# Intelligent personal assistants and language learning: Using Amazon Alexa to promote L2 interaction
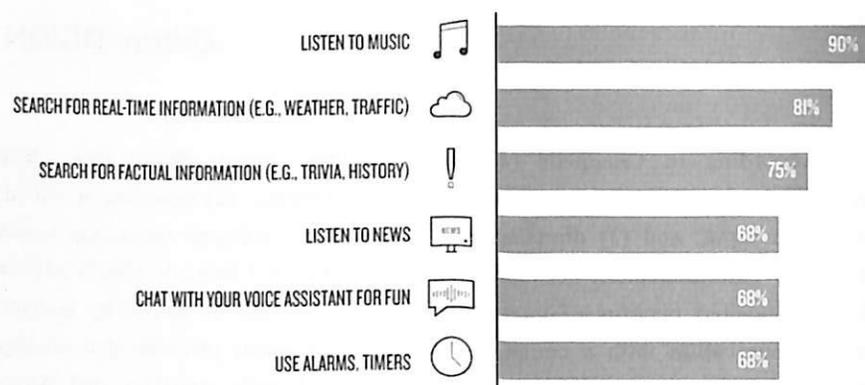
Gilbert DIZON

## Introduction

According to Chappelle (2005), interactionist theory affords three distinct benefits for language learning: (1) negation of meaning, (2) obtaining modified or enhanced input, and (3) directing attention to form. Although interaction typically describes communication between two or more people, Chappelle (2005) advocates that the posited benefits of interactionist theory can also be gained by interaction or communication with a computer. Given this, it seems plausible that intelligent personal assistants (IPAs) such as Apple's Siri, Google Assistant, and Amazon Alexa can also promote language learning. Accordingly, this paper outlines what IPAs are as well as possible Alexa skills or applications that can be used for language learning.

## What are intelligent personal assistants?

Santos, Rodrigues, Silva, Casal, Saleem, and Denisov (2016) define IPAs as "software agents  that can automate and ease many of the daily tasks of their users," (p. 194). These can include things such as setting timers, creating reminders, and searching the Internet. While they have been traditionally used for these types of tasks, technological developments over the past several years have significantly expanded their functionality. Virtual assistants can now take advantage of third party software to perform much more advanced tasks that can potentially be used to study a foreign language.

Even though smartphones first introduced IPAs to the mainstream public with Apple's Siri, it has been smart speakers that have truly brought virtual assistants to the limelight. According to a recent survey by Nielson (2018), nearly a quarter of all U.S. households own at least one smart speaker, with 40% of those households owning more than one of these devices. As illustrated in figure 1

below, the survey also examined users' usage behaviors as well and found that 68% of the respondents chatted with their IPAs for fun during a typical week. This finding demonstrates that IPAs and smart speakers are not merely used to listen to music or find information, but also as a means to communicate and interact for enjoyment.

| | |
|---|---|
| LISTEN TO MUSIC ♪ | 90% |
| SEARCH FOR REAL-TIME INFORMATION (E.G., WEATHER, TRAFFIC) ☁ | 81% |
| SEARCH FOR FACTUAL INFORMATION (E.G., TRIVIA, HISTORY) | 75% |
| LISTEN TO NEWS | 68% |
| CHAT WITH YOUR VOICE ASSISTANT FOR FUN | 68% |
| USE ALARMS, TIMERS ⏰ | 68% |

Source: Nielsen

Figure 1. Weekly IPA user behavior in the U.S.

## Language-learning activities with IPAs

### Vocabulary learning

Several Alexa skills are available that can help English learners improve upon their vocabulary, of which two will be detailed here. The first is Word of the Day Flash Briefing. Each day, the application teaches users a new word and provide its definition. In addition, the skill provides the target word in an example sentence so that learners can understand how the word is used in context. Another useful vocabulary learning skill is Vocabulary Master, which quizzes users on three different difficulty levels (easy, medium, hard). This way, language students can learn and study new vocabulary no matter their proficiency level. Although only two skills related to vocabulary learning have been detailed, there are countless others that are available for download. While some offer premium or subscription-based content for a fee, it is important to note that all of the skills on the Alexa Skills Store are available for free. This is an important factor

considering that many students do not have the financial resources to spend extra money on language learning materials.

### Interactive storytelling

While vocabulary is an important part of language learning, interactionist theory posits that communication with another speaker is integral to development of an L2. Considering this, interactive storytelling skills may be useful as a way for L2 learners to have simulated conversations with an IPA. Although these "conversations" are restricted to set answers or prompts, they do allow learners to interact in the target language. One such application is Earplay. According to its description on the Alexa Skills Store, Earplay is an "exciting new storytelling medium where you become part of the story, interacting with characters to affect how the events unfold," (Amazon, 2018, para. 1). In the skill, users are able to immerse themselves in intricate stories which are orally narrated. Each story incorporates multiple characters who are voiced by actors so that users have a better sense of interaction and involvement. Users interact by orally responding to prompts given by the narrator and/or characters. Thus, not only do learners receive input in the L2, but they also have to orally respond in the target language. In other words, they need to interact with the IPA in order to proceed through the stories.

### Alexa Chat

Perhaps the most useful feature of Alexa in terms of language learning is the variety of social bots that have been created through the Alexa Prize competition. The Amazon-sponsored competition's goal is to create a social or chat bot that is capable of having an engaging discussion about a single topic for 20 minutes. Language students and teachers who want to take advantage of this feature simply need to say the command, *Alexa, let's chat*, and the virtual assistant will ask and comment on a topic of your choice. While the feature still has some limitations, it does provide L2 English students with opportunities to "chat" with another speaker in the target language. This is significant, as EFL students, especially those in Japan, often do not have the chance to use English in a meaningful way, "Japanese students-like many other foreign language learners-have few opportunities to engage in face-to-face communication in English outside the classroom" (Nishino & Watanabe, 2008, pp. 134-135).

## Conclusion

To sum up, IPAs such as Alexa can provide language learners with meaningful opportunities to practice the target language in a productive way. This is especially important considering the significance of interaction in an L2 according to interactionist theory. Given that Japanese L2 English learners often do not have many chances to use English outside of the classroom, IPAs seem like a potentially useful tool for language learning. Thus, the primary goal of this paper was to outline three different ways — vocabulary learning skills, interactive storytelling skills, and Alexa chat — that Amazon Alexa can be used to promote language development. Despite the aforementioned potential benefits of IPAs for foreign language learning, more empirical research needs to be performed in order to determine the true impact that they can have on language acquisition.

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**Abstract**

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