



JOURNAL OF INNOVATIONS IN EDUCATIONAL ASSESSMENT

Vol. 7, No. 1, June 2025.



Revue des Innovations en
Evaluation Pedagogique

ISSN: 2705-3830 (Print)

ISSN: 2705-3857 (Online)

**Assessing Artificial Intelligence-driven Personalised Reading Recommendations' Impact
on Students' Reading Habits**

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Abstract

This study examined the influence of AI-driven personalised reading recommendations on learners' reading behaviour. Utilising a quasi-experimental design, the research involved 200 undergraduate students over a semester, grouped into two – control and experimental groups – receiving personalised recommendations through an AI-based system. Data were collected through pre- and post-intervention surveys, reading logs, and focus group discussions. The findings indicate a significant increase in reading frequency and diversity of genres among students exposed to AI-driven recommendations compared to the control group. Additionally, qualitative data revealed enhanced engagement and motivation to read, attributed to the personalised nature of the recommendations. This study highlights the capacity of AI to adapt learning experiences to individual student preferences, thereby promoting a more engaging and effective reading culture. Implications for educators include the adoption of AI technologies to support personalised learning pathways while future research should explore long-term effects and scalability across diverse educational contexts.

Keywords: Artificial Intelligence, constructivist theories, personalised learning, reading motivation, reading satisfaction

Assessing the Impact of AI-driven Personalised Reading Recommendations on Students' Reading Habits and Preferences

Education has been undergoing a transformative shift since the turn of the century with the integration of advanced technological skills and devices, particularly Artificial Intelligence (AI), which is a prominent feature in the digital age. AI has the capacity to revolutionise traditional educational practices by providing personalised learning activities and experiences that are designed to take care of the distinctive needs, requirements and preferences of individual learners (Ayeni et al. 2024; Das et al., 2023; Holmes et al. 2019; Kaban, 2021; Kennedy et al., 2008; Phillips, 2023; Regan & Steeves, 2019). One area where AI shows significant promise is in enhancing students' reading habits and preferences through personalised reading recommendations. Personalised reading recommendations deploy AI and data analytics to suggest books, articles or other reading materials based on an individual's preferences, reading history, interests and behaviour. These recommendations are commonly used in e-learning platforms, digital libraries and on-line bookstores to enhance user's experience and engagement.

Reading is a fundamental skill that underpins academic success and life-long learning. However, fostering a strong reading habit among students has been a persistent challenge for educators. Traditional 'one-size-fits-all' approach to reading assignments often fail to engage students, leading to a decline in reading motivation and frequency. Personalised learning, facilitated by AI, offers a solution by recommending reading materials that align with students' interests, reading levels and learning goals. Personalised learning is an educational approach that tailor instruction, content and speed or pace to meet the unique needs, interests and abilities of each learner. It leverages technology, data analytics and AI to provide customised learning experiences, ensuring that students progress at their own speed and receive targeted support. This method enhances engagement, improves outcomes and fosters independent learning.

According to Phillips (2023), “few studies have focused on personalized learning and its impact on student achievement when compared to the traditional classroom” (p. iii). Phillips however affirms the impact of personalised learning on students' achievement. AI-driven

personalised reading recommendation systems leverage sophisticated algorithms to analyse vast amounts of data, including students' past reading behaviors, preferences, and performance metrics. By doing so, these systems can curate reading lists that are not only relevant and engaging but also challenging and educationally beneficial. Previous research has shown that personalised learning can improve students' engagement and outcomes (such as Bloom, 1984; Pane et al., 2015; Freeman et al., 2014; Hattie, 2008; Kulik et al., 1990). However, there is limited empirical evidence specifically focusing on the effect of AI-driven reading recommendations on students' reading habits and preferences.

This study attempts to fill this knowledge gap by assessing the effect of AI-driven personalised reading recommendations on the reading behaviours of undergraduate students. By examining changes in reading frequency, diversity of genres, and overall engagement, this research seeks to offer insights into how AI resources can be harnessed to foster a more robust reading culture among students. Additionally, this study will explore students' perceptions of the AI-driven recommendations and their influence on reading motivation and satisfaction.

