



## Voice-user interfaces for TESOL: Potential and receptiveness among native and non-native English speaking instructors

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### Abstract

*Initial research, although limited, demonstrates promise for the use of a voice-user interface via a digital assistant (i.e., Google Assistant) for English language learners seeking language skill development. However, no research has sought to determine the adult English as a foreign language instructor response toward the application of such devices. This study addresses that gap by seeking to determine the pedagogical value of such an interactional modality by native-English speaking (NES) and non-native English speaking (NNES) instructors (n=12) enrolled in an MA(TESOL) program in Korea. Particular focus centers on the potential regarding the deployment of such a device with learners by these instructors, and their receptiveness toward using such a device from within their educational contexts. An exploratory qualitative method employing a semi-structured interview technique was undertaken. A concept driven coding approach in data analysis was then employed to develop a framework of pedagogical prospects regarding digital assistant use, built on aspects emerging from the concepts of comfortability, comprehension, usability, enjoyability, and worthwhileness. Results highlight that instructor perceptions regarding the potential use of voice-user interfaces in the classroom tend to align, although some minor differences did emerge, and that all are receptive to its use in a multitude of ways.*

**Keywords:** *Computer-Mediated Communication, Digital Assistants, EFL Instructors, Voice-User Interfaces*

**Language(s) Learned in This Study:** *English*

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### Introduction

Led by artificial intelligence (AI), big data, and the internet of things (IoT), the fourth industrial revolution is restructuring industry across all sectors, including that of education (Doucet et al., 2018). On many levels, this transformation has been disruptive and it is beginning to see changes in how we as teachers prepare and deliver learning opportunities to our students (Holmes et al., 2019). Essentially, these changes have seen instructors needing to provide learners with a range of different skill sets, ones specific to the 21<sup>st</sup> century and those that are required to not only function in the classroom, but beyond in the workplace and in social contexts (Walker & White, 2013). Learning these skillsets also sees students needing to engage with content in increasingly different ways to achieve their learning goals. For English language teachers as well, artificial intelligence may very well change with who we will teach, and how we might best need to begin the integration of AI-based digital assistants into our classrooms (Kent, 2020). As such, the value of employing computer mediated communication (CMC) from such a context is worth exploring. To date, only a handful of studies have been conducted using this specific kind of interactional modality with students (e.g., Moussalli & Cardoso, 2016, 2017, 2019; Dizon, 2017, 2020; Dizon & Tang, 2020; Ji et al., 2020). However, none exclusively concentrate on native-English speaking (NES), let alone non-native English-speaking (NNES) instructors in the EFL context, although

Underwood (2017) does consider primary school student and teacher use.

## Literature Review

Chatbots, including those programs designed to simulate intelligent human language interaction through text or speech by engaging in communication between human users and computers using natural language processing, have been used in the field of SLA for some time. However, while there is research on the teacher perception and receptiveness of the use of computer mediated communication (CMC) with chatbots for teaching (Bii et al., 2018), most CMC research focuses on the student in the TESOL field. The research centers on providing support for a variety of forms of language learning, from asynchronous and synchronous contexts (Cha & Park, 2012; Seileek & Qatawneh, 2013) to virtual world immersion (Wang et al., 2017), and from text-based chat with other humans (Fryer et al., 2017) to text- and voice-based chat with chatbots (Shawar, 2017), pedagogical agents (Schroeder & Adesope, 2012), robots (Han, 2012), and other systems that exclude humans in dialogue-based CALL contexts (Bibauw et al., 2019). Research emerging from these studies and these types of exchanges, especially those using artificial intelligence (AI) in education (Luckin & Holmes, 2016) combined with automatic speech recognition (ASR) (Ono et al., 2015), illustrate that this type of interaction can be most beneficial; it can provide support for the contextualization of language for second language (L2) students (Ehsabi & Knodt, 1998), lead to the provision of corrective feedback (Shintani, 2015), and to a number of other language skill improvements including those involving writing skills (Kim, 2017) as well as oral proficiency development (Ko, 2012). Other aspects associated with language skill acquisition—such as vocabulary development (Sahin, 2009), the practice of pronunciation (Bueno, 2010), the improvement of pragmatic (Ajabshir, 2018) and communicative competence (Chang, 2012), the development of form (Hong & Lee, 2012), the provision of practice in the negotiation of meaning (Shim, 2012), as well as interactions that provide motivation (Fryer & Carpenter, 2006), willingness to communicate (Seyyedrezaei & Ziafer, 2014), and those that lower the affective filter (Alemi et al., 2015)—are also well documented affordances arising from the use of such kinds of CMC with second language learners.

