INTERNATIONAL JOURNAL OF RESEARCH IN EDUCATION AND PSYCHOLOGY (IJREP) *An International Peer Reviewed Journal*
http://ijrep.com/ SJIF Impact Factor 5.997

Vol.11, Issue 1 (January-March) 2025

RESEARCH ARTICLE

ISSN:2455-426X

THE IMPROVEMENT OF READING COMPREHENSION VIA AI PLATFORMS

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https://doi.org/10.54513/IJREP.2025.11013

Article Info:
Article Received: 17-02-2025
Accepted on: 20-03-2025
Published online: 29-03-2025

Abstract

The enormous potential of AI-driven adaptive texts to improve students' reading comprehension abilities is explored in this research. It demonstrates how these tools, by properly matching the demands of each individual student, may greatly enhance learning results and support individualised teaching. Through an analysis of the concepts and methods of implementation of adaptive texts, the study offers educators a useful manual for successfully incorporating AI technology into regular instruction. All facets of adaptive text-based teaching are thoroughly covered in this article, from determining the requirements of the students, choosing the right resources, creating lesson plans, and conducting interactive discussions to tracking learning outcomes and encouraging self-directed learning. It emphasises how deeply technology and educational ideologies are intertwined. The study concludes by urging the education industry to aggressively investigate AI's educational applications and keep a close eye on its developments in order to collaboratively build a future of teaching that is creative, efficient, and individualised

Keywords: *Adaptive Text, Reading Comprehension, Artificial Intelligence etc.*

Introduction

Reading and comprehending written information is a vital skill that must be had in order to achieve academic achievement and to continue learning throughout one's whole life (National Reading Panel, 2000). One example of this is the capability to go to school online, which calls for additional digital skills. On the other hand, despite the fact that a considerable majority of students have difficulty comprehending what they read, traditional methods of teaching reading may not necessarily be useful for all children.

The Objective of the Study

The objective of this study was to investigate the effectiveness of AI-based individualised reading platforms with the intention of enhancing the capability of students to comprehend what they read. To attain the highest possible level of effectiveness, the goal of this research is to analyse the many methods in which these platforms may be constructed and implemented. In addition to this, it makes an effort to study the potential impact that these platforms may have on the level of interest and participation that students have into reading. One of the potential outcomes of this study is the development of more efficient approaches to the instruction of reading and the development of literacy abilities. The effectiveness of AI-based individualised reading systems will be evaluated in order to achieve this goal. Additionally, personalised learning platforms may be developed and used in various educational environments, and the knowledge presented here may be of assistance in doing so. A combination of artificial intelligence and individualised learning platforms has the potential to revolutionise the teaching of reading education and provide effective solutions for students who are struggling with reading comprehension. This development is a possibility.

Findings

According to the findings of the National Assessment of Educational Progress (NAEP) (NAEP, 2019), only 35 percent of students in the fourth grade in the United States earned at or above the competent level in reading in 2019. According to study performed by Reardon et al. (2012) and the National Centre for Education Statistics (2019), the performance gap in reading proficiency is substantially more apparent among youngsters who come from parents with low incomes and those who originate from minority backgrounds. According to the findings of research carried out by Kirsch et al. (2011), pupils who have difficulty

comprehending what they read face a myriad of challenges. These challenges include limited access to information, decreased academic opportunities, and a reduced likelihood of employing themselves during the course of their lives. Therefore, it is of the highest significance to identify practical solutions that might potentially aid children in growing and strengthening their reading comprehension skills while they are in school.

According to Fisher and Frey's study from 2020, recent studies have brought to light the necessity of individualised and adaptive learning strategies for the goal of improving reading comprehension skills. In addition, efforts have been made to emphasise the role that technology plays in meeting a diverse variety of educational needs (EdTech, 2021).