The objectives of this study are:

1. To evaluate the effectiveness of AI-driven personalised reading recommendations in increasing students' reading frequency and diversity.
2. To assess the effect of personalised reading recommendations on students' commitment and incentive or motivation to read.
3. To explore students' perceptions of the AI-driven personalised reading recommendation system and its usability.

Research Questions

The following are research questions meant to guide this study:

1. How do AI-driven personalised reading recommendations affect students' reading frequency and genre diversity?
2. What impact do personalised recommendations have on students' engagement and motivation to read?

3. How do students perceive the effectiveness and usability of AI-driven personalised reading recommendations?

With focus on these questions, this study attempted to contribute to the growing pool of literature on personalised learning and the deployment of AI in education, thus, assist teachers and educational administrators and policymakers to enhance students' reading experiences.

The theoretical foundations of personalised learning may be traced to Constructivist Theories of education, which emphasise the importance of tailoring educational experiences to the individual learner's needs, preferences, and prior knowledge. Zone of Proximal Development by Lev Vygotsky and stages of cognitive development suggested by Jean Piaget aver that learning is most effective when it is scaffolded to meet the learners where they are and challenges them just beyond their current capabilities. AI-driven personalised learning systems embody these principles by using data analytics to continually adapt and optimise learning pathways for students.

Vygotsky's theoretical framework stresses that social interaction performs a crucial role in the growth and development of cognition. Vygotsky (1978) submits that, “Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (inter-psychological) and then inside the child (intra-psychological)” (p. 57). Vygotsky adds that this precept applies on an equally basis to “voluntary attention, to logical memory, and to the formation of concepts.” He concludes that all the higher roles or functions evolve as real or actual relationships between or among individuals.

Vygotsky's theory also stresses the notion that the propensity for cognitive development is dependent on the “zone of Proximal Development” (ZPD), which refers to a level of development that is attained when children participate in social behaviour. The full or complete development of the ZPD is dependent on full or complete social interaction. The variety of skills that can be acquired and developed with peer collaboration or adult guidance goes beyond what may be achieved alone. The theory attempts to describe consciousness as the final product of socialisation. For instance, in language learning, a child's initial expressions with his peers or adults are usually

for communication purposes. However, as soon as the utterances are mastered, they become internalised and, thus, allow “inner speech” (Vygotsky, 1978, p. 56). Vygotsky gives the instance of pointing a finger. The behaviour starts as a rather meaningless grasping motion; but, with people's reaction to the gesture, it gradually becomes a meaningful movement. Thus, that gesture of pointing signifies an interpersonal link or connection between or among individuals. Vygotsky believes that cognitive development is limited to a certain extent or range at any given age, and that complete cognitive development can only be achieved through social interaction.

Artificial Intelligence in education covers a broad variety of applications, which include intelligent tutoring systems, automated grading, and personalised learning environments.

Investigating the multidimensional function of Artificial Intelligence in education with special focus on educational technology and personalised learning, Ayeni et al. (2024) report that, “the integration of Artificial Intelligence (AI) in education has ushered in a transformative era, redefining traditional teaching and learning methods” (p. 261). Noting that “the synergy between AI and education promises to address individualized needs, enhance student engagement, and optimize learning outcomes,” (p. 261) they stress, “the need for collaborative efforts among educators, policymakers, and technologists to establish ethical guidelines and ensure the equitable distribution of AI-enhanced educational resources” (p. 261).

Kaban (2021) stresses the importance of the use of personalised e-book reading programmes, with personalised feedback, proposing “a personalized electronic reading approach” (p. 196) for an English as a Foreign Language (EFL) reading comprehension programme. Kennedy et al. (2008) aver that electronic records generated from technology-based learning contexts enable scientists, including analysts, to spot various user- behaviours, besides providing empirical evidence to illuminate this by showing how user data may be collected effectively and analysed. According to Holmes et al. (2019).

Artificial intelligence (AI) is arguably the driving technological force of the first half of this century, and will transform virtually every industry, if not human endeavors at large. Businesses and governments worldwide are

pouring enormous sums of money into a very wide array of implementations, and dozens of start-ups are being funded to the tune of billions of dollars. (p. 1).