The classroom environment is a fundamentally voice-driven one, where learners and instructors constantly engage in question/answer and information retrieval exchanges. So too could digital assistants be relied upon to relieve some of this interactional burden (Underwood, 2017) and be geared towards providing learners with personalized on-demand responses (Trivedi, 2018). Further, as AI continues to merge into society at different levels, it is also viewed as important by Incerti (2017) to explore how instructors perceive it, and can adapt to it, for teaching and for leading and enhancing formal and informal learning practices (Jean-Charles, 2018). Aspects of incorporating an adaptive experience into the lesson for learners through use of those devices that rely on natural language processing is of particular interest. It is also important to examine instructor receptiveness to potential digital assistant use as teachers often have access to such technology but may be unsure of and subsequently unprepared to use it (Jean-Charles, 2018).

Furthermore, instructor acceptance and their intentions to employ such technologies is important to determine (Tenspolde & Greiff, 2019), as these aspects are among those that can ultimately assist in identifying potential best-use cases for voice-user interfaces inside and outside of the classroom (Underwood, 2017). There have been digital assistant user satisfaction studies conducted in such fields as computer science, including those that explore aspects of user participation and interaction at the design stage (Lee et al., 2017) and those that explore usability in terms of queries and responses that a user may invoke (Budiou & Laubheimer, 2018). Despite this, the potential and receptiveness of teachers employing commercially available digital assistants for English language teaching purposes remains largely unexplored. Thus, the present study serves to work toward filling such a gap. Emerging questions are:

1. How do NES and NNES teachers view the potential for the use of a voice-user interface in the form of a digital assistant in their pedagogical contexts?
2. In what ways are NES and NNES teachers receptive to the use of a voice-user interface in the form of a digital assistant with their learners?

## Methodology

An exploratory qualitative approach was utilized, which sought to determine the potential pedagogical value of CMC emerging from interaction with a digital assistant by NES and NNES English language instructors, including their receptiveness toward utilizing such a device with learners. To this end, semi-structured interviews with a purposive sample were conducted as this method provides an opportunity for immediate follow-up and crosschecking over that of surveys (Kent & Lee, 2019). Data collection was conducted mid-semester over a two-week period, with teacher-participants interacting with a digital assistant one-on-one on a single day outside of class. No time limit was imposed upon teachers when interacting with the digital assistant, and this saw participants using the device for an average of 40 minutes in a range between 37 and 45 minutes.

## The Participants

Twelve teachers, who were enrolled at a Korean university in an all-English-taught Masters of TESOL program, participated in the study. They were on average 32.8 years old and had an average of 7.54 years teaching experience between them. At the time of the study these participants were teaching English at a variety of levels (from beginner to advanced) to kindergarten, institute (cram-school), and university freshmen and sophomore students with their students aging in range between 5 to 20 with class sizes ranging from groups of 5 to 30. Of the 12 instructors, six native-English speaking teachers come from four different English-speaking countries while six non-native English speaking instructors come from five different countries. Although 50% ( $n=3$ ) of the native-English speakers had used a voice-based digital assistant (for private use), none of the non-English speakers had previously done so. For convenience's sake, the same target technology was used with participants throughout the study, and from the same location each time. All participants provided written informed consent, and were aware that their responses (including those given to the digital assistant) were being recorded, with data anonymously stored on the cloud for later access by the researcher.

## Digital Assistant Interaction

Google Assistant (via a Nest Mini) was selected as the target technology as it was readily available, although there is limited research using this device in Korean TESOL circles (Ji et al., 2020). A series of 30 invocations (see [Appendix A](#)) was presented to participants so that all could ask for the same action to be performed, or for the same information from the assistant. Prompts were developed based on aspects useful for language teaching (following Moussalli & Cardoso, 2016, 2017; e.g., asking for answers to a range of basic inquiries, spellings, synonyms, antonyms, vocabulary definitions, pronunciations, listening and speaking activities, games, music, and stories), thereby allowing users to experience use-cases that they may potentially employ in the classroom. Of note, the two final invocations enabled teachers to engage with an interactive game and an interactive choose-your-own adventure story. The interactive game [Akinator](#) (Elokence, 2017) is a third-party created action. However, the Story Speaker action was specifically selected to present a researcher-developed interactive story, based upon an existing resource applicable for those studying a travel unit at low-intermediate level (so that it could be comprehensible to all participants), and reflective of an authentic activity that participants might also create.