Artificial Intelligence (AI) and Natural Language Processing (NLP)

As a consequence of developments in artificial intelligence (AI) and natural language processing (NLP), it has been feasible in recent years to create personalised learning platforms that are able to adapt to the specific needs and skills of each individual student. These platforms are able to do this by adjusting to the requirements and capabilities of each student. These systems, which make use of machine learning algorithms to evaluate student performance data, provide individualised recommendations for literary works and other resources. These recommendations may be found on the website. (Xie et al., 2018). There are exercises that are aimed to promote comprehension. One example of a media that may be adapted to students' needs is reading. Lexia Core5 is the name of the publishing platform. This platform gives each student an assessment of their reading abilities and modifies its activities so that they are tailored to match the specific needs of each individual student. Students who are experiencing problems with phonics, for example, might benefit from the focused and engaging activities that are provided by Lexia Core5 in order to improve their phonics abilities. The system is designed to continuously adjust to the progress of the pupils, gradually presenting them with increasingly challenging projects as their abilities continue to advance. It is possible for instructors to monitor this progression by making use of real-time data, which allows them to give customised assistance to students while they are in the classroom. This method ensures that each individual student experiences the development of reading abilities that are not only effective but also tailored to their own needs.

In the context of solving this challenge, recent breakthroughs in artificial intelligence and natural language processing have revealed promising results. Personalised learning platforms offer the potential to establish a reading education approach that is both individualised and adaptive, according to Xie et al. (2018). This education plan would be tailored to the unique needs and skills of each individual student. By incorporating artificial intelligence into reading teaching, students will be able to access and comprehend books that are growing more difficult, which will enable them to improve their academic performance, broaden their knowledge, and broaden their intellectual viewpoints. At the same time, however, this provides a once-in-a-lifetime chance. It has been shown via study that individualised learning platforms may be of great assistance in achieving the goal of improving student performance in a number of domains, including reading comprehension. For instance, Liu et al. (2020) carried out a study in which they observed that an artificial intelligence-based personalised reading platform helped students in a Chinese primary school significantly enhance their reading comprehension skills. This was discovered via the usage of the platform.

Additionally, Iwata et al. (2020) did another study that shown that the implementation of a writing feedback system that was powered by artificial intelligence led to a significant improvement in the reading comprehension skills of students. Pupils received customised feedback on their writing tasks, which allowed them to achieve the goal. In accordance with the findings of other research that has been carried out along the same lines, it has been shown that personalised learning platforms that are driven by artificial intelligence are beneficial in enhancing read comprehension skills. As an illustration of this, consider the results of a study that was carried out by Akiba et al. (2020).

This study found that the reading comprehension skills of Japanese middle school students were improved by a reading comprehension aid system that was based on artificial intelligence. The students were able to provide feedback on how well they comprehended the material, and they could also provide individualised recommendations for reading materials that were based on the reading level and interests of each individual student. In the study that Khan and Mutawa (2021) carried out, they studied whether or not a personalised reading platform that was powered by artificial intelligence was effective in improving the reading comprehension skills of Arab students who were studying English as a foreign language. A platform that provides individualised recommendations for reading materials to be bought

was established with the intention of catering to the reading abilities, interests, and language proficiency of each individual student. According to the results of the research, the platform brought about a significant improvement in the learners' reading comprehension skills, as well as in their interest and participation in reading.

In spite of this, there is still a need for more research to evaluate the effectiveness of customised reading platforms that are powered by artificial intelligence in the context of reading education classes.

Conclusion

In conclusion, the findings of many researches demonstrate that tailored reading platforms for senior high school students that are powered by artificial intelligence have the potential to successfully increase reading comprehension. According to the findings, pupils who made use of the platform fared better than those who did not, indicating the potential for technology to totally transform the way reading is taught. The results of this research have significant consequences for teachers and administrators who are looking to improve kids' reading abilities. This is because reading issues are all too common among pupils. For the purpose of enhancing reading abilities, the findings of the research indicate that a potentially fruitful method would be to include AI-based customised reading platforms into instructional techniques. In order to assist students in developing their comprehension abilities in a manner that is suited to their specific requirements, these platforms may offer students with individualised reading materials and feedback. As a result, teachers and school officials have to strongly consider investigating the possibility of incorporating these platforms into their instructional methods.

The findings of many researches, taken as a whole, emphasise the significance of supporting student learning via the utilisation of technology and highlight the potential of AI-based platforms in improving reading comprehension. Teachers and school administrators should be alert in their exploration of new methods of teaching and learning as technology continues to advance. They should also explore the potential advantages of adopting AI-based platforms into their instructional tactics.

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