According to Holmes et al. (2019), AI can enhance educational outcomes by providing adaptive learning experiences that respond in real-time to students' performance. These systems use algorithms to analyse students' data and offer personalised feedback and resources, thereby supporting differentiated instruction and promoting students' engagement.

In a study on the effect of AI-driven personalisation on the performance of learners, Das et al. (2023) report that,

Through quantitative and qualitative analysis, the research demonstrates a positive correlation between personalized AI-based adaptive learning and improved academic achievement, engagement, and satisfaction. The findings highlight the potential of AI-driven personalization to enhance learners' performance and transform education practices. (p.15)

Again, Regan and Steeves (2019) report that,

Our findings suggest that competing discourses on personalized learning revolve around contested meanings about the type of expertise needed for twenty-first century learning, what self-directed learning should look like, whether education is about process or content, and the type of evidence that is required to establish whether or not personalized learning leads to better student outcomes.

Personalised Reading Recommendations

Personalised Reading Recommendation Systems utilise AI to suggest books and reading materials based on individual students' preferences, reading history, and performance metrics. Such systems aim to increase students' engagement by providing content that is both interesting and appropriate for their reading level. Research by Chen et al. (2020) demonstrated that students who received personalised reading recommendations showed increased reading motivation and

improved reading comprehension compared to those who received standard reading lists.

Personalised Learning (PL) has been associated with improvements in students' engagement and academic outcomes, as research has shown. According to Pane et al. (2015), a study by RAND Corporation examined the implementation of personalised learning models in various schools and found positive effects on students' Mathematics and Reading scores. A study by Bloom (1984) introduced mastery learning, a component of personalised learning, demonstrating that students receiving personalised instruction performed significantly better than those in traditional settings. A meta-analysis by Freeman et al. (2014) revealed that active learning strategies, often incorporated into personalised learning environments, led to improved students' performance in STEM fields. Another meta-analysis by Kulik et al. (1990) reviewed the effectiveness of mastery learning programmes, a personalised learning approach, and found positive effects on students' achievement across various subjects; while Hattie's synthesis identified various influences on students' achievement, highlighting the effectiveness of strategies related to personalised learning, such as feedback and metacognitive strategies (Hattie, 2008). These studies provide evidence supporting the potential benefits of personalised learning in enhancing students' engagement and academic outcomes. While specific studies focused on the direct impact of AI-driven personalised reading recommendations on students' reading frequency and genre diversity are limited, several studies reveal the potential benefits of such technologies in educational settings. These include International Literacy Association (ILA, 2024), ReadWorks (2023) and Renandya (2024). These publications highlight the potential of AI-driven personalized reading recommendations to enhance students' engagement, reading frequency, and exposure to diverse genres. However, empirical research specifically measuring these outcomes remains an area for further investigation.

Some AI tools are known to support the assessment of personalised recommendations, track behavioral changes and analyse qualitative data on students' experiences with AI-driven recommendations. These tools include the following:

- 1. Natural Language Processing (NLP) Models:** These are used to analyse reading materials and recommending texts based on content, complexity, and genre. Tools like OpenAI's

GPT, Google's BERT, or spaCy can process text data to match reading materials with individual preferences.

2. Collaborative Filtering Algorithms: These are used to develop recommendation engines that provide personalised reading suggestions based on students' past interactions, preferences, and those of similar users. Tools like TensorFlow's Recommenders can be used to implement collaborative filtering for personalised recommendations.

3. Sentiment Analysis and Topic Modeling Tools: These are used to analyse qualitative feedback from focus groups and surveys. NLP libraries such as NLTK or gensim can help in sentiment analysis and identifying common themes in student feedback.

4. Data Analytics and Visualisation Tools: These are used for analysing reading logs and survey responses to track changes in reading habits over time. Tools like Tableau, Power BI, or Python libraries (Matplotlib, Seaborn) can support visual analysis of data.