## Semi-Structure Interview

A 6-item semi-structured interview (see [Appendix B](#)), based on Moussalli and Cardoso (2016, 2017), was immediately undertaken after each teacher completed their experience with the digital assistant. A concept-driven coding approach to data analysis (Gibbs, 2008) was applied and relied upon to develop a

framework of pedagogical prospects for digital assistant use, and in turn to determine instructor views regarding device potential and their receptiveness to its use. The coding process was undertaken twice to ensure consistency, with a break of several weeks in between (Mackey & Gass, 2005), and responses were coded in a similar manner on both occasions.

## Discussion and Findings

A concept-driven approach to data coding was utilized to analyze interview responses, and to explore the emerging focus and pedagogical prospects of both teacher groups in regards to the deployment of a digital assistant within their educational contexts (see Table 1). Concepts include the aspects of comfortability, comprehension, usability, enjoyability, and worthwhileness.

**Table 1**

*Emerging Focus and Pedagogical Prospects from Teacher-Groups*

<b>Aspect (Concept-Driven Code)</b>	<b>Emerging Focus (Potential)</b>	<b>Pedagogical prospect (Receptiveness)</b>
Comfortability	Willingness to communicate	Lowering of affective filter.
	Device-type (hardware/software)	Physical device placement.
Comprehension	Human-machine/ Machine-human interaction	Provides practice opportunities. Practice from a safe space. Identification of bad habits.
	Counterproductivity	Impedes socialization and identification of disabilities. Leads to laziness and overreliance.
Usability	Linguistic skill development	Fluency, pronunciation, listening, and speaking.
	Learning benefits	Clarification; support; realia-based, authentic, and on-demand content.
Enjoyability	Content accessibility	Natural means of accessing adaptive just-in-time content.
	Approach appeal	Game-based learning, communicative language tasks, information gathering exercises, speaking/listening based interactions.
Worthwhileness	Location of use	Mainly in-class.
	Frequency of use	Once per week.
	Type of use	Not for a full lesson. Integrated for specific uses.

### Comfortability

Both teacher groups felt that interacting with AI using voice was a comfortable experience, and this increased their potential willingness to engage with the device. “It was natural and intuitive; I felt like I was speaking to a real person” (teacher 4). “It was easy to ask questions and approach the device”

(teacher 9). NNES indicated that this comfortability helped ease their sense of frustration during misunderstood or not understood invocations, and it is interesting to note that these participants originally stated, “at first, it felt like I was talking to myself” (teacher 8), “but it felt very natural very quickly and I think students would feel it natural too” (teacher 3). Indeed they do, as Dizon and Tang (2019) show students speaking to digital assistants as though they are human, and viewing them as a means of providing better access to dialogue in L2. On this note, instructors also thought that the device would prove particularly beneficial for “little students who may not know how to type” (teacher 12), “or how to search using keyboards and browsers” (teacher 9), with both groups also recognizing that device use might lower the affective filter of shy learners and those less willing to talk to the teacher or with peers, and that “this would really help alleviate students’ language egos” (teacher 4) and “those with cultural differences to explore their language use much more” (teacher 10). It is also clear that instructors were receptive to the idea of using a separate physical device over the assistant being accessed via phone, computer, or tablet. Reasons for this include “being able to place the device in specific locations, such as the back” (teacher 2) “or the corner” (teacher 4) of a room, or on “top of a cupboard out of student reach but still providing usability” (teacher 1).

### **Comprehension**

Digital assistants are able to preserve context throughout dialogue-based interactional sessions as Kiseleva et al. (2016) note, with “the ability to use language in an authentic manner” (teacher 9), such as using voice, and thinking about forming questions to ask or ways to respond. Such devices “provide responses in a natural manner” (teacher 6), and they are the main reasons that teachers gave for being willing to consider potential device deployment. In this regard also, digital assistant interaction was perceived to be “better than interacting with recordings or websites” (teacher 5) as the device was found to “comprehend and respond intelligently” (teacher 6), “providing levels of intuitive interaction unmatched by typing and receiving the same kind of responses through a browser” (teacher 2). This kind of interaction is also one that Underwood (2018) believes is inherently motivating and meaningful. It was also considered one that can be relied upon “to replace the use of student technology when accessing content” (teacher 12), such as replacing dictionaries for checking vocabulary or spelling, and looking up definitions or translations.

