ADAPTIVE LEARNING PLATFORMS AS A MEANS OF INDIVIDUALISED LEARNING

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Abstract: Big data technologies, cloud computing and the advent of Artificial Intelligence (AI) have left a great impact on education. Currently, in utmost demand are AI-powered teaching systems, which are becoming more and more popular due to their ability to deliver learning content and adapt to the specific needs of learners. Of particular interest in the current article will be the application of Artificial Intelligence (AI) in education, specifically within the realm of English Language Teaching. The focus will be on discussing methods that can enhance classroom effectiveness and optimize tailored learning through adaptive learning platforms.

Keywords: adaptive learning platforms, individualization, real-time feedback, customized experience, gamification, self-paced learning.

Indubitably, digital technologies have become an integral part of our everyday routines, influencing how we seek information, communicate, and engage in learning. Latest advancements in technology have introduced a range of instruments in various professional settings. Thus, for instance, by employing virtual reality in neurosurgery, researchers can explore and manipulate data in a virtual space, potentially leading to new insights and discoveries in the field. Alternatively, augmented reality can help understanding atomic structures, visualizing complex concepts like electromagnetic fields, and providing interactive demonstrations of principles such as wave interference or planetary motion.

Tackling the question of critical examination and envisioning the role of technology in higher education in the context of the current hype around concepts like the Internet of Things, Blockchain Universities etc. we included diverse perspectives, covering topics such as the intersection of neuroscience and educational technology, reinterpreting technology's potentials, and the political implications of 'big data' in educational reform. We should remark that various disciplines, including psychology, social sciences, education, communications, and the arts contribute to the analysis of learning platforms and the application of technology in higher education, providing insightful arguments that complement other articles in the journal (Aristeidou & Cross, 2021).

Yet, despite its considerable potential and proven advantages, adaptive learning remains largely unexplored in many educational settings worldwide. As with numerous other

fields, the essence of teaching and learning is evolving due to ongoing societal changes. Throughout history, technological progress has often introduced not just new tools, but also novel educational functions and methods of instruction. As such, the integration of adaptive learning platforms holds promise for revolutionizing educational approaches and addressing individualized student needs. However, the slow adoption of these technologies underscores the need for further exploration and implementation to fully realize their transformative potential in diverse educational contexts.

When it comes to learning English, there's no shortage of adaptive platforms to choose from.There are numerous adaptive platforms available for learning English including EdApp, Adaptemy, Scholar, and Adapt & Achieve among the most well-known. These platforms use AI to personalize learning experiences and improve learning outcomes. Additionally, there are several websites available for learning English, which offer various activities, games, and quizzes to help learners improve their vocabulary, grammar, and conversation skills. Finally, EdTech Impact provides a list of the best adaptive learning technology for schools, which includes several platforms that specialize in English language learning.

Adaptive learning platforms offer several benefits for English language learners. These platforms use AI-driven technology to personalize the learning experience to the individual learner's level, which can significantly improve learning outcomes. The platform adjusts the content and exercises based on the learner's progress, ensuring that they are always challenging but not overwhelmed. This approach can help learners stay engaged and motivated when the content is at the right level. Additionally, adaptive learning platforms offer fast learning processes, individualized attention, and real-time feedback, which can help learners improve their performance and digital competence. Furthermore, these platforms can be accessed from anywhere, anytime, making them ideal for learners with busy schedules or who live in remote areas (Becker et al., 2017).

For this article we delved into the top 5 AI-driven language learning platforms, each offering unique features and benefits to enhance language acquisition in a personalized and efficient manner. (https://www.oxfordinternationalenglish.com/what-are-the-best-apps-for-learning-english/, n.d.)

Firstly, **Duolingo** stands out as the most popular choice, providing a gamified learning environment across an extensive array of over 35 languages. Utilizing AI algorithms, Duolingo analyzes users' learning patterns to tailor their experience, ensuring maximum engagement and effectiveness. From grammar and vocabulary lessons to speaking and listening exercises, Duolingo covers a comprehensive range of language skills.

Next on the list is **Babbel**, another favored platform leveraging AI for personalized learning experiences. With its focus on 14 languages, including Spanish, French, and German, Babbel employs AI analysis to adapt to users' individual needs. Additionally, its speech recognition feature aids in perfecting pronunciation, enhancing the overall language learning journey.

