline sessions were unable to receive any stimulation in the absence of voice recording equipment. Throughout the intervention and post-intervention periods, all participants used Google Assistant and voice recorders to access independently and the stimulation in multiple varieties (Lancioni, Singh, O'Reilly, Sigafoos, Alberti, Campodonico, et al., 2020). In another investigation conducted by (Lancioni, Singh, O'Reilly, Sigafoos, Alberti, Chiariello, et al., 2020), the participants are instructed to use their smartphones' Google Assistants to place calls, send texts, or participate in activities by speaking into tiny speech recorders. When engaged, each device made a unique voiced request. The smartphone automatically reads messages from these partners. The participants were restricted from freely attending social events, making calls, or sending messages during baseline when the speech recorders were not present. Following the post-intervention 10-minute sessions, the Google Assistant and voice recorders were available, and all participants actively participated while autonomously exploring leisure activities, making calls, or receiving and sending messages. The workforce gave the new technical system positive feedback (Lancioni, Singh, O'Reilly, Sigafoos, Alberti, Chiariello, et al., 2020). For those with intellectual disabilities and other limitations, Google Assistant is an effective and user-friendly communication tool.

Personalized learning settings, teaching, improvement of speaking listening reading abilities, and anxiety reduction may all be accomplished with the help of Google Assistant. It is a useful interactive tool with natural language processing. For people with diverse impairments and intellectual disabilities, GA is an easy-to-use communication tool (N & Kumar N S, 2022). Modern educational environments have been impacted by several technological advancements. Numerous AI-powered applications with NLP may be the greatest option to improve language education and teaching, especially in the English language. Google Assistant with AI capabilities may be one such option for language instruction.

#### **4. Significance of the Study**

From the above review of literature, few studies on Google Assistant deals with testing its effectiveness for language learning. There have been no survey studies conducted based on the perceptions and problems among ESL learners towards Google Assistant for language learning, especially English. The purpose of this study was to determine how learners feel about AI-powered Google Assistant and its difficulties while learning the English language. Understanding the learning difficulties could enable the teachers to frame the syllabi. Additionally, it might assist learners to discover their potential and to learn quickly. It could also promote personalized training and learning. Furthermore, GA might help learners to discover the approaches and methods to become autonomous learners. By understanding learners' perspectives and problems, teachers and researchers could create AI-powered Google Assistant-based teaching and learning activities to increase the linguistic competence of learners.

#### **5. Research Questions**

This investigation is guided by the following research questions:

1. What are the ESL learners' perceptions concerning Google Assistant-Assisted language learning (GA-ALL)?
2. What are the ESL learners' problems concerning Google Assistant-Assisted language learning (GA-ALL)?

#### **6. Research Method**

##### *6.1 Research Design*

To investigate ESL learners' perceptions and problems towards AI-powered Google Assistant-Assisted Language Learning (GAALL), the quantitative research design and descriptive research approach were administered.

### 6.2 Participants

The participants in this study were 250 first-year students from various engineering streams registered for the Technical English course at Vellore Institute of Technology, a deemed-to-be university in the southern part of India. For their academic work and personal use, all of the participants employed a variety of AI-powered apps, including robots, voice assistants, chatbots, web designs, speech recognition systems, gestures, faces, objects, and handwriting recognition systems. Because every participant has a background in engineering, it is clear that during their course they were exposed to a variety of technological advancements and discoveries, including applications for artificial intelligence.

### 6.3 Instrument

The data collected through the present survey is in line with Fraenkel et al., (2012, p. 393) in order to define certain characteristics or aspects of the population, such as capabilities, perspectives, attitudes, values, and knowledge. The study approach was taken and altered by the researchers (Nuraeni et al., 2020). In this study, the questionnaires were circulated through Google Forms to nearly 250 first-year engineering students, but only 141 responded. The first section of the questionnaire investigated the perceptions of learners toward the use of AI-powered GA in English language learning. The second section of this inquiry addresses problems with using AI-powered GA for English language learning. The perception component of these surveys comprises ten items, while the difficulties segment also has ten items. Together, these two sections have twenty items each. Questions on a 5-point Likert scale ranging from Strongly Agree (SA) = 5 to Agree (A) = 4 to Neutral (N) = 3 to Disagree (D) = 2 to Strongly Disagree (SD) = 1 were utilized to collect quantitative data. The findings of the data analysis from the questionnaire were classified using a rating system from which the mean and standard deviation were calculated. Then, it is analysed using the following criteria (Best, 1981).

