

## The Impact Of Artificial Intelligence On Students' Foreign Language Learning Skills

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### Abstract

With the advancement of technology in recent times, we have entered an era of digitalisation. As a result of this transition, it has become apparent that software such as artificial intelligence has emerged and, within a short space of time, has become integrated into every aspect of human life. In particular, the use of artificial intelligence in the field of education has led to its frequent adoption in the context of foreign language learning. Consequently, artificial intelligence has a significant impact on students' foreign language learning skills. For this reason, this study examines the advantages and disadvantages that artificial intelligence offers during the acquisition of foreign language learning skills. Within the scope of this study, numerous important findings regarding the positive and negative effects of artificial intelligence on foreign language learning have been obtained.

**Keyword:** Artificial Intelligence, Foreign Language Learning, Language Learning Skills, Foreign Language Learning Skills, Artificial Intelligence in Language Learning Skills

### 1. INTRODUCTION

With the advancement of technology today, significant developments and changes are taking place across many fields. In particular, new applications arising from the phenomenon of digitalisation are becoming increasingly widespread across various sectors.

Artificial intelligence, which has become part of human life alongside technological advancements and digitalisation, was initially viewed with scepticism by people; however, over time, it has taken on a central role due to the opportunities it offers. Consequently, it is evident that artificial intelligence is being utilised as a supportive element across numerous sectors and fields.

The education sector stands at the forefront of key areas where artificial intelligence is employed. It is widely believed that the opportunities offered by technology provide considerable convenience, particularly in areas such as foreign language learning. Given that learning a new language is now a necessity rather than a mere need in today's world, technological solutions and software such as artificial intelligence are also being utilised to enhance language learning skills.

Foreign language learning skills are divided into four basic categories: reading, writing, speaking and listening. Although these four core language skills contribute differently to foreign language learning, they are regarded as being directly interlinked. Consequently, when utilising artificial intelligence in foreign language learning, it is possible to make use of it according to the specific nature of each language skill.

The impact of artificial intelligence is felt during the learning of these four core language skills, depending on the specific characteristics of each skill. For example, the use of artificial intelligence in developing reading skills differs from its use in developing writing skills. Consequently, advantages such as students being able to practise easily, identify their weaknesses, and improve their language skills emerge. Furthermore, the ability to develop language learning skills without being constrained by factors such as location and time makes artificial intelligence a far more attractive option for language learning. Given the importance of this topic, this study focuses on the impact of artificial intelligence on students' foreign language learning skills.

## 2. LITERATURE REVIEW

Language learning enables people to communicate with individuals from other societies and to express themselves. In this context, the impact of artificial intelligence—which has emerged alongside technological advancements—on language learning has become increasingly significant. Given the importance of the subject, all aspects—including language and language learning, as well as the effects of artificial intelligence on language skills—have been examined under separate subheadings.

### 2.1. Language and Language Learning

As a social phenomenon, language is notable for its structure, which is established by a particular society and governed by specific rules. Consequently, language exists as a phenomenon with defined boundaries, in addition to possessing its own internal rules (Hocaoğlu, 2015).

All the rules that constitute language have been adopted by various societies over time. For this reason, it occupies an important place in human life as an integral part of communal existence. As individuals speak the language in question, it develops and takes shape. Consequently, it is passed down from generation to generation in accordance with the traditions, customs and values of the community. Through the use of language, communication is established, and desires and wishes can be conveyed with ease. At the same time, language serves as a vital tool enabling people to communicate with one another, share experiences, be understood, and express their thoughts effortlessly (İşeri, 1996, p. 21–27).

