

Using Intelligent Personal Assistants for Teaching English

Alexandra Ávila-Fernandez¹, Janio Jadán-Guerrero^{1,2},
Johann Jadán-Altamirano³, and Isabel L. Nunes⁴

¹Maestría en Educación, Mención Innovación y Liderazgo Educativo (MEILE),
Universidad Tecnológica Indoamérica, Quito 170103, Ecuador

²Centro de Investigación en Mecatrónica y Sistemas Interactivos (MIST), Universidad
Tecnológica Indoamérica, Quito 170103, Ecuador

³Colegio de Ciencias e Ingenierías, Universidad San Francisco de Quito, Quito 170901,
Ecuador

⁴NOVA School of Sciences and Technology, NOVA University Lisbon, 2829-516
Caparica, Portugal

ABSTRACT

The lack of practice to develop language skills is the main problem in learning foreign languages. The aim of the research is to establish methodological strategies with virtual assistants, for elementary school students through innovative and interactive classes, to develop the macro skills of the English language. The methodological design of this study is based on a mixed qualitative-quantitative approach, with the participation of an expert on “Virtual assistants in the English language”, five teachers from the English area and 57 elementary school students from a private school in Ecuador. The data collected from the teachers made it possible to identify the main problems that students have when it comes to developing macro skills in the English language. With the support of the education expert, a strategy was designed using virtual assistants. The personal assistant Alexa, with great programming flexibility, was selected, applying a strategy focused on four macro skills: listening, reading, speaking, and writing. Each activity was aimed to reinforcing each skill according to students’ level at school. For example, for speech skills, students had to engage in a dialogue with Alexa through a game of questions and answers. For listening skills, Alexa would tell a story to determine the level of comprehension. For reading skills, the students were given a reading from which they were asked questions that Alexa could answer and through this the students developed writing skills according to the questions they answered. After the intervention, a post test was applied and it was shown that there was an improvement in the development of skills. It was concluded that the interactive classes motivated the participation of all students. For future work, we intend to carry out a longitudinal study with the use of virtual assistants and a comparison between other devices.

Keywords: Personal assistants, Virtual assistants, Alexa, English teaching, Language skills

INTRODUCTION

Technology has become very important nowadays, and virtual assistants are positioned as one of the main resources at an educational level. A virtual

assistant can be defined as a computer program that helps in the recognition of human language through text and audio. Virtual assistants have the ability to interact with students in conversations that are becoming more natural. The use of new technology allows the student to develop practical skills, coming to understand the advantages and limitations, thus promoting collaborative learning through complex tasks in order to collaborate, coexist, learn with the virtual assistant and even compete with it (Wiske, 2011).

The problem evidenced in English teaching, is largely due to the use of traditional teaching methods, for example, the grammar-translation method and the repetition of oral exercises with the audio-lingual method (Hernández Cherez, 2014). That is why the opportunity was seen to propose the use of virtual assistants through innovative strategies that allow the development of English language skills.

The objective of this research is to establish methodological strategies with the help of the virtual assistant Alexa to develop the macro skills of English language through innovative and interactive classes for children of 10 to 12 years old.

The virtual assistant Alexa was selected, due to the large number of benefits and functionalities that it presents and thanks to its capabilities within the Amazon cloud, which can be modified or loaded according to the teachers' needs. This advantage that Alexa presents allows users to access various activities to enhance their knowledge or to maintain practice. Through an Amazon account, skills can be created on any topic of interest for the teacher and additionally it allows configuration in several languages, which gives the opportunity to apply it in English teaching with the purpose of developing language skills (speaking, listening, writing, and reading). In this sense, Alexa becomes an element that allows developing the macro skills of English language since it is an assistant that motivates the educational process, achieving better learning (Saavedra Montejo, 2020; Amazon, 2021).

English teaching is important in Latin American countries for which various programs have been implemented that allow their population to learn this language (Delgado, 2009), considering that it is one of the most spoken languages around the world, allowing educational and economic relationships at a global level. In addition, it should be noted that the methods applied correctly strengthen the educational process of English, therefore, these must be linked to the learning objective. In this way we can define what is required for students in each of the skills:

- Speaking - the ability to speak fluently and with correct pronunciation, in such a way that a student can establish a basic conversation with another person;
- Reading - the ability to have a fluid and comprehensive reading of any text;
- Writing - the ability to correctly write words of his own vocabulary according to age, and to formulate short sentences, with grammatical structure; and
- Listening - the ability to understand conversations and audios without difficulty.