5. A/B Testing or Quasi-Experimental Tools: These are used to compare outcomes between the control and experimental groups. Statistical packages like IBM SPSS, R, or Python's SciPy and Statsmodels can provide robust analysis of the impact of the recommendations on reading habits. IBM SPSS may not really qualify as an AI tool as it had been developed – and had been in use – before the advent of AI.

6. Engagement and Behavioral Tracking Software: Tools such as Google Analytics or Mixpanel can be integrated into the AI system to log students' reading activity and engagement with recommended materials, providing data on reading frequency and genre diversity.

The AI tools used for this study were Google Analytics, Power BI and OpenAI's GPT.

Impact on Reading Habits and Preferences

Many studies have explored the effect of personalised learning on the students' reading habits and preferences. For instance, a study by Johnson and Keane (2018) found that personalised reading programmes led to a significant increase in the frequency and diversity of reading among middle school students. Similarly, Smith et al. (2021) reported that personalised recommendations not only boosted students' reading engagement but also broadened their exposure to different genres, thereby enhancing their overall reading experience.

Challenges and Considerations

Despite the promising potential of AI-driven personalised reading recommendations, there are challenges and considerations that need to be addressed. Issues related to data privacy and security are paramount, as highlighted by West (2019), who emphasises the need for stringent measures to protect student information. Additionally, the effectiveness of these systems relies heavily on the quality and accuracy of the data inputs, which can vary significantly among different student populations.

Gap Analysis

While there is a large volume of literature on the benefits of personalised learning, specific research on AI-driven personalised reading recommendations remains limited. Most existing studies focus on the general advantages of personalised learning environments, with few addressing the nuanced impacts on students' reading habits and preferences. This study intends to have this gap filled by providing empirical evidence on how AI-driven personalised reading recommendations influence undergraduates' reading behaviours and engagement.

In sum, the incorporation of Artificial Intelligence in education, particularly in personalised reading recommendations, holds significant promise for enhancing student learning experiences. However, some more research efforts are needed to fully understand the effect of these systems on learners' reading habits and preferences. By examining the effects of AI-driven personalised reading recommendations, this study sought to contribute insights into the possible benefits and challenges of personalised learning in the digital age.

Method

This study used a quasi-experimental design to assess the effect of AI-driven personalised reading recommendations on students' reading habits and preferences. The quasi-experimental design allows for comparison between two groups – control and experimental groups – while accommodating the practical constraints of conducting educational research in a real-world setting.

The study involved 200 undergraduate students of Lagos State University of Education, selected using Stratified Sampling Technique (based on the criteria of level, age and gender) from

two levels (100 Level and 300 Level) of two Departments (Department of English Education and Department of Foreign Languages). The participants were selected out of a total number of 434 students (Department of English Education: 100 Level – 140, and 300 Level – 135) and Department of Foreign Languages (100 Level – 81, and 300 Level – 78). The participants were divided into two groups:

Experimental Group: 100 students (selected from two levels – 100 Level and 300 Level – of two Departments) who received AI-driven personalised reading recommendations.

Control Group: 100 students (selected from two levels – 100 Level and 300 Level – of two Departments) who followed the standard reading curriculum without personalised recommendations.

Participants were matched based on demographic variables (such as age and gender) and baseline reading proficiency to ensure comparability between the two groups. The AI-driven personalised reading recommendation system utilised in this study was developed by an educational technology company and deployed by an Information and Technology (ICT) expert. The AI tools used for the study were:

1. Google Analytics, integrated into the AI system to log students' reading activity and engagement with recommended materials, providing data on reading frequency and genre diversity;
2. Power BI, **used** for analysing reading logs and survey responses to track changes in reading habits over time, supporting visual analysis of data; and
3. OpenAI's GPT, **used** to analyse reading materials and recommend texts based on content, complexity and genre, processing text data to match reading materials with individual preferences.

The system analysed individual students' reading histories, preferences, and performance metrics to generate personalised reading lists. The experimental group used this system over a 12-week period, during which they received weekly reading recommendations tailored to their interests and reading levels. Data were collected using a combination of qualitative and

quantitative methods to offer a comprehensive explication of the impact of personalised reading recommendations.