Practitioners also felt that the device could potentially provide “safe practice opportunities” for learners (teacher 4). Such safe spaces are places that Dornyei (2018) recognizes as ones where learners can test out their own store of linguistic knowledge without fear or repercussion, and “ask questions no matter how absurd” (teacher 1, teacher 2 and teacher 3), plus those “questions that might test the limitations of the machine too” (teacher 6). That said, the nature of machine-human interaction was also felt to perhaps lead to timewasting as “it could see students asking a lot of unnecessary off-task questions” (teacher 11), or “distractful, as students could ask rude questions” (teacher 7). In this last case, Underwood (2018) suggests that other students, as well as the knowledge that the device is producing transcripts, can keep students in check. Of note, no teacher brought up issues of privacy in terms of device usage, but one teacher did indicate that not fully understanding how to use the device (or how students might use it) “makes it unpredictable”, and this would “make me feel uncomfortable using it consistently” (teacher 1). The same teacher, along with a few others, also felt that use of the device “might make students lazy, seeing them become overly reliant upon it” (teachers 2, 8, and 10).

It is also interesting to note that only teacher 1 identified that the human-machine interaction inherent to the device could be useful for assisting students in identifying any bad habits that might prevent them from communicating effectively with humans. For example, learning to project their voice “as they aren’t speaking loud enough” or that they have a habit they might need to change, such as “covering their mouths with their hands when speaking”. However, teacher 5 did identify that AI is “not currently able to catch student developmental problems” and that “talking to technology leads to a different kind of socialization” (teacher 6), one that “could remove the interpersonal relationship that develops between a teacher and student” (teacher 11). Other teachers noted that “people also need human interaction and

cues” (teacher 9), and that they need to “maintain human contact when learning languages” (teacher 8). This aside, all teachers did think that the device could be realistically used to develop student AI socialization, and as Underwood (2017) also suggests, “helping them develop communication strategies that they will need to rely upon when communicating with machines in the future” (teacher 12), linking the importance of device use to the development of student digital competencies, including those of procedural, socio-digital, digital discourse, and strategic competence (Walker & White, 2013). Teachers also felt that “misunderstandings with machines may take longer to resolve” than interactions with a human (teacher 2), and that students then might start to think that “these misunderstandings could be a problem with me” (teacher 3). However, Dizon and Tang (2019) highlight that students, although noting this aspect as one of the most difficult for using such devices, recognize such interactions as a means of improving their learning and as useful pronunciation reminders, particularly when engaged in self-regulated learning (Moussalli & Cardoso, 2016).

### Usability

Practical usability of the device for linguistic skill development was overwhelmingly seen to be beneficial for the development of fluency skills in students and teachers alike, as “you really need to think about the question to ask” (teacher 3), and “you need to speak at a certain pace, and not pause for too long, otherwise it will begin to respond to you” (teacher 6). Device use for the practice of articulation and pronunciation was also considered useful to “see if the device understands what you are asking for, or what you are saying to it” (teacher 1), and for “practicing set questions” (teacher 4) in order to gain “speaking and listening skill practice with immediate feedback” (teacher 9). This is certainly highlighted in Moussalli & Cardoso (2016) and also reflected in Dizon (2020) with digital assistants promoting student speaking ability but not necessarily their listening skills. That said, teachers do consider the device to be useful for listening to responses “when it repeats the question being asked” (teacher 7), as well as for “dictation activities” (teacher 11), getting the device to repeat the teacher or what other students have spoken, “with students then writing down what they hear” (teacher 8).

Device use was also considered beneficial for providing answers to questions that teachers might not be able to answer (a) “due to large classes and needing to attend to other students” (teacher 3), (b) using it as part of the “three-before-me” rule (teacher 12), (c) as a clarification tool “when the teacher does not know the answer to something” (teacher 11), especially grammar or vocabulary questions, and (d) as a teacher or student support tool “when needing to translate words, provide definitions, antonyms, synonyms”, and so on (teacher 2). Other aspects considered beneficial were those of “immediate access to realia” (teacher 9), such as animal noises, weather data, timetables, and “access to content not normally instantly available on-demand” (teacher 1), such as translations and interactive games. In this regard, the device could also be used as part of a *three-before-me* paradigm, as one instructor notes, and may also help alleviate anxiety as learners would not need to initially approach a teacher or another student. This, again, highlights how teachers see it as providing meaningful speaking opportunities for learners, which learners also perceive (Moussalli & Cardoso, 2016; Dizon, 2020).