Table 1. Students Rating Scale

No	Students Level	Mean
1	Lowest (Lwt)	$1.00 \leq \bar{x} \leq 1.50$
2	Low (Lw)	$1.51 \leq \bar{x} \leq 2.50$
3	Moderate (Md)	$2.51 \leq \bar{x} \leq 3.50$
4	High (H)	$3.51 \leq \bar{x} \leq 4.50$
5	Highest (Ht)	$4.51 \leq \bar{x} \leq 5.50$

### 6.4 Data Analysis

The statistical analysis was carried out by using IBM SPSS Software. In addition to SPSS, Microsoft Excel was also utilized by the researchers to analyse the data. The data were qualitatively examined to fulfil the objectives of this investigation.

## 7. Results and Discussions

### 7.1 Demographic Data

The demographics of the participants in terms of gender and age are shown in Table 2.

Table 2. Demographic Data of the Participants

	N	Percentage
<b>1. Gender</b>		
A. Male	80	56.7
B. Female	61	43.3
Total	141	100.0
<b>2. Age</b>		
A. 16 – 20	140	99.3
B. 21 – 25	1	0.7
Total	141	100.0

Table 2 makes it very clear that there were 56.7% of males and 43.3% of females among the participants. Additionally, it demonstrates that the majority of the participants are of the age group (99.3%) between 16 and 20. The inclusion of several individuals has a positive impact because of their age and gender variety.

### 7.2 Reliability of the Questionnaire using Cronbach's Alpha

Cronbach's Alpha reliability analysis was used to confirm the data's reliability. The most often utilized metric of internal consistency, in the opinion of many experts, is Cronbach's alpha (Franzen, 2013). The consistency of the item answers from the single assessment is used to calculate reliability estimates. Cronbach's alpha is a statistic that is used to gauge how reliable a psychometric exam is (Coolican, 2014). Cronbach's alpha has a commonly acknowledged significance threshold of 0.70

(Hair, et al.,1998). The computed value of the Cronbach alpha for the students' perception in the raw data was 0.826. The Cronbach alpha coefficient for the learners' perception of AI-powered GA for English language teaching and learning is 0.826. The value of the raw information for the student's difficulties yielded a Cronbach alpha calculation of 0.723. The AI-powered GA's learners' problem for learning and teaching English has a Cronbach alpha coefficient of 0.723. The problems and the learners' perceptions of Cronbach alpha coefficient values both meet the criteria for internal consistency of the data. Tables 3 and 4 illustrate the reliability of learners' perceptions and problems.

Table 3. Reliability of Learners' perception

	No. of Items	Cronbach's alpha
Reliability	10	0.826

Table 3 illustrates the reliability of learners' perception is  $\alpha = 0.826$ . According to Table 3, each item score has a positive correlation with the overall perception variable. Any value between 0.7 – 0.8 is good and acceptable but here from the above table, indicates the value is above 0.8, it also proved that  $\alpha = 0.826$ , which indicates that the studied items are reliable. Thus, it satisfies the internal consistency of the data. The table indicating the reliability of the learners' problems questionnaire is provided below:

Table 4. Reliability of Learners' problem

	No. of Items	Cronbach's alpha
Reliability	10	0.723

Table 4 illustrates the reliability of the learners' problem is  $\alpha = 0.723$ . According to Table 4, each item's score and the overall issue variable have a positive association. Any value between 0.7 – 0.8 is good and acceptable but here from the above table, it proved that  $\alpha = 0.723$ , which means the studied items are reliable. Thus, it satisfies the internal consistency of the data.

### 7.3 Results of ESL Learners' Perception and Problems in AI-powered Google Assistant-Assisted English Language Learning

The current study presents several intriguing outcomes, categorizes the research findings, and identifies issues with the prior studies. The findings of the questionnaire survey on ESL learners' perceptions of AI-powered GA-Assisted English Language Learning are shown in Table 5 below.