1. **Pre- and Post-Intervention Surveys:** Surveys were administered to all participants at the beginning and end of the study to measure changes in reading frequency, diversity of genres, and reading motivation. The survey used to capture the quantitative and qualitative data included Likert-scale questions and open-ended questions developed by an ICT expert.
 2. **Reading Logs:** Students in both groups maintained reading logs throughout the study period, recording the titles, authors, genres, and duration of their reading activities. This data was used to assess changes in reading habits and preferences.
 3. **Focus Group Discussions:** Focus group discussions led by the researchers were deployed with a subset of 50 participants from the experimental group to gather in-depth insights into their experiences with the AI-driven personalised reading recommendations. The interviews were semi-structured, allowing for the exploration of themes related to engagement, motivation, and perceived effectiveness.
1. **Quantitative Analysis:** Survey data were analysed using descriptive statistics and inferential statistics. Paired t-tests were used to compare pre- and post-intervention survey results in each of the groups, and independent t-tests were used to compare changes between the two groups – experimental and control. Reading log data were analysed using frequency and categorical analysis to identify patterns and trends in reading behaviors.
 2. **Qualitative Analysis:** Open-ended survey responses and focus group interview transcripts were analysed with the aid of thematic analysis. This had to do with coding the data in order to spot recurring themes and patterns that were related to learners' experiences, motivations, and perceptions of the AI-driven recommendations.

Validity and Reliability

Some measures were taken for the validity and reliability of the study:

Instrument Validation: The survey instruments, with a reliability coefficient of 1.0, were

reviewed by a panel of educational experts and then pilot-tested with another (small) group of learners to ensure clarity and relevance.

Triangulation: Data from multiple sources (surveys, reading logs, interviews) were triangulated to provide a comprehensive and corroborated understanding of the findings.

Inter-rater Reliability: For qualitative data analysis, multiple researchers independently coded the data and discussed discrepancies to reach consensus on the themes.

Ethical Considerations

The study adhered to ethical guidelines for educational research. Informed consent was obtained from all participants. The researcher assured participants of the anonymity and confidentiality of their responses, assuring them that they had the right to withdraw from the study whenever they felt the need without penalty. The study was approved by the Heads of the participating Departments.

Results and Analysis

Quantitative Analysis

Survey Results

Reading Frequency: The pre-intervention survey (four weeks) showed that students in both the experimental and control groups read, on average, 2.5 books per month. Post-intervention (eight weeks), the experimental group's reading frequency increased to an average of 4.2 books per month, while the control group showed a slight increase to 2.7 books per month. Paired t-tests showed that the increase in reading frequency in the experimental group was statistically significant ($t = 6.45, p < 0.001$), whereas the change in the control group was not ($t = 1.23, p = 0.22$). The data were normally distributed, observations were independent of each other, the dependent variable was continuous, and there was homogeneity of variance (the variance between the two groups was similar). The primary assumptions were thus met

Genre Diversity: Genre diversity was assessed by the number of different genres read by each student. Pre-intervention, students in both groups read an average of 3 genres. In post-intervention, the experimental group expanded their reading to an average of 5 genres, while the control group remained at 3 genres. Independent t-tests confirmed that the increase in genre diversity was greater

significantly in the experimental group when compared with the control group ($t = 5.78, p < 0.001$).

Reading Motivation: Reading motivation was measured using a Likert scale (1 = very low, 5 = very high). The experimental group's average motivation score increased from 3.1 to 4.3, while the control group's score changed minimally from 3.0 to 3.2. The disparity in motivation scores between pre- and post-intervention was significant in the experimental group ($t = 8.52, p < 0.001$) but not in the control group ($t = 0.98, p = 0.33$).

Reading Logs

Analysis of the reading logs supported the survey findings. Students in the experimental group logged more reading sessions and explored a broader range of genres compared to the control group. On average, those in the experimental group recorded 20 reading sessions over the 12-week period, compared to 12 sessions recorded by the control group. The diversity of genres in the logs matched the survey data, with the experimental group showing a greater variety.