### Enjoyability

Instructors all felt that since accessing the device is quite natural, it may perhaps also be “more enjoyable for students to consistently use” (teacher 2). Voice-based interaction was also seen as perfect for when teachers have their hands full (“dealing with a problem student, or trying to answer a student question while doing something else like distributing handouts” – teacher 10). In other words, instructors felt the device was capable of being adaptive, both for teacher use and for “the student, responding to what they are asking in the right here and now” (teacher 1), and capable of being relied upon for “just-in-time learning with voice-activated responses stopping fights over keyboards” (teacher 1) and “providing different ways of interacting with authentic content over using textbook-, computer- audio-, or other video-based material” (teacher 10).

The most appealing aspect of language practice afforded by the device is how it could make learning

enjoyable by providing game-based learning, such as “word games like 20-questions (Akinator), and the ability of the device to deliver context specific student-selected information” (teacher 12). Both aspects are also noted by students in Moussalli & Cardoso (2016). In addition, access to content that could deliver a communicative or task-based language-teaching focus was favored by instructors, as was the interactive nature involved with obtaining access to such content when using the device for student solo or group work. For example, accessing audiobooks, rhymes, tongue-twisters, jokes, songs, interactive stories, or for using the device to access authentic content (e.g., accessing real-time information) or to engage in specific tasks (e.g., webquest completion).

### **Worthwhileness**

Although the Google Assistant can be accessed via smartphone, or taken outside using portable battery packs, no participant suggested this as an option. So, most locations for digital assistant use were reserved for the classroom, followed by home. Overall though, its use was considered “perhaps not motivational enough for home use” (teacher 10) with NNES instructors more inclined to see the device prove worthwhile for use only during class sessions, although both spaces were recognized as suitable by all NES instructors. Ultimately though, no matter the context, all teachers felt that the device should only be deployed about once per week if teaching every day, and for only a small part of each lesson with “perhaps one student asking a question per class, in order to get information” (teacher 10), or for those questions that the book poses that students either do not know, or do not want to answer as a class. “Things like asking a key question/definition of terms on the topic of study: ‘What is the weather?’, ‘What day is it?’, ‘Who won the Nobel peace prize this year?’” (teacher 12), or for “seeking explanations, especially regarding vocabulary” (teacher 5). Interesting to note here is that no teacher considered building a complete lesson around use of the device. This is likely due to participants considering the device’s main strengths for language teaching as more gainfully “employed in parts of lessons” (teacher 7) such as warmup activities, language exploration activities, for assistance during class time, and for aspects of classroom management (e.g., setting timers, choosing students, and so on). These worthwhileness aspects are also mirrored in literature (Dizon, 2017; Kent, 2020).

### **Conclusion**

This article builds upon the scarcity of research surrounding the use of digital assistants in the EFL context by instructors, and it is among the first contributions to utilize the Google Assistant (via Google Nest Mini) in the Korean context (Ji et al., 2020). Although not new, it is only now that voice-driven interaction with machines is beginning to change the ways in which we use language and, to some extent, the nature of learning itself. Rather than communicating solely human-to-human, we are increasingly communicating human-to-machine and machine-to-human. It is this daily kind of interaction, along with access to instant real-time information (including translation, spelling, dictation, and fact-based information) that is among some of the opportunities that instructors see digital assistants and voice-user interfaces affording their learners, leading them to view the potential for the use of a voice-user interface in the form of a digital assistant as worthwhile in their pedagogical contexts, and reflecting such student perceptions as found in previous literature (Underwood, 2017; Mousalli & Cardoso, 2017, 2019; Dizon, 2017, 2020). Consequently, this research validates that both NES and NNES instructors view the device positively, and although all are receptive to its use in a multitude of ways, some minor differences did emerge (e.g., NNES valuing the device as more worthwhile in the classroom as opposed to home use, while NES see value in both).

However, given the small sample size, findings should be tempered by caution prior to any future study involving larger teacher groups and a quantitative experimental design. These might include the examination of the effectiveness of the teacher use of digital assistants pedagogically, based on the means in which instructors have highlighted that they are receptive to its use. So too, largely neglected areas in digital assistant studies in the EFL context to date, such as different age ranges of students, along with utilizing the device with those with special needs, could become a focal point of further investigation.