Table 5. ESL Learners' Perceptions toward AI-powered Google Assistant in English Language Learning

Rank No.	Item No.	Items	$\bar{x}$	S. D	Level
1	5	English language learning with Google Assistant is affordable.	4.255	0.769	H
2	6	Students get access to English language learning anytime, anyplace via Google Assistant, which is powered by artificial intelligence	4.184	0.742	H
3	1	Access to reliable English language learning tasks is made possible by Google Assistant.	4.163	0.672	H
4	8	Google Assistant responds to us instantly, anytime and anywhere, due to reliable internet access.	4.063	0.709	H
5	2	Google Assistant is user-friendly and simple to operate.	4.028	0.755	H
6	9	The Google Assistant will make learning English more interesting.	3.893	0.781	H
7	10	Interactive English language learning activities are made feasible by using the AI-powered Google Assistant.	3.815	0.850	H
8	4	Google Assistant can be used to master a variety of English language skills.	3.801	0.812	H
9	7	Smartphones with Google Assistant are advantageous while learning the English language.	3.766	0.833	H
10	3	Utilizing Google Assistant to learn English has the advantage of time savings.	3.673	0.906	H
<b>Total</b>			<b>3.965</b>	<b>0.783</b>	<b>H</b>

## Findings and Discussions

Considering the outcomes in table 5. The perception of learners toward Google Assistant powered by AI for English language learning was positive. It shows that the use of Google Assistant for teaching and learning English is well-received by learners. The data's mean score serves as evidence ( $\bar{x}= 3.965$ ). The highest level was given to item No. 5 and it holds rank No.1 \ “English language learning with Google Assistant is affordable”. According to Table 5, item No. 5 had the highest means. It means ( $\bar{x}=4.255$ ) suggests the students' favourable opinions of the GA concerning the cost-effectiveness of English language instruction. From the above mean score, it is evident that using GA for the English language could be reliable. The second rank was given to item no.6 \ “Students get access to English language learning anytime, anyplace via Google Assistant, which is powered by artificial intelligence”. It means ( $\bar{x}=4.184$ ) indicates that students believe that AI-powered GA could provide them with meaningful content to learn the English language at their feasible places at any time and any place.

The third rank was given to item No. 1 \ “Access to reliable English language learning tasks is made possible by Google Assistant.”. The mean score of item No.1 is ( $\bar{x}=4.163$ ) which proves that students can access reliable English language learning tasks from AI-powered Google Assistant. Item No.1 gives us a significant result concerning the implementation of Google Assistant in the English language learning setting. The fourth rank was given to item No.8 \ “Google Assistant responds to us instantly, anytime and anywhere, due to reliable internet access”. The mean score of item No.8 ( $\bar{x}=4.063$ ) is high. From the above table, the mean value of item No.8 states that because of good internet access, GA responds instantly at any time and anywhere. The fifth rank was given to item No. 2 \ “Google Assistant is user-friendly and simple to operate.” and the mean score is ( $\bar{x}=4.028$ ). From the mean score of item No.2, it is evident that students believe that AI-powered GA may provide good content to improve learners' English due to its user-friendly nature. From table 5, item No.9 \ “The Google Assistant will make learning English more interesting.” holds the sixth position. The mean score of item No.5 is ( $\bar{x}=3.893$ ). Item No.9 pinpoints that GA could make the English language learning more interesting. From the means score, it is evident that AI-powered GA is a benefit for ESL learners.

Item No.10 \ “Interactive English language learning activities are made feasible by using the AI-powered Google Assistant.” holds the same 7<sup>th</sup> position. The mean score of item No.10 is ( $\bar{x}= 3.815$ ) which proves that all the participants believe that AI-powered GA could provide feasible activities to engage in interactive English language learning. The eighth rank was given to item No.4 \ “The Google Assistant can be used to master a variety of English language skills”. The mean score of item No.4 is ( $\bar{x}= 3.80$ ) which is slightly low. The mean score indicates the student's perception of mastering various language skills in English could be made possible by AI-powered Google Assistant. Item No. 7 \ “Smartphones with Google Assistant are advantageous while learning English language.” holds the ninth rank. The mean score of item No.8 is ( $\bar{x}= 3.766$ ) which is considered as low. From table 5, concerning the mean score of item No.8 students think that smartphones enabled with GA may be advantageous for English language learning.