Language is not merely viewed as a verbal tool used to share thoughts and emotions. It also reflects cultural elements and the way of life of the society within which it exists. For this reason, the transmission of language across cultures to future generations becomes possible. Today, there is a notable desire among people to speak multiple languages in order to reach a wider audience. Particularly with the influence of globalisation, learning a foreign language takes a person beyond the borders of their own country and elevates them to the status of a global citizen. As a result, when people learn a language other than the one they acquired at

birth, they gain the privilege of being able to communicate with a greater number of people. Thanks to languages such as English, which are recognised as a common language worldwide, communication can be established across all platforms regardless of country. For this reason, the learning of languages recognised as common languages, such as English, has become far more important (Tosun, 2022, p. 8).

## 2.2. Second Language Acquisition

There is a wealth of significant research in the literature on second language acquisition. Within the scope of this research, second language acquisition is defined by Lightbound from various perspectives (Lightbound, 2005, p. 42);

- **Linguistic Perspective:** The theory of language acquisition is based on the definition of the grammar of the acquired language and on human capabilities. Consequently, in second language learning, the first language or mother tongue present in individuals is an element that should not be overlooked.
- **Sociolinguistic Perspective:** This focuses on students' attitudes towards the culture of the second language during the second language learning process, as well as the content of that learning process.
- **Psychological Perspective:** Researchers view this as a dimension that helps to identify the mechanisms contributing to a person's comprehension or retention of information. Consequently, given the complex nature of the second language learning process, it is believed that the likelihood of making mistakes during this process is high.

## 2.3. Basic Skills in Language Learning

The core skills involved in learning a foreign language are divided into four categories. Consequently, the four core skills are reading, writing, listening and speaking. For this reason, they have been examined under separate subheadings.

### 2.3.1. Listening Skills

Listening is one of the four core skills involved in language learning. Consequently, it is among the first skills people acquire and the ones they use most frequently. In order to communicate or to understand others, one must first listen. For this reason, the objective of developing listening skills within an educational context stems from the student's ability to understand the person they are speaking to. Listening skills also require learners to recognise sounds and pay attention to intonation and stress. At the same time, they are expected to be aware of shifts in meaning and to perceive the conveyed message correctly (Bergil, 2010).

Numerous significant studies have been conducted regarding the development of listening skills. Among these studies, Ur (1992) identified the following as essential for the development of listening skills (Ur, 1992);

- Summarising
- Interpreting
- Problem-solving
- Fill-in-the-blanks
- Identifying errors
- Marking incorrect items

- Ordering definitions
- Answering questions

The key point regarding the elements mentioned above stems from the fact that listening has a specific goal or purpose. In line with this objective, it is necessary to provide the environments required for students learning a foreign language to develop their listening skills (Tosun, 2022, p. 10).

### **2.3.2. Reading Skills**

Reading is defined as the act of comprehending, understanding, analysing, reflecting upon and forming judgements about texts written from a particular perspective. It is therefore described as a process taking place within the human mind. Consequently, it is a complex process occurring in the brain, as it initially involves both visual perception and mental vocalisation. During reading, written words are structured within the mind by being transformed into certain concepts. For this reason, reading ability is regarded as a learning domain that exerts a maximum influence on the development of the mind (Değer & Fidan, 2004, p. 7–18).

Reading is included within the comprehension aspect of the language's expressive and comprehension dimensions. Consequently, it ranks among the most important elements of communication. A strong reading ability is required to comprehend or grasp the message conveyed in reading texts. Consequently, understanding what one reads involves internalising the underlying message of the text (Sallabaş, 2008, p. 141–155).

Reading is regarded as an important tool for acquiring knowledge and observing linguistic structures during the language learning process. Whilst reading, learners can acquire an understanding of the language's rules, how words are used within sentences, their meanings, and their order. At the same time, reading provides learners with an opportunity to practise pronunciation. In particular, when a text is read aloud, it becomes easier for the individual to hear their own voice, analyse it and identify mistakes. This creates an opportunity to correct the mistakes identified (Tosun, 2022, p. 11).