Instructors in this study particularly highlight a number of benefits that they see for using such devices with very young learners (those unable to type or use computers) that are starkly different to older learners and adults, as well as the ability for these devices to highlight bad habits and what may cause interactional and natural communication issues for learners. Nonetheless, given the lack of literature that surrounds the practical focus of this topic, the study comes as a timely contribution to an area that is underexplored, and potentially serves as a source of inspiration for researchers and as a voice of pragmatism for instructors.

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## Appendix A. Digital Assistant Interactions

Invocation Prompts	Examples
Ask the Google Assistant to:	Ok, Google/Hey, Google ...
1. play music (e.g., your favorite song)	<i>Play [song name] by [artist]</i>
2. define a specific word or phrase	<i>What is the definition of [word/phrase]?/Define [word/phrase]?</i>
3. spell a specific word or phrase	<i>How do you spell [word/phrase]?/ Spell [word/phrase]?</i>
4. translate an English word or phrase to another language	<i>Translate [word/phrase] into [language]</i>
5. repeat a word or a phrase after you	<i>Repeat after me [word/phrase]</i>
6. tell you the synonym for a word	<i>What is a synonym for [word]?</i>
7. tell you the antonym for a word	<i>What is the antonym of [word]?</i>
8. tell you the definition of an idiom	<i>Define the idiom ...</i>
9. tell you the definition of a grammar term	<i>Define ...?/What is the definition of ...?</i>
10. for the news	<i>What is the news today?</i>
11. for the temperature	<i>What is the temperature right now?</i>
12. for the weather	<i>What is the weather for today/tomorrow?</i>
13. for the weather in your hometown	<i>What is the weather in ... today/tomorrow?</i>
14. for the date	<i>What is the date today/tomorrow?</i>
15. for the time of sunset	<i>What time is sunset today/tomorrow?</i>
16. for the time of sunrise	<i>What time will the sunrise be tomorrow?</i>
17. for the time of the next full moon	<i>When will the next full moon occur?</i>
18. for some information on a specific topic	<i>Tell me about [topic]</i>
19. for who invented a particular device	<i>Who invented the [device]?</i>
20. ask for the recipe for your favorite dish	<i>What is the recipe for [dish name]</i>
21. ask for the exchange rate between your home country's currency and the Korean won	<i>What is the exchange rate between 1,000 Korean won and [currency]?</i>
22. ask where you can buy something that you are interested in purchasing	<i>Where can I buy [food/item/clothing/etc]?</i>
23. for the Home Plus opening time	<i>What time is Home Plus open today?</i>
24. to tell you a fact	<i>Tell me a fact</i>
25. to tell you a joke	<i>Tell me a joke</i>
26. to provide you information on one of your hobbies	<i>Tell me about [a hobby]</i>
27. to tell you the air quality	<i>What's the air quality?</i>
28. ask a question about anything you like	-
29. ask to play the game 'Akinator'	<i>Play Akinator</i>
30. ask 'Story Speaker' to play 'The Tourists'	<i>Talk to Story Speaker</i>

## Appendix B. Semi-Structured Interview Questions

1. **Primary question:** Is this the first time for you to use a digital assistant?  
**Secondary questions:** If not, what have you used before?, Was use of the digital assistant today a comfortable experience? Was it as comfortable as use of previous digital assistants
2. **Primary question:** How do you perceive digital assistants to be the most useful?  
**Secondary questions:** How often, and in what ways? Is this for both yourself as a teacher, and for use in the classroom/at home by you/by students?
3. **Primary question:** How do you perceive it as detrimental?  
**Secondary questions:** How often, and in what ways?
4. **Primary question:** What language skills do you think it can help you and your students improve?  
**Secondary questions:** How do you think it can be employed to help you and your students inside or outside of the classroom, and in what ways for education and in general?
5. **Primary question:** What do you think might be the most enjoyable use of the digital assistant by students?  
**Secondary questions:** How do you see this fit or match with the language learning opportunities/methods/approaches you have studied throughout your MA?
6. **Primary question a:** Would you use the digital assistant in every lesson?  
**Secondary questions:** How often, and in what ways?  
**Primary question b:** What about for students, would you have them use it in every lesson?  
**Secondary questions:** How often, and in what ways?

### About the Author

David Kent is an Associate Professor at Woosong University in the Republic of Korea where he provides teacher education as Head of the TESOL-MALL Graduate Program. His principal research interests revolve around digital language learning and teacher professional development.

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