



Availability and Accessibility of Artificial Intelligence in the Study of English Language Sentence Patterns among Undergraduate Students

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ABSTRACT

Particularly when it comes to English instruction, which encourages innovation, development, and reform in the sector, the development of AI has become more and more fascinating. Using computers, artificial intelligence (AI) mimics and copies human intelligence while keeping human functions in mind. One of the things that drove the industrial revolution was the facilitation of teaching and learning in the classroom. In addition to examining the application of AI technologies in English language phrase patterns, the goal of this study is to determine whether artificial intelligence is available and accessible to undergraduate students studying English language sentence patterns. The population consists of 680 individuals, whereas the sample consists of 60. The result shows that artificial intelligence (AI) provides a conducive learning environment for English instruction. It has greatly resulted in a personalized environment where students actively practice their English while simultaneously using all five of their senses. AI enhances useful abilities like writing and offers a realistic simulation platform that mimics spoken English. Learning English phrase patterns enhances students' capacity to optimize the educational benefits of artificial intelligence and accessibility. The use of AI technology presents a chance to enhance English sentence construction. Undergraduate students find it easier to comprehend English sentence structures when this type of learning help is available. When used on computers and mobile devices, artificial intelligence (AI) technologies such as Google Translate, Text to Speech (TTS), English Able, Orai, Elsa, Chatbot, Duolingo, Neo platforms, and many more can mimic human thought and behavior and make decisions that are exactly the same as those made by humans.

INTRODUCTION

Artificial intelligence (AI) is one of the advanced technologies designed to support and encourage human work and endeavors. Cheng and Day (2014) claim that AI is a computational ingenuity that has generated interest in the development of AI technology. According to Karsenti (2019), AI builds upon the concept of "intelligent" devices, such as computer systems (online platforms) and computerized machines (robots), that respond to stimuli like those of the human brain.

It displays intelligence based on what the machine anticipates from people's innate intellect. According to Mehrotra, the field of computer science known as artificial intelligence (AI) is responsible for researching, creating, and developing smart gadgets and applications. Wang (2019) asserts that the foundation of AI technology is intelligence. It examines the intelligent actions of people, animals, and technology in an effort to find answers.

More than merely building a computer that can solve every issue, artificial intelligence (AI) also refers to building a system that can function similarly to a human. The goal of artificial intelligence, according to Joshi (2019) and Campesato (2020), is to develop computer hardware or software that exhibits characteristics typically associated with human intelligence or thinks like a person. AI carries out tasks that often call for human intellect, such as visual perception, voice comprehension, linguistic awareness, and decision-making.

AI provides students with consistent, targeted, individualized training that generates a lot of feedback and scaffolds exercises that are essential for fluency. AI speeds up the acquisition of new talents. Artificial intelligence (AI), according to Kaur and Gill (2019), is a digital strategy that employs a variety of machine computations to attain intelligence comparable to that of humans. Several advanced technologies that allow humans to communicate with, comprehend, and learn from machines are mentioned. Artificial Intelligence (AI) can perform human functions such as language fluency, learning, planning, and decision-making.

Additionally, the development of digital platforms and technology has simplified the process of teaching and learning English. These now present an opportunity to improve English sentence construction. Shin (2018) asserts that even if there is a machine that can teach English, there may not be the most practical and effective way for English language teachers to incorporate artificial intelligence into their lessons, according to Ribeiro (2020). The development of technology and digital platforms has also simplified English instruction and learning. The opportunity to improve English sentence structures is now available. Shin (2018) asserts that even if a machine is available to teach English, there may be no Ribeiro (2020) asserts that as English is a global language with a systematic grammatical structure and sentence pattern, it is the most practical and practical way for English language teachers to include artificial intelligence into their lessons. According to Wang (2019), artificial intelligence, machine learning, intelligent search, and natural language processing are all useful means of promoting the reform of English instruction

and learning. According to the aforementioned justifications, the purpose of this study is to ascertain the function of artificial intelligence (AI) as well as its availability and accessibility in examining English language sentence patterns among undergraduate students.