Rosetta Stone emerges as a prominent AI-driven platform offering immersive language learning experiences. With courses available in 25 languages, Rosetta Stone utilizes AI to analyze users' learning patterns and provide tailored lessons. Similar to Babbel, it also offers speech recognition capabilities to refine pronunciation skills.

Memrise offers a unique approach to language learning, combining gamification with AI-driven personalization. Offering courses in over 20 languages, Memrise employs AI algorithms to analyze learning patterns and deliver customized experiences. Its speech recognition feature further enhances the learning process by providing feedback on pronunciation.

Lastly, **Lingoda** rounds up the list with its AI-driven platform offering personalized learning experiences in English, German, Spanish, and French. In addition to self-paced

courses, Lingoda also provides live online classes conducted by native-speaking teachers, adding an interactive element to the learning journey.

In the table below we present a list of functionalities that online adaptive learning platforms can display. They represent specific features and characteristics that contribute to the general design, functionality, and effectiveness of the language learning platform. Each of these features plays a crucial role in creating a comprehensive and user-friendly language learning experience. Additionally, they can also be categorized as "design principles" or "best practices" in the context of creating effective AI-driven language learning platforms.

Table 1. *Functionalities of online learning platforms*

Functionality		Features
User-Centric Design	→	The language-learning platform is designed with a focus on user preferences and needs, ensuring an intuitive and enjoyable experience.
Personalized Learning Plans	→	Using NLP algorithms, the platform analyzes each learner's performance and tailors a unique learning plan that targets individual language proficiency goals.
Adaptive Difficulty Levels	→	The platform dynamically adjusts exercise difficulty based on the learner's performance, maintaining a challenging yet manageable pace.
Real-Time Feedback	→	Learners receive instant feedback on their language exercises, helping them identify strengths and weaknesses to enhance overall language skills.
Simplified Language	→	Instructional content is presented in a clear and straightforward manner, ensuring it is easily understood and accessible to learners of varying proficiency levels.
AI-Based Analytics	→	The platform utilizes AI analytics to track and analyze user data, providing valuable insights into learning patterns and areas that may need improvement.
Conversational Language	→	A feature allows learners to engage in conversation, receiving appropriate responses to queries, promoting practical language use and communication skills.
AI Learning Assistants	→	During non-teacher hours, AI-powered assistants respond to learner queries, offering additional support and guidance in their language-learning journey.
Accessible Anytime, Anywhere	→	The platform's design enables learners to access language lessons from any location at any time, accommodating diverse schedules and remote learning needs.

In this research we aimed to delve into the preferences of learners when it comes to adaptive learning platforms, exploring factors such as interface design, content variety, interactive features, and overall user experience. By gaining insights into learners' preferences, educators and developers can enhance the design and functionality of adaptive learning platforms, ultimately fostering more engaging and effective learning environments for students across diverse educational settings.

In our survey which was conducted among 128 learners aged between 21 and 45 we sought for insights into user preferences for online language learning platforms, specifically in terms of basic functionalities related to their learning goals. The participants had to select their top three preferred features out of a larger list. The results revealed interesting trends in users' main concerns, shedding light on the key aspects that significantly affect their lear-

ning experiences. Based on the survey results, we categorized learners into two main groups: 21-33(group I) and 34-45(group II).

The survey results clearly demonstrated a generational divide in attitudes towards online learning platforms. The younger age group exhibited a greater openness towards utilizing these platforms, likely due to their familiarity and comfort with digital technologies. Conversely, the older respondents displayed more reluctance, possibly influenced by a combination of factors such as a preference for traditional learning methods or a perceived lack of technological proficiency. Understanding these differences in attitudes is crucial for effectively implementing online learning initiatives that cater to the diverse preferences and needs of learners across different age groups.

Furthermore, we subsequently singled out the main features of learning platforms revealed by the learners as most relevant and valuable.