Similar to the findings of this survey, the majority of students believe that using AI-powered GA will help them become more fluent in the English language. Item No. 3 is, nevertheless, ranked lowest \ “Utilizing Google Assistant to learn English has the advantage of time savings.” ( $\bar{x}= 3.67$ ). It indicates that the students think GA may not be a time-saving tool to learn English. AI-powered GA may provide learners to learn various English language learning skills. In the current digital world, learners will increasingly choose to employ AI applications for learning tasks, especially Google Assistant while learning an additional language. Hence, these are all the perceptions of AI-powered GA-assisted language learning among ESL Learners.

Table 6. ESL Learners' Problems toward AI-powered Google Assistant in English Language Learning

Rank No.	Item No.	Items	$\bar{x}$	S. D	Level
1	4	Activities on Google Assistant-enabled smartphones are not very effective for learning English.	4.198	0.776	H
2	2	Individuals utilize Google Assistant for non-academic activities.	3.992	0.874	H
3	9	AI-powered Google Assistant is quite expensive.	3.695	0.818	H
4	3	The features of Google Assistant do not facilitate learning the English language	3.631	0.905	H
5	10	There is currently a shortage of English language learning resources based on Google Assistant.	3.234	0.899	H
6	6	While utilizing an AI-powered Google Assistant, data charges are quite high.	3.113	0.926	H
7	7	Learners are less exposed to using Google Assistant for English language teaching.	3.070	0.975	H
8	1	Less engagement with Google Assistant is caused by poor internet access.	2.936	0.942	H
9	5	During the conversation with Google Assistant, battery life becomes an issue.	2.900	1.050	H
10	8	Slow internet connectivity becomes a major problem to get a quick response from Google Assistant.	2.787	1.019	H
<b>Total</b>			<b>3.356</b>	<b>0.919</b>	<b>H</b>

### Findings and Discussions

The ESL learners concurred that the adoption of AI-powered GA toward English language acquisition faces several significant hurdles, as seen by the results in Table 6. The overall average mean of learners' problems with Google Assistant Assisted English language learning (GAALL) was high. It denotes that learners feel a highly positive attitude toward solving problems within AI-powered GA. The mean score on the data can demonstrate this ( $\bar{x}=3.356$ ). Item No. 4 received the highest ranking and it holds rank No.1 \ "Activities on Google Assistant-enabled smartphones are not very effective for learning English". According to Table 6, item No. 4 had the highest means. It means ( $\bar{x}=4.198$ ) shows that learners believe smartphones enabled with GA are not very effective for learning the English language. It also suggests the necessity of having GA on smartphones which promote English language learning.

Item No.2 holds the second rank "Individuals utilize Google Assistant for non-academic activities". It means the score ( $\bar{x}=3.992$ ) indicates that learners think GA has been utilized for non-academic activities. It also reminds us of the implementation of GA for academic purposes. The third rank was given to item No.9 \ "AI-powered Google Assistant is quite expensive". The mean score of item No.9 is ( $\bar{x}=3.695$ ) which proves that AI-powered GA is expensive. GA in high-cost gadgets becomes a problem in the implementation of GA-assisted English language learning. Item No.9 gives us a significant result in which cost-effective gadgets with GA are mandatory for language learning settings.

The fourth rank was given to item No.3 \ "The features of Google Assistant do not facilitate learning the English language". The mean score of item No.2 ( $\bar{x}= 3.631$ ) is high. From the above table, the mean value of item No.3 states that learners believe GA does not facilitate English language learning. This suggests that effective English language learning features with GA are necessary. The fifth rank was given to item No.10 \ "There is currently a shortage of English language learning resources based on Google Assistant." and the mean score is ( $\bar{x}=3.234$ ). From the mean score of item No.10, it is evident that the availability of language-learning resources in GA is very low, especially for English language learning. It also suggests that English language learning resources with GA are necessary for the implementation of Google Assistant Assisted English language learning and teaching. From table 6, item No.6 \ "While utilizing an AI-powered Google Assistant, data charges are quite high" holds the sixth position. The mean score of item No.6 is ( $\bar{x}= 3.113$ ). Item No. 6 pinpoints that while using AI-powered GA the cost of data is very high. It gives a significant result that reduction of data cost may provide a good result towards implementation of Google Assistant-assisted language learning.