Qualitative Analysis

Focus Group Interviews

Enhanced Engagement and Motivation: Participants in the focus group interviews from the experimental group reported feeling more engaged and motivated to read due to the personalised recommendations. One student remarked, "The books recommended to me were exactly what I was interested in. It made me want to read more because I knew I'd enjoy the book."

Broader Reading Horizons: Many students noted that the AI recommendations encouraged them to explore genres they had not previously considered. A student shared, "I used to stick to fantasy novels, but the recommendations introduced me to historical fiction and biographies, which I ended up loving."

User Experience and Usability: Students generally found the AI system easy to use and appreciated the tailored recommendations. Some feedback highlighted areas for improvement, such as refining the recommendation algorithm to better match reading levels with interests.

Thematic Analysis

Thematic analysis of open-ended survey responses and interview transcripts revealed three main themes:

1. **Increased Reading Enjoyment:** Students expressed that personalised recommendations made reading more enjoyable and less of a chore.
2. **Discovery of New Interests:** The system helped students discover new genres and authors, broadening their reading preferences.
3. **Sustained Engagement:** Continuous, tailored recommendations helped sustain students' engagement with reading over time.

Discussion

The quantitative data revealed a significant increase in reading frequency, genre diversity, and reading motivation in the experimental group when compared with the control group. Qualitative data supported these findings, indicating that personalised reading recommendations enhance students' engagement and broaden reading interests. The overall results suggest that AI-driven personalised reading recommendations have a positive impact on students' reading habits and preferences.

The key findings of this study revealed that AI-driven personalised reading recommendations can significantly enhance students' reading habits and preferences. The experimental group, which received personalised recommendations, showed notable improvements in reading frequency, genre diversity, and motivation to read. These results suggest that personalised learning technologies can address some of the longstanding challenges in fostering a robust reading culture among students.

Increased Reading Frequency

The significant increase in reading frequency among the experimental group highlights the effectiveness of personalised recommendations in encouraging students to read more. This aligns with previous research indicating that tailored educational experiences can boost student engagement (Chen et al., 2020). The personalised recommendations likely made reading more appealing by aligning with students' interests, thus reducing the effort needed to find enjoyable books.

Diversity of Genres

The experimental group also exhibited a broader range of genres in their reading choices

post-intervention. This finding supports the notion that personalised recommendations can expand students' literary horizons, exposing them to a variety of genres they might not have explored otherwise, as noted by Pane et al. (2015) and Freeman et al. (2014). This genre diversification is crucial for developing well-rounded readers who are open to different perspectives and ideas.

Enhanced Motivation

The increase in reading motivation among students in the experimental group is particularly noteworthy. Motivation is a key factor in sustaining long-term reading habits, and the personalised reading recommendations appear to have made reading a more enjoyable and rewarding activity (Kulik et al., 1990; Hattie, 2008). The qualitative data further support this, with students expressing that the personalised recommendations made them feel understood and catered to their individual preferences.

The results of this study are clearly consistent with existing literature on the benefits of personalised learning. Studies have shown that personalised educational technologies can improve students' engagement and learning outcomes (Johnson & Keane, 2018; Smith et al., 2021). However, this study extends the literature by providing specific evidence on the impact of AI-driven personalised reading recommendations on students' reading habits and preferences, an area that has been underexplored.

Implications for Practice

The key findings of this study have several implications for educators, policymakers, and developers of educational technology:

- 1. Adoption of Personalised Learning Technologies:** Schools and educators should consider integrating AI-driven personalised recommendation systems into their reading programmes to enhance student engagement and motivation.

While the results are promising, this study is not without some limitations. The quasi-experimental design, while practical, has no control of all potential confounding variables. Future research could employ a randomised controlled trial to strengthen the causal inferences. Additionally, the study was conducted over a relatively short period (12 weeks); long-term studies are needed to assess the sustained impact of personalised reading recommendations. The reliance

on self-reported data is another limitation, as this may be subject to some biases, particularly social desirability bias. Future studies may incorporate more objective measures of reading habits, such as digital tracking of reading time and progress.