RELATED WORK

According to Dorfman et al (2019), initially students see virtual assistants as useless, confusing and overwhelming, but after gaining experience using them, the negative perception they had regarding these resources decreases significantly. It was found that the majority of students feel highly motivated to learn with the use of digital resources, however there is still a percentage that feels more comfortable learning with traditional methods and resources such as texts that allow them to have a clearer understanding of what they need or want to learn.

According to the research of Basantes, Cabezas, and Casillas (2020) the implementation of virtual assistants allows expanding the axes of basic general education using ICTs as a technological resource within the teaching-learning process. In their results it is shown that teachers and students have a great openness for the configuration and use of virtual assistants when learning. Both teachers and students are currently immersed in the technological world that is becoming more and more important in all domains of activity. Countries' development is intimately related with the advances in technology, and education plays a vital role to be prepared for these changes.

Finally, Palacios et al. (2020) in their research noted the great impact of technology in basic general education since the onset of Covid-19, revealing the little importance previously given to technological progress in schools.

Therefore, digital transition, besides being of great importance, induces the need for designing new activities that allow students to exploit the technological field. In addition, specialized training should be carried out for both teachers and students, allowing them to have an easier handling and a broader knowledge that generates confidence when using technology in different fields. In today's world there are a multitude of virtual assistants with different levels of penetration in the market, such as: Apple's Siri (86.2%), Google Home (11.6%), Amazon's Alexa (9.8%), Microsoft's Cortana (8.9%), Samsung's Bixby (6.5%) and Movistar's Aura (2.5%).

Thus, virtual assistants are highly demanded thanks to the characteristics they possess, they are capable not only of receiving and sending information in the form of voice, but they can also work with databases in real time, which allows them to be adaptable to any work environment, location, or application. To define the usability requirements of humans as a fundamental component of the system, it is essential to understand the inherent capability of user populations and their typical operating environment (Booher, 2003).

The following section describes the methodology followed in this research to analyze whether it is feasible to use a virtual assistant in English classes.

METHOD

The methodological framework of this research is based on a mixed qualitative-quantitative approach, an interview directed to an expert who helped us reinforce the use of virtual assistants was applied as a first point (Cóndor-Herrera et al., 2021). The interview was structured in three main questions regarding the configuration and use of Alexa assistant, and the benefits and results of its application within the basic general education

domain and in other fields. At a second stage, a survey was carried out to five English teachers to learn about the methodological strategies they apply in each of their classes in order to develop the macro skills of the English language. The SPSS program was used for data processing, both variables and items, through descriptive statistics with graphic representations of the results. In the third and last stage a pre-test and a post-test involving virtual assistants were applied to 57 students of the school in which the four macro language skills were evaluated, based on the grades obtained by the students, which were classified as *excellent*, *very good*, *good* and *regular*. The results obtained show a favorable acceptance of the virtual assistants by teachers and students as described in the next section.

RESULTS

From the general results obtained in the present research, some benefits were evident from the use of virtual assistants such as the interaction between students and the assistant. Virtual assistants generate motivation to learn and to use them according to the needs and requirements of the student and also according to the progress that the students want to have in their knowledge. Some weaknesses could also be seen when the virtual assistant is used like, for example, it does not respond quickly or do not understand the question, which generates a bit of discomfort and delay when interacting. However, the results obtained after applying the virtual assistant within the English class are very positive due to a direct and individual interaction that the student has and the possibility of advancing at his own pace. The advance that was observed in each of the skills is quite significant after using traditional resources for a long time and changing to the use of innovative technology. In fact, the development of skills was very positive in more than 70% of students.

Methodological Strategy for Teaching English With the Use of Alexa

Table 1 shows a methodological proposal for teaching the Jobs topic with the help of Alexa, which allowed observing the activities to be carried out to develop each of the English language skills, taking into account the level of understanding of the students and the goals to reach. This illustrates a class plan model that starts presenting the topic, the objective of the class, the course or grade, the materials or resources to use in this class including Alexa, the activities to be carried out in each period and finally extra resources that the teacher can use to reinforce the topic taught.

The results obtained by applying this strategy show a positive acceptance of the virtual assistants by teachers and students, taking into account that they also generate a motivation for learning a foreign language and the development of macro linguistic skills in English in an interactive way that can evolve at the pace of learning of each individual student.