LITERATURE REVIEW

Conception of Artificial Intelligence

The domains of education, learning, and teaching have advanced significantly in the modern era thanks to artificial intelligence. Artificial intelligence technology and language learning are closely intertwined. Artificial intelligence has created new concepts and enhanced human learning processes, but it has also brought opportunities and challenges for all areas of education, claims Shen Yanfei (2017). Combined, the words "artificial" and "intelligence" create the term artificial intelligence. "Artificial" is defined by Ahmet (2018) as something that is not entirely false in the sense of being a fraud, but rather not authentic or replicated. However, "intelligence" refers to something that can take the place of actual objects because the former has improved features in a certain situation. The term "intellect" is quite complex and encompasses many different types, such as self-awareness, comprehension, emotional awareness, reasoning, preparedness, consciousness, and creativity. Using artificial intelligence (AI) to teach English

The rapid growth of artificial intelligence technology encourages the use of innovative approaches in English teaching and learning. Multimedia has long been a teaching tool used by educators. With artificial intelligence-based teaching approaches, courseware explanations take precedence over in-person interactions between instructors and students. Chen Jianlin (2017) asserts that the undifferentiated teaching approach used in the unified teaching task does not provide real-time feedback on students' information mastery, education and learning do not create a positive cycle, and students have few opportunities to learn how to apply knowledge.

According to Wang Shouren (2016), cutting-edge artificial intelligence technology can be used to create accurate and personalized teaching. Artificial intelligence can successfully intervene in learners, model, analyze, and assess learners, track and record all forms of learner data, and provide data assistance for teachers to improve their teaching methods in order to accurately satisfy educational demands. In addition to modifying students' language intake and output and allowing language acquisition to permeate everyday life, artificial intelligence significantly aids in the development of innovation and reform in the English teaching technique. Artificial intelligence (AI) technology greatly improves educational quality in a more multilingual environment.

Development of AI Technology in English Language Sentence Patterns

The domains of recognition, language comprehension, and translation primarily reflect the development of artificial intelligence (AI) in English phrase patterns. The research and use of artificial intelligence in the recognition of English language patterns has given the machine knowledge. the ability to employ similar and related words and give timely feedback. Deep semantic and

syntactic comprehension has replaced simple literal matching as AI's translation capabilities have advanced, allowing for intelligent translation that emulates human cognitive processes.

The growth of artificial intelligence (AI) in English phrase patterns is mainly reflected in the realms of recognition, language understanding, and translation. Artificial intelligence research and use in English language pattern recognition has equipped machines with the knowledge to use related and comparable terms and provide prompt response. As AI's translation capabilities have improved, deep semantic and syntactic comprehension has supplanted literal matching, enabling intelligent translation that mimics human cognitive processes. The age of artificial intelligence language learning has arrived and is gradually changing the way that language instruction is conducted, claim Hua Lulu, Chen Lin, and Sun Mengmeng (2017).

There are unique uses for artificial intelligence in language acquisition. It facilitates learning for both students and teachers. The application of artificial intelligence technology to English sentence structures has several advantages and overcomes the shortcomings of the traditional classroom teaching methodology.

Teaching sentence patterns is a key component of teaching English syntax and the first stage in learning a language. Developing students' basic literacy in the English language requires training in sentence structures, which is an essential part of the language learning process. The dull content of the materials, the difficulty of the English language sentence patterns, and the rigidity of the teaching methods are some of the reasons why students are afraid of and reluctant to enroll in English language sentence patterns courses. With corpus-focused training, students can learn English sentence patterns from a multitude of resources. Artificial intelligence technology can assist students in automatically matching learning resources when used in corpus-based English language phrase pattern instruction. The use of factor analysis in artificial intelligence technology has the potential to automatically match student-appropriate corpus-based phrase patterns, boost study motivation, and reduce the workload related to English language sentence patterns. It makes the connection between the situation and learning easier.

In addition to providing concepts and frameworks for learning and practice, the artificial intelligence system assists students in completing assignments and provides references to related language. By doing this, educators assist students in becoming more adept at identifying and completing sentence fragments. The approach carefully looks at the students' basic evaluations of sentence pattern construction as well as a number of grammatical errors in phrase pattern usage. Teachers use the system's automatic feedback process to create and compose human secondary corrections and supplementary teaching answers. Teachers also monitor students' learning environments and implement curriculum improvements based on the formative evaluation results provided by the system to improve their teaching methods.