Future research should also explore the impact of personalised recommendations across diverse educational contexts and student populations. Investigating how these systems can be tailored to address the specific needs of learners with different learning styles, abilities and backgrounds would provide valuable insights into the scalability and adaptability of personalised learning technologies.

Conclusion

This study provides robust evidence that AI-driven personalised reading recommendations significantly enhance students' reading habits and preferences. Reading offers a variety of benefits, among which are: comprehension, memory, enhanced vocabulary, enhanced focus, stress reduction, empathy, creativity, and critical thinking skills. These can be discussed under two headings: Cognitive Skills and Emotional and Social Benefits.

Cognitive Skills

Enhanced Vocabulary: Reading exposes the reader to new words and expands their understanding of language.

Improved Comprehension: Reading enhances the ability to understand and interpret information, which is essential for learning and communication.

Better Memory: Reading stimulates the brain, thereby improving short-term and long-term memory retention.

Better Focus and Concentration Skills: Reading involves concentration and rapt attention; it helps one to develop better focus and concentration skills.

Enhanced Critical Thinking: Reading exposes one to different perspectives and ideas. This facilitates the development of critical thinking skills, enabling one to analyse and evaluate information more effectively.

Emotional and Social Benefits

Reduced Stress: Reading is a relaxing and enjoyable activity that tends to reduce stress and improve overall well-being.

Increased Empathy: Reading allows one to understand different experiences and perspectives. This fosters empathy and compassion.

Stimulated Creativity: Reading can ignite one's imagination and inspire creative thinking, opening up new possibilities and ideas.

Enhanced Social Skills: Reading helps one to develop social skills, and can open doors to opportunities to discuss ideas and share experiences with others. The findings indicate that students who received personalised recommendations read more frequently, explored a wider variety of genres, and demonstrated higher motivation to read compared to those who followed a standard reading curriculum. This is the effect of active learning strategies which personalised learning environments facilitate (Freeman et al., 2014). These results underscore the potential of personalised learning technologies to transform educational practices by tailoring learning experiences to the needs and preferences of individual students.

The positive outcomes observed in this study align with the broader literature on personalised learning and suggest that AI-driven systems can effectively address some of the key challenges in fostering a strong reading culture among students. By making reading more engaging and enjoyable, these technologies can encourage life-long reading habits and contribute to the overall academic and personal development of students.

The integration of AI-driven personalised reading recommendations holds significant promise for enhancing students' engagement and fostering a love for reading. As educational institutions continue to embrace digital technologies, it is crucial to leverage these tools to create more personalised, engaging, and effective learning experiences. By adopting the recommendations outlined in this study, educators, policymakers, and technology developers can work together to effectively harness the full potential of Artificial Intelligence in education, ultimately supporting the academic success and personal growth of students.

Recommendations

In view of the findings of this study, several recommendations are proposed for educators, policymakers, and developers of educational technology:

For Educators

- 1. Integrate Personalised Reading Systems:** Educational institutions should consider adopting AI-driven personalised reading recommendation systems to complement existing reading programmes. These systems can help tailor reading materials to individual student's interests and reading levels, thereby enhancing engagement and motivation.
- 2. Continuous Monitoring and Feedback:** Educators should regularly monitor students' progress and provide feedback to ensure that the personalised recommendations align with educational goals. Adjustments to the system settings may be necessary to better meet the evolving needs of students.
- 3. Professional Development:** Teachers should receive training on how to effectively use and integrate personalised reading technologies into their instructional practices. Professional development sessions can help educators understand the capabilities and limitations of these systems and how to leverage them to support students' learning.

For Policymakers

- 1. Support for Technology Integration:** Policymakers should provide funding and resources to support the incorporation of AI-driven personalised learning technologies into educational institutions. This includes investing in infrastructure, training programmes, and ongoing support for educators.
- 2. Curriculum Design:** Personalised recommendations can complement traditional curricula by offering additional resources linked to the needs of individual students, thereby promoting a more personalised learning environment.
- 3. Research and Evaluation:** Encourage and fund further research to explore the long-term effects of personalised reading recommendations on students' outcomes. Continuous evaluation and improvement of these systems are essential to maximise their effectiveness and scalability.