### **2.3.3. Writing Skills**

Writing ability is regarded as a metacognitive language skill that encompasses a learner's capacity to process information and coordinate it strategically. Consequently, various studies argue that language proficiency is not a mechanical process, but rather encompasses actions such as comprehension, thinking, development and production. It is noted that grammatical, spelling, punctuation and expression errors, which might be overlooked in speaking skills, are much more prominent in writing skills. For this reason, writing skills are recognised as one of the key components of the language learning process. In the development of writing skills, attention must be paid to sentence structures and the correct use of words. The steps required to develop writing skills are as follows (Bergil, 2010);

- Writing letters
- Filling in forms
- Sending faxes
- Taking notes
- Doing homework
- Writing letters of request

- Writing texts such as emails

#### 2.3.4. Speaking Skills

It is evident that foreign language education is being influenced by the ever-increasing emphasis placed on it. Consequently, educators are adopting new and creative approaches to language teaching. Within these approaches, it is considered that the four core skills of language learning—writing, reading, listening and speaking—are interlinked and form an inseparable whole within the language teaching process. It is believed that, regardless of the purpose of language learning, there will be shortcomings if sufficient importance is not attached to the development of these core skills. However, in various institutions, insufficient attention is paid to speaking, one of the four core language skills (Barin, 2000, p. 123–127).

Speaking ability is defined as the act of conveying one's thoughts and feelings to another person verbally. Consequently, it ranks among the most important tools facilitating communication between people. One of the primary objectives of learning a foreign language is to be able to speak it in a comprehensible manner. Speaking ability is therefore of paramount importance for learners of a foreign language to express themselves clearly. It is observed that speaking skills develop in parallel with the development of cognitive and psychomotor skills. Consequently, simply learning the language in a manner that adheres to its rules and is grammatically correct is not sufficient for acquiring speaking skills. It is also necessary to learn certain behaviours that are not included within verbal skills, such as gestures and facial expressions (Demirel, 2012).

Foreign language learning involves a complex and long-term process. Consequently, when people learn a new language, they also adapt to a new culture and ways of thinking. For this reason, people step outside their native language and dedicate their entire being to the new language they are learning. Due to the presence of various variables within the language learning process, language learning is not a situation that an individual can manage on their own (Brown, 2007).

#### 2.4. What is Artificial Intelligence?

Artificial intelligence is defined as a system capable of performing tasks that require intellectual processes—such as reasoning, understanding, generalisation and learning from past experiences—which can be carried out by human intelligence, whether in a computer or a robot controlled by a computer (Nabiyev, 2012, p. 25).

Based on this definition of artificial intelligence, the most fundamental concept that stands out is the ability to mimic what the human brain can do. For this reason, artificial intelligence is also described as the ability to apply suggested solutions in a different manner (Ocak, 2022, p. 12).

#### 2.5. The Use of Artificial Intelligence in Education

With the advancement of technology in recent years, artificial intelligence has become far more significant. Consequently, artificial intelligence has begun to be widely used in fields such as healthcare, speech technology, finance, logistics, security, media and many others. Beyond these fields, the use of artificial intelligence in education also demonstrates just how significant a level it has reached (İşler & Kılıç, 2022, p. 4).

Within education, artificial intelligence is utilised in a wide range of contexts beyond knowledge-based applications. Some of the applications of artificial intelligence in the field of education are as follows (Karaca & Telli, 2019, p. 173).

- Personalised learning or dialogue-based learning
- Exploratory learning
- Chatbots
- Data mining in education
- Student essay analysis
- Intelligent agents
- Child-robot interaction
- AI-based assessment systems
- Automated test generation systems
- Foreign language learning

## 2.6. The Use of Artificial Intelligence in Foreign Language Learning

As is the case in other fields, artificial intelligence technologies offer significant opportunities and benefits in the field of foreign language teaching. Various researchers are generally conducting studies on topics such as automatic writing assessment, intelligent educational systems for reading and writing, automated error detection, and personalised systems for language learning (Huang et al., 2023, p. 112–131).