Item No.7 \ "Learners are less exposed towards using Google Assistant for English language teaching." holds the same 7<sup>th</sup> position. The mean score of item No.7 is ( $\bar{x}= 3.070$ ) which proves that students are not aware of GA, especially for English language learning. It also suggests that a proper awareness of how to use AI-powered GA for language learning purposes is necessary. An instructional framework on how to utilize AI-powered GA for language learning must be formed to get significant results on Google Assistant-assisted English language learning. The eighth rank was given to item No.1 \ "Less engagement with Google Assistant is caused by poor internet access." The mean score of item No.5 ( $\bar{x}=2.936$ ) is low. The mean score shows that the learners' problem during a conversation with GA due to poor internet access is slightly

low. It indicates learners do not face many difficulties with poor internet availability in less usage of Google Assistant. Item No. 5 \ “During the conversation with Google Assistant, battery life becomes an issue.” holds the ninth rank. The mean score of item No.5 is ( $\bar{x}$  = 2.900) which is considered as low. From table 5, concerning the mean score of item No.5 students think battery life may not affect them during the conversation with GA. Smartphones with good battery life are necessary for GA-assisted language learning.

The lowest rank is item No.8 \ “Slow internet connectivity becomes a major problem to get a quick response from Google Assistant.” ( $\bar{x}$  = 2.787). The mean score indicates slow internet connectivity may not be a problem to get a fast response from GA. By resolving slow internet connectivity, GA could perform well with English language learning. Hence, these are all the overall problems faced by learners towards the implementation of AI-powered GA in language learning, especially for English. Based on the overall findings, it cannot be determined that AI-powered GA is the primary learning medium for English because there are still issues with its utilization. This investigation could pave the way for the creation of an effective AI-driven Google Assistant which supports English language teaching and learning.

## 8. Conclusion

The questionnaire survey results show that learners generally have favourable attitudes toward using Google Assistant, which is driven by AI, to help language learning both inside and outside the classroom (see Table 5). The participants' average means perception score ( $\bar{x}$  = 3.965) served as evidence. The highest means were found in item No. 5, as indicated in Table 5. It indicates ( $\bar{x}$  = 4.255) that the learners had a favourable impression of the GA because of its cost in terms of English language acquisition. It is clear from the aforementioned mean score that employing GA for the English language may be acceptable. Similarly, the findings of the learner difficulties (see Table 6) revealed that learners had substantial concerns both inside and outside of the classroom while utilizing the AI-powered Google Assistant that improved language acquisition. The average means score ( $\bar{x}$  = 3.356) made it clear. While using Google Assistant to learn the English language, they ran into a wide range of problems. The highest means, as indicated in Table 6, were for item No. 4. In other words, ( $\bar{x}$  = 4.198) suggests that students do not think smartphones with GA capabilities are highly useful for studying English. It also implies the need of having GA on smartphones to enhance English language acquisition. Improvements need to be made to AI-powered GA to encourage and facilitate English learning. To achieve the goals of ICALL and NLP-based pedagogies, a method for creating intelligent AI applications in language learning and teaching media must be the answer. Even though this research was conducted and carried out using scientific procedures, it nevertheless has certain shortcomings. For instance, the number of surveys issued and received was insufficient, and the participant responses do not accurately reflect the situation in reality. Future research will concentrate on developing a useful Google Assistant, especially for teaching and learning languages. The current situation calls for experimental research of language acquisition using GA driven by AI. The use of GA particularly for language acquisition may be the subject of further experimental investigations. Investigating potential solutions to the constraints of AI applications would be interesting, especially as AI technology develops.

## 9. Recommendations

This study can be enriched by adding more participants from various educational institutions in India and abroad. This investigation can be analysed qualitatively by conducting semi-structured interviews. It would be beneficial to broaden the investigation by adding more questions. This investigation can also be extended to know the perceptions and problems concerned with AI-powered applications like Amazon Alexa, Apple's Siri, Samsung's Bixby, and other voice assistants for language learning.

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