Table 2. *Learners' favorites in using ALP*

Key feature	Research minutiae	Share by age group
Personalized Learning Plans	A staggering 92% of participants chose personalized learning plans as one of their top three preferences. This underscores the immense importance users place on tailored learning experiences that cater to their individual language proficiency goals. The desire for a customized approach to language learning reflects a growing acknowledgment of the effectiveness of personalized strategies in achieving linguistic objectives.	Group I:51% Group II:49%
Accessible Anytime, Anywhere	Following closely behind, 84% of participants expressed a strong preference for platforms that offer accessibility anytime, anywhere. This signifies a widespread need for flexibility in learning schedules and locations, aligning with the modern learner's dynamic lifestyle. The convenience of being able to access language lessons at any given moment emerged as a top priority for survey participants.	Group I:43% Group II:57%
Real-Time Feedback	Real-time feedback secured its place among the top three features, with 76% of participants highlighting its importance. The immediacy of feedback in identifying strengths and weaknesses during language exercises resonated with learners, indicating a clear preference for platforms that provide timely insights. This feature serves as a valuable tool in enhancing overall language proficiency by facilitating continuous improvement.	Group I:56% Group II:44%

While other features such as user-centric design, adaptive difficulty levels, and conversational language were also well-received, the emphasis on personalized learning plans, accessibility, and real-time feedback highlights the evolving expectations of users in the realm of online language education. These insights can serve as valuable guidance for platform developers and educators aiming to create engaging and effective language learning experiences that align with user preferences and expectations (Aleven et al., 2016; Castañeda & Selwyn, 2018).

Additionally, as a result if the current survey, a number of issues arose as seen by the learners. Besides the numerous benefits that these platforms offer, the respondents mentioned have some drawbacks compared to traditional teaching methods. Here are some main drawbacks:

Lack of Personal Interaction: Learning platforms often lack the face-to-face interaction found in traditional classrooms. This absence of direct personal interaction between students and teachers may lead to a sense of isolation, reduced socialization, and limited opportunities for immediate clarification or discussion.

Technical Challenges and Access Disparities: Not all students have equal access to technology or a reliable internet connection. This disparity in access to devices or the internet can hinder some students from fully participating or benefiting from online learning, creating an unequal learning environment.

Limited Hands-On Learning: Some subjects or skills require hands-on experience or practical application, which can be challenging to replicate effectively in an online environment. Learning platforms may struggle to provide the same level of hands-on learning experiences as traditional methods, particularly in fields such as lab sciences or vocational training.

Potential for Distractions: Online learning environments can be prone to distractions from other digital stimuli, such as social media, email, or unrelated websites. Students might find it challenging to maintain focus and stay engaged with the learning material.

Difficulty in Building Relationships: Building strong student-teacher relationships and fostering a sense of community can be more challenging in online environments. Establishing rapport and understanding individual student needs might be more challenging without regular face-to-face interactions.

Limited Social and Emotional Learning Opportunities: Traditional classrooms offer opportunities for social and emotional learning through group activities, discussions, and non-verbal communication. Learning platforms might struggle to replicate these experiences fully.

Dependence on Technology and Technical Issues: Learning platforms heavily rely on technology, making them susceptible to technical glitches, server issues, or software malfunctions. Technical problems can disrupt the learning process and cause frustration for both students and teachers.

Potential for Cheating and Academic Integrity Concerns: Remote assessments and online exams may pose challenges in ensuring academic integrity, as students might have increased opportunities to cheat or access unauthorized resources during assessments.

While learning platforms offer convenience, flexibility, and innovative learning experiences, these drawbacks highlight the importance of considering a balanced approach that combines the strengths of both online and traditional teaching methods to address the diverse needs of students and create an effective learning environment.(Baumer, 2017).

Adaptive education research primarily focuses on the learner model, but it should include content and instructional models as well. Researchers must consider both the source and purpose of their models when developing adaptive learning. Future studies should focus on individual learning and customized progress, ensuring adequate infrastructure, such as hardware, software, internet connectivity, and quality. Undoubtedly, adaptive technology's usability and robustness can positively influence teachers and students' motivation to adopt it. (Snyder et al., 2020)

Furthermore, personalized learning at scale is possible through adaptive learning, which can satisfy diverse student needs and help underserved groups access higher education. However, successful adoption of adaptive learning can yield high returns for students, institutions, and the economy. Future research should be more rigorous and diverse, and focus on learners' behaviors and other components of adaptability. As a result of this research, it is evident that teaching students how to learn is an important part of creating effective adaptive learning environments, and it can be done by modifying instructional strategies and design to meet the interests, expectations, and abilities of diverse learners (Biten, 2017).

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