Chatbots are among the primary tools enabling the effective use of artificial intelligence in language learning. Known as chatbots, these systems can provide personalisation features alongside up-to-date content and ease of use. In studies on this topic, the pedagogical potential of chatbots has been analysed at two levels. At the first level, certain pedagogical aspects used in language learning are highlighted, whilst at the second level, the focus is on the effects of language learning integrated with chatbots on students and their cognitive outcomes. Furthermore, these pedagogical aspects are outlined under five headings. These are as follows (Huang et al., 2022, p. 246);

- 1) “Interlocutor” in grammar practice, learning skills activities and the coordination of group discussions
- 2) “Simulation” in role-playing and learning scenario representations;
- 3) “Facilitation” in delivering well-targeted interventions;
- 4) “Providing assistance” in responding to requests for help;
- 5) “Offering advice” in providing age-appropriate learning content

## 2.7. Artificial Intelligence in Students’ Language Learning Skills

Due to the widespread use of artificial intelligence technologies in the field of education today, significant transformations are being observed, particularly in foreign language learning processes. In this context, alongside various AI-supported applications, a form of use is emerging that can be adapted to students’ individual learning needs. This demonstrates that the use of artificial intelligence in foreign language learning offers new possibilities (Klímová et al., 2023).

One of the most significant contributions of artificial intelligence during foreign language learning stems from its ability to provide a personalised learning environment. Consequently, AI systems make it possible to analyse students' performance and tailor content to their individual needs. At the same time, they enable the optimisation of the learning process and allow students to progress at their own pace or focus on skills where they are lacking (Holmes et al., 2019).

The effects of artificial intelligence on language learning are not viewed as entirely positive. In particular, with the widespread adoption of generative AI tools, there is an increased risk that students' critical thinking and original creative abilities may be adversely affected. Furthermore, as students become accustomed to the ease or practicality of artificial intelligence, they may develop an excessive reliance on such tools, leading to a decline in their motivation to learn and, consequently, a superficialisation of learning (Yan et al., 2023, p. 90–112).

Another negative effect of artificial intelligence on learning stems from the significant debates it has sparked regarding academic integrity and ethical issues. Consequently, as research and discussions on the subject are still ongoing, academic integrity and ethical considerations remain among the aspects of artificial intelligence use that raise questions (Holmes et al., 2019). The use of artificial intelligence in foreign language learning, particularly through its ability to provide instant feedback, can make the learning process far more effective. Thanks to AI-based tools used specifically for writing and speaking skills, students are able to quickly identify and correct their mistakes. This enhances the retention of learning and helps students grasp the language correctly (Li, 2020).

AI-supported virtual assistants and chatbots contribute to the development of students' communicative skills. Such tools allow students to practise in environments that simulate real-life communication situations. Consequently, they facilitate practice by reducing students' anxiety, particularly speech anxiety (Fryer & Carpenter, 2006, p. 8–14).

It is well known that listening skills, a key component of language learning, help students become accustomed to the natural flow and pronunciation of the language. For this reason, AI-based activity applications help students prepare for situations they may encounter in real life by presenting them with different scenarios and speech examples. Consequently, it contributes to students' success in learning a foreign language in both academic and social settings through the use of artificial intelligence (Arslan, 2020, p. 63–86).

Compared to traditional learning methods, AI-based platforms offer far more interactive and engaging learning experiences. This helps to capture students' attention and boost their motivation to learn (Nguyen et al., 2024).

The contributions of artificial intelligence to listening skills in foreign language learning, along with its applications relating to the four core language skills, make the student's language learning process far more effective. Consequently, it is anticipated that as the use of artificial intelligence in education increases in the coming years, the impact of the innovations brought by this technology on the education system will become increasingly evident (Son et al., 2023).