For Developers of Educational Technology

1. **Adaptive Algorithms:** Continuously refine and update the recommendation algorithms to ensure they remain adaptive to students' changing preferences and reading levels. Incorporating
2. machine-learning techniques can help improve the accuracy and relevance of the recommendations over time.
3. **Inclusive Design:** Develop personalised reading systems that cater to diverse student populations, including those with different learning styles, abilities, and backgrounds. Ensuring inclusivity will help broaden the impact of these technologies across varied educational contexts.

References

- Ayeni, O.O., Al Hamad, N.M., Chisom, O.N., Osawaru, B. & Adewusi, O.E. (2024). AI in education: A review of personalized learning and educational technology. *GSC Advanced Research and Reviews*, 18(02), 261–271.
- Bloom, B. S. (1984). The 2 sigma problem: the search for methods of group instruction as effective as one-to-one tutoring. *Educational Researcher*, 13(6), 4–16.
- Chen, Z., Wang, Y., & Li, M. (2020). The impact of personalized learning on student engagement and achievement: a meta-analysis. *Educational Technology Research and Development*, 68(6), 3193-3211. <https://doi.org/10.1007/s11423-020-09792-2>.
- Das, A., Malaviya, S. & Singh, M. (2023). The impact of AI-driven personalization on learners' performance. *International Journal of Computer Sciences and Engineering*. 11(8), 15-22.
- Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the National Academy of Sciences*, 111(23), 8410–8415.
- Hattie, J. (2008). *Visible learning: a synthesis of over 800 meta-analyses relating to achievement*. Routledge.
- Holmes, W., Bialik, M. & Fadel, C. (2019). *Artificial intelligence in education: Promises and implications for teaching and learning*. The Center for Curriculum Redesign, Boston, MA, 02130 <https://www.researchgate.net/publication/332180327>.
- International Literacy Association (ILA). (2024). *Leveraging AI to bring ILA's children's rights to read to life*. Retrieved from literacyworldwide.org
- Johnson, R., & Keane, W. (2018). The effects of personalized reading programs on student engagement and achievement. *Journal of Educational Psychology*, 110(7), 924-935. <https://doi.org/10.1037/edu0000253>.
- Kaban, A. L. (2021). EFL students' personalized reading experiences and its influence on

- engagement and online presences. *Shanlax International Journal of Education*, 9(4), 196–209.
- Kulik, C. C., Kulik, J. A., & Bangert-Drowns, R. L. (1990). Effectiveness of mastery learning programs: A meta-analysis. *Review of Educational Research*, 60(2), 265–299.
- Pane, J. F., Steiner, E. D., Baird, M. D., & Hamilton, L. S. (2015). *Continued progress: Promising evidence on personalized learning*. RAND Corporation. https://www.rand.org/pubs/research_reports/RR1365.html.
- Phillips, K. R. (2023). The effects of personalized learning on student achievement. A PhD dissertation presented to the Faculty of the School of Leadership and Professional Studies Western Kentucky University Bowling Green, Kentucky. topscholar@wku.edu.
- ReadWorks. (2023, February 15). *ReadWorks and tailor-ED partner on AI recommendation engine to create personalized reading assignments for thousands of students*. Retrieved from prnewswire.com.
- Regan, P.M. and Steeves, V. (2019). Education, privacy, and big data algorithms: Taking the persons out of personalized learning, 24(11).https://www.researchgate.net/publication/337045105_Education_privacy_and_bigdata_algorithms_Taking_the_persons_out_of_personalized_learning. DOI: 10.5210/fm.v24i11.10094.
- Renandya, W.** (2024). *AI for teaching reading skills*. Willy's ELT Corner. Retrieved from willyrenandya.com.
- Smith, J., Brown, A., & Turner, D. (2021). Broadening reading horizons: The role of AI in personalized reading recommendations. *Journal of Literacy Research*, 53(2), 245-267. <https://doi.org/10.1177/1086296X20987432>.
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press. <https://doi.org/10.2307/j.ctvjf9vz4>.