Learning English Sentence Patterns with Artificial Intelligence Technology

The term "artificial intelligence" refers to the ability of a robot to do intelligent human tasks. According to Luo and Cheng (2020), artificial intelligence (AI) technology is driving English language instruction. The difficulties caused by short class periods, a lack of space and resources, and a time-consuming measurement process are lessened. Every artificial intelligence (AI) program solves a problem, according to Cobar (2019).

Building intelligent computers that behave, think, and think like people is the goal of artificial intelligence (AI), according to Salvaris, Dean, et Tok (2018). These computers should also be able to simulate human intelligence and make judgments using human-like reasoning techniques. Artificial intelligence is a combination of sophisticated algorithms, repetitive processing, and large amounts of data. As a result, the program may automatically learn from the data's properties. The field of artificial intelligence is highly expansive. Artificial intelligence encompasses a wide range of concepts, techniques, processes, technologies, and subfields, including machine learning, neural networks, cognitive computing, computer vision, and scientific language processing.

Thanks to the growth of digital platforms, teaching and learning English phrase patterns has become easier. It is now possible to improve one's comprehension of English phrase structures thanks to the usage of artificial intelligence (AI). According to Yingsoon (2021), teaching and learning English phrase patterns is improved by the application of AI technology. AI makes it easier to transfer a variety of information and improves the efficiency of the English language learning process. Programs that employ artificial intelligence (AI) to teach English sentence structures are widely accessible and suitable for both English teachers and students. A few examples are as follows:

1. Google Translate

Perhaps the most important of the many tools Google has developed for users is Google Translate. According to Smallwood (2015), this is accessible at <http://google.com/translate>. Google Translate and other apps are already integrated with Google Board. Google Translate can translate between up to 50 languages. Users will be able to translate entire documents with Google Translate. Words are defined and pronounced in the target language using Google Translate. The "translate" mobile app allows users to rapidly interpret traffic signs. Google Translate can also translate websites into a variety of languages.

The main function of Google Translate is that of an online translator for the purpose of teaching and learning English sentence structures. Students use it for word, phrase, sentence, and paragraph translation. Use Google Translate to rectify spelling errors in terms that arise from typing errors.

2. Text to Speech (TTS)

Another feature offered by Google Translate is text-to-speech. The text-to-speech feature of Google Translate allows words from multiple languages, including English, to be spoken in multiple languages. The text-to-speech function of Google Translate reads text more clearly and with a less flat intonation than the other technologies. A Text to Speech (TTS) system

mechanically transforms text into speech by employing a particular arrangement of phonemes. The vast vocabulary of a TTS system allows it to speak a lot of words. TTS technology improves the learning resources for English courses and expedites the teaching and learning process, particularly in the English laboratory, according to Yudhistiro (2016).

3. English Able

English ABLE stands for Assessment-Based Learning Environment for English grammar. This technology was developed by Bauer, Underwood, Vanwinkle, Shute, and Zapata-Rivera (2017). Assessment-Based Learning Environments (ABLE) use many sources of assessment data to inform instruction. Regarding teaching and learning, English ABLE facilitates the acquisition of English grammar by English language learners and helps with evaluation.

4. Orai

For public speaking, Orai is a great alternative. It is useful for both working as a teacher and supporting teachers. Orai is user-friendly. Improving your oratory skills is a simple, self-directed process. One of Orai's skills in teaching and learning English language sentence patterns is recognizing the quantity of words and types of fillers used in speech.

5. Elsa English Learning Speech Assistant (ELSA)

In order to assist with English speech, this program makes use of artificial intelligence (AI). ELSA (English Learning Speech Assistant) Speak is a speech recognition and artificial intelligence-based English language learning program. Both the system's analysis and remedial feedback, as well as the users' ability to enunciate specific words or sentences, allow for two-way learning. The ELSA framework distinguishes and detects the speech patterns of non-native speakers by using voice samples from people speaking English with diverse accents, in contrast to most other speech recognition algorithms.