### 3. RESEARCH METHODOLOGY

The study focused on the impact of artificial intelligence on students' foreign language learning skills. In this context, details such as the aim and significance of the study, as well as the research methodology, were examined under subheadings.

#### a. Purpose of the Study

The aim of this study is to investigate the effects of using artificial intelligence in language learning. In this context, the study also seeks to examine the advantages and disadvantages students experience when using artificial intelligence in relation to their language learning skills. Consequently, the study aims to analyse the effects of artificial intelligence on students' acquisition of language learning skills. Furthermore, one of the study's secondary objectives is to contribute a significant body of knowledge to the relevant literature.

#### b. Significance of the Study

With the advancement of technology and digitalisation, the phenomenon of artificial intelligence, which has adapted to human life, has emerged as a relatively new field of application. In this context, the number of studies examining the effects of artificial intelligence on foreign language learning and students' language learning skills is notably limited. The scarcity of sources in the literature regarding the impact of artificial intelligence on language learning skills underscores the importance of this study. In this context, the expectation that this research will contribute a significant body of knowledge to the existing literature further highlights its importance.

#### c. Research Method

A literature review methodology was used in this study. Within this framework, key elements from existing literature sources were compiled and integrated into the study in an original manner. Consequently, a systematic review was conducted using sources from the literature, and significant findings were obtained.

### 3. CONCLUSION AND DISCUSSION

The study investigated the impact of artificial intelligence on students' language skills in foreign language learning. In this context, significant findings and conclusions relevant to the subject have been obtained.

In light of the findings of the study, it has been observed that artificial intelligence, which has adapted to human life alongside technological advancements, is being utilised in many fields. As the education sector is at the forefront of these fields, the use of artificial intelligence is particularly widespread in foreign language education. Consequently, it is evident that students benefit from the advantages and conveniences offered by artificial intelligence whilst learning a foreign language.

Another finding from the research concerns the advantages that artificial intelligence offers students in foreign language learning. The use of artificial intelligence provides students with the opportunity for personalised education. Furthermore, it has been observed that opportunities such as practising quickly and at a time of their choosing offer students significant advantages. Thanks to AI-supported chatbots, students benefit from the development of their communication skills. Such situations encourage students to practise on their own. In foreign

language learning, it is common to encounter hesitation, anxiety, or shyness due to high levels of anxiety, often stemming from a fear of making mistakes. Thanks to personalised learning opportunities, students are able to overcome such feelings of anxiety and hesitation.

The research revealed that artificial intelligence contributes in different ways to each of the four core language skills. In terms of reading skills, it offers opportunities for students to practise and learn the correct pronunciation of words, thereby making their reading more fluent. It has also been established that, in developing listening skills, students can receive support via artificial intelligence or virtual robots to correct errors in areas such as comprehension and vocabulary. It is believed that students can also improve their speaking and writing skills through various tests and practice exercises. Consequently, as the four core language skills are interconnected, artificial intelligence makes learning a second language easier by making significant contributions to each of them.

Another positive contribution offered by artificial intelligence stems from its ability to quickly identify students' mistakes and provide the opportunity to resolve or correct them with the help of AI. Students can practise and improve all four core language skills—reading, writing, speaking and listening—through the use of artificial intelligence. Consequently, students are able to learn a language quickly and effectively with the help of artificial intelligence.

The findings of the research indicate that, whilst artificial intelligence offers advantages in terms of language learning, it also has its drawbacks. In particular, it is thought that, due to the ease and practicality offered by artificial intelligence, students may become dependent on this situation and their motivation to learn may diminish as a result of this convenience. This is because the fact that students can always access the content they want quickly with the help of artificial intelligence may lead them to believe that learning is unnecessary. At the same time, it is thought that there are some negative aspects due to the as yet unresolved ethical issues surrounding artificial intelligence. However, the research ultimately concluded that artificial intelligence is highly beneficial in foreign language learning and that, when used correctly by students, it can significantly shorten the learning process through error detection and practice.

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