CONCLUSION

It is concluded that introducing virtual assistants is positive and motivate language learning, generating optimal development in each of the macro skills.

It was observed that the same methodological strategies that are used in class can be applied when using virtual assistant. A quite remarkable improvement was evidenced after applying the virtual assistant that interacts with the students.

The use of a virtual assistant to create innovative methodological strategies in the English language teaching process stimulated the optimal management and configuration of the activities by the speakers of the English area.

Very stimulating results were achieved by gathering together conventional methodological strategies with the virtual assistant for teaching English classes with the purpose of developing macro skills of the English language in students, since it motivate them of interact with the assistant in a dynamic way; therefore, generating a significant learning effect.

The authors believe that the learning opportunities offered by the current voice assistant are immense, and anticipate that they can grow even further since this is an emerging technology that is still being consolidated and improved. This is particularly true considering that it has the possibility of being customizable and modifiable to the user's taste, as is the case of Amazon Blueprints Skill, which offers a myriad of options; among the options that can be pointed focused on teaching a second language is the 'Custom Q&A' that allows the teacher to configure questions and answers customized according to the specific topic of teaching. This way Alexa would no longer be just an object of the class; it would interact as another student who could be wrong or right according to the teacher's questions. For sure this could greatly motivate students to lose their fear and be more participative.

This also opens the possibility for teachers to give specific definitions or perhaps more pointed examples that could be adapted to the socio-cultural and geographical environment in which the students find themselves. They could become more familiar with what their teacher and Alexa are saying. Thus, ensuring their attention and above all their understanding, as they will relate their learning to real-life situations. Internalizing in the student such learning in a natural way and not as an external environment with examples that are outside their reality.

On the other hand, when talking about teaching children, the same skill allows the creation of interactive tale from a couple of personalized words, as well as to give them a certain external atmosphere. This exercise for the teacher could be useful for listening practice.

Another important thing to mention is the adaptability of the new software that Amazon continues to implement. So the case of APL (Alexa Presentation Language), which mentions that in certain devices such as the Echo Show, TVs and tablets with Alexa. This allows to combine audio and images. The importance of this is that the skilled developer can create a responsive presentation language that allows the user (in this case, the students) to interact in more ways with the assistant. In this context teachers can use this to supplement their reading or even grammar classes. Students are more likely to understand the lessons better if they use more senses; in this case complementing the visual with the audio combined with the customizable skills, opens

Table 1. English methodological strategy using Alexa.

Topic	
Jobs and occupations	
Learning Objective	Students are able to convey and organize information using facts and details in order to illustrate diverse patterns and structures in writing about jobs with Alexa.
Class	Fifth level A-B- C-D
Week 7	From October 11 th to November 15 th , 2021
Resources	<ul style="list-style-type: none"> ✓ Student's book 22- 23-24 ✓ Electronic Devices ✓ Pearson English Platform ✓ Sheets of papers
Weekly Activities	<p>Period 1-2</p> <ul style="list-style-type: none"> ✓ Explaining the grammar about the future for predictions ✓ Inferring jobs vocabulary with Alexa ✓ Enlisting jobs vocabulary by controlled speaking with Alexa help. ✓ Writing sentences using jobs vocabulary and future manners by transformation drill. Listen to Alexa and write. ✓ Naming jobs vocabulary by say after Alexa ✓ Writing jobs vocabulary by controlled writing. ✓ Answering the questions according to the pictures by questions and answer with Alexa. <p>Period 3-4</p> <ul style="list-style-type: none"> ✓ Rewriting sentences using a dialogue by controlled writing. ✓ Listening a paragraph about jobs by focused listening. ✓ Practicing used to using city vocabulary by controlled writing. ✓ Reading about the best job to find the best word for describing the story by scanning ✓ Distinguishing present simple using jobs vocabulary by controlled writing <p>Period 5-6</p> <ul style="list-style-type: none"> ✓ Inferring grammatical structure of present continuous for future by mind map. ✓ Researching information about the best place in the city that the students recommended ✓ Selecting the best flyers about the jobs by picture eliciting. ✓ Introducing digital tools for making a fact file about jobs. <p>Period 7- 8</p> <ul style="list-style-type: none"> ✓ Book club. Answer the questions, then look and circle the words that describe the poem ✓ Listen and read. What is Lissa thinking about
Remember	Will for predictions and speak about the future and tongue twister.
Extra resources	Interactive platforms

the opportunity to create better teacher assistants, no matter the age of the students.

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