ELSA recommends lessons based on the user's competence level. Utilization A tool for learning English called ELSA (English Learning Speech Assistant) Speak helps students become more fluent speakers of the language by using artificial intelligence and speech recognition.

6. Chatbot

Chatbots, or artificially intelligent conversational systems, are the newest technological advancements that can converse with computers and people automatically. They are designed to be used as a conversation partner in English when the language is being taught and studied, and their function as a tool for training English conversations necessitates a grammar inaccuracy correction tool and a feature that lets users monitor their daily activities. The responses received include information about the errors, suggestions for word or phrase substitutions, and the locations of the issues, all of which are intended to reduce the number of errors in the user's sentence construction.

The user's message initiates the chatbot's effortless operation. The message is then interpreted by the chatbot and NLP (Natural Language Processing) by consulting the current database.

7. Duolingo

Duolingo is an online language learning platform. Duolingo is a game-like language-learning tool that involves matching words and filling in the blanks in sentences. The goal of this method is to teach the grammar, words, and phrases that make up a sentence. Every student, regardless of English proficiency, can study a new science with Duolingo.

8. Neo Nexgen

Neo is a smartphone-based integrated English language learning tool that uses speech recognition and artificial intelligence to adjust to its customers' needs. Neo is a novel approach to English language acquisition. For users with hectic schedules, Neo applications are efficient, adaptable, and simple to use. Each user can enjoy a variety of experiences thanks to Neo's user-friendly design, adaptive learning system, International Standard English technology, and certificates. The Neo Study program's artificial intelligence (AI) continuously examines user behavior. Neo helps clients become fluent in English by offering them instruction and learning at the same level as a qualified private teacher.

The new study app's sophisticated speech recognition technology will help users practice correctly pronouncing each word until they can speak English effectively.

Advantages of AI-Powered English Language Learning Resources:

- i) AI does task that human cannot, such as analyzing English phonemes and determining the evolution of language proficiency.
- ii) More accessible AI tools for learning spoken English.
- iii) Compared to individuals, they are more scalable and able to serve a larger number of students.
- iv) They speed up learning through a higher level of instruction; this is challenging with just human teachers.

AI devices enjoy a stress-free learning environment because people don't trust their speech abilities.

METHODOLOGY

Library research is the research design. It is research that is carried out by gathering data related to the research topic. The study's goal is to address a problem that stems from a thorough and critical analysis of pertinent library resources on artificial intelligence and English sentence structures. The researcher interacts directly with the text, which is one of the features of library research. To get a theoretical foundation for the topic at hand, the analysis examines a range of reference books or journals in addition to the results of linked prior research.

The sources of information employed in this study are books, journals, and websites related to the subject the researchers have selected. Documentation in this analysis means searching books, journals, papers or posts, newspapers, and other sources for information on items or factors.

The collected data is analyzed. The researchers used content analysis techniques, which entail a thorough examination of textual sources, because the data under investigation required a descriptive explanation.

RESULT AND DISCUSSION

Finding and Discussion

1. The connection between English language sentence patterns and artificial intelligence

Artificial Intelligence-assisted technologies are part of Computer-Assisted Language Learning (CALL). As noted by Li (2020), artificial intelligence (AI) presents a multitude of opportunities for improving language instruction due to the swift progress in big data technologies and natural language processing. Mukhallafi (2020) asserts that teaching English sentence patterns is a critical educational objective that will enhance future students' capacity for international communication. With the speed at which technology and natural language processing are developing, artificial intelligence (AI) has several advantages for language teaching.

Artificial Intelligence (AI) in English instruction is a challenging and innovative field. Zhu (2017) asserts that AI tools contribute to the development of inclusive, international classrooms. AI is crucial for both English language learners and teachers, claims Gawate (2019). "Artificial intelligence also acts as a tool for improving English Language Sentence Patterns," according to Li (2017).

The current study defines artificial intelligence (AI) as the use of AI systems to teach and learn English language sentence patterns in order to improve the processes of content selection, organization, and arrangement (Mukhallafi, 2020). It also adapts the sources of instruction and the educational flow to the level of the students.

In his study "Research on Artificial Intelligence Promoting English Learning Change," Wang (2019) claims that the following is the connection between teaching English language sentence patterns and artificial intelligence:

- ✓ Artificial intelligence alters the learning environment for English.
- ✓ An excellent learning environment for immersive English learning is provided by artificial intelligence.
- ✓ Students interact with AI through the interface between humans and computers, which enhances the validity of language environments and
- ✓ Maximizes the teaching impact of English.
- ✓ AI will offer a real simulation dialog platform for teaching and learning English in English.
- ✓ AI improves students' practical skills in English classes.
- ✓ AI is currently the industry's hotspot technology material for social science.
- ✓ Teachers and students must comprehend how to operate the system and quickly solve problems in order for science and technology to be applied in English language teaching.

Thus, when AI is used to teach English language sentence patterns, students' practical operational capacity is increased.

According to Gawate's (2019) essay, "Artificial Intelligence (AI) Based Instructional Programs in Teaching-Learning of English Language," AI-based instructional systems for teaching and learning English have the following advantages:

- ✓ Consumers can benefit from friendly, need-based educational programs.
- ✓ The AI-powered instructional software integrates learners' contextual requirements with its goals.
- ✓ It is outlined with precise criteria and clear expectations for the learners. The teaching and learning of English fail to consider the needs of the students.
- ✓ It is feasible to develop high-quality teaching-learning resources that function at all linguistic levels using artificial intelligence.
- ✓ AI serves as an essential external support system for English language learners and educators.
- ✓ When AI integrates humanized knowledge, it will provide exact assistance at any time and location.
- ✓ Even when AI-based services are integrated, educators' roles are not minimized.
- ✓ It is possible to develop AI-based systems that can learn English in a number of ways and provide feedback.
- ✓ It can be applied to AI-based educational programs to measure and analyze input in accordance with student needs, including cross-verification, grading, review, and in-depth presentation.
- ✓ Every aspect of the pupils' achievement is evaluated.
- ✓ Removing the teacher from the approach and changing their function as a guide and director is difficult.
- ✓ The role of the teacher in the ELT process is the only thing that AI-based technologies alter. Teachers should guide and support their students. An AI-based application that requires a few manual adjustments can be handled and managed by teachers. AI-related educational services can only support English language training.
- ✓ Artificial Intelligence makes possible exchange of knowledge.
- ✓ Teaching-learning is personalized in English.
- ✓ In order to engage students with activities and satisfy their interests, AI-based learning platforms help them learn at their own pace, repeat subjects, and emphasize areas in which they struggle.

AI-based instructional programs are customized to improve English teaching and learning, with a focus on creating English course materials based on student needs.

CONCLUSIONS AND RECOMMENDATIONS

The goal of artificial intelligence is to create robots with intelligence on par with or even higher than that of humans. From natural language processing to vision, reasoning, object movement and manipulation, knowledge, and learning, artificial intelligence is anticipated to be able to perform a wide range of tasks that will facilitate human life. This advanced equipment was created

with the intention of cutting down on working hours to increase productivity. Artificial intelligence reduces the cost of human decision-making and task completion.

The growth of digital platforms has made learning English easier. Technology like computers and smartphones will make it possible to apply artificial intelligence more widely and provide additional possibilities to people worldwide. Another essential component of digital learning technology is personalized material. We now have an artificial intelligence and big data-based adaptive system. Depending on each user's needs and schedule, we can choose the best method for learning English.

In conclusion, although artificial intelligence as a tool for teaching English is still in its infancy, it has shown great promise. It has improved the English language learning experience, changed the roles of teachers, improved the quality of English instruction, and promoted reform in the English instruction area. It has also changed how students learn English.

The next standard for language instruction will be the close integration of artificial intelligence and English instruction. In order to achieve a higher level of teaching reform and upgrading in the new era, free from the simple and high repetition rate of English teaching, teachers should keep up with the latest trends in science and technology. This will allow them to devote more time and energy to the teaching process and fully utilize artificial intelligence technology to strengthen the in-depth and effective development of English instruction for students.

FURTHER STUDY

This research still has limitations so further research is still needed on this topic "Availability and Accessibility of Artificial Intelligence in the Study of English Language Sentence Patterns among Undergraduate Students".

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