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Inclusive Language Learning in the Age of Artificial Intelligence: A Case Analysis of Rosetta Stone

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Abstract

To keep up with current trends, the Moroccan government implemented an AI-powered platform to enhance students' foreign language skills in higher education. Although this approach creates new opportunities for learning, certain variables, such as learner engagement, accessibility, and perceived digital equity, were not taken into account. This lack of thoughtfulness has led to negative feedback expressed in classrooms and online. This work aims to shed light on where accessibility, learner engagement, and perceived digital equity stand in this AI approach. This is done through a quantitative approach and a descriptive correlational research design. The results highlight several points: 1. The extent to which learners from different socio-economic backgrounds access language-learning platforms. 2-How technological barriers affect the accessibility of the Rosetta Stone platform. 3- The relationship between learner engagement and perceived digital equity. The study also presents the pedagogical, technological, and institutional implications of the results.

1. INTRODUCTION

Artificial intelligence (AI, henceforth) has become a big part of our lives (Huang & Rust, 2018). It has been applied to various aspects of human life, from daily activities to professional tasks. The use of AI, though recently trending, has been around for decades. Humans have always sought technologies that could enhance their lives. In 1943, the first man-made system that simulates a human neuron was built in the hopes of creating an intelligence that mimics human intelligence (Chandra, 2018). At first, the target field was mathematics and algebra, but with the great advances the world has witnessed in technology, AI is now used in almost all fields.

Nevertheless, AI is capable of accomplishing diverse tasks, thus "allowing applications in numerous fields" (Bengio, 2025, p.31). Due to its renowned abilities, AI has gained access to the field of education with promises of enhancing the process of education. Jaboob et al. (2024) state that the use of AI in higher education specifically will lead to great results. However, the feedback received from the instructors who guided this process did not reflect the expected results. Many students were voicing their complaints about this change in their education process. Presented with this dilemma: the expected bright results of AI application in the field

of education, specifically in language learning, and the complaints of students, the application of AI in language learning raises many questions.

Starting last year, the Moroccan government has implemented mandatory language modules for both bachelor's and master's students. This decision was in line with the Moroccan government's attention to the rise of AI in language learning and the persistent need to become an international citizen/student. A plan was devised where students would study two languages: French and English, through an AI-powered language learning platform called Rosetta Stone. While there are studies who discussed the concept of digital citizenship in relation to the platform, attitudes of students towards the platform and the implementation of it ((Asrif, 2024), (Elansari & Loulid, 2023), (Houmane et al., 2024)), there is a lack of studies who discuss the reality of the situation that goes beyond the attitudes of students. There is a lack of studies that address digital equity, accessibility, and learner engagement regarding Rosetta Stone use. Many works focused on the purpose of the platform without focusing on the target population. We do not have an ideal population in which every student can complete the learning process without obstacles. However, some individuals are unable to keep up due to physical, technological, or socio-economic limitations. Thus, we find a lack of literature addressing these issues.

Ideally, students should have no obstacles that hinder their learning on such platforms. According to Statista (2024), almost 34.5 million Moroccan citizens are internet users. Statistics on internet users in Morocco have been increasing. Year after year, the number of internet users in our country increases. The promising statistics suggest that digital natives are taking advantage of such technology. Moreover, these statistics would encourage alternative means for education, such as the use of digital platforms for language learning in classrooms.

Despite the arguments mentioned earlier, students do not seem to adapt to or benefit from such tools to enhance their learning experience. Razkane et al. (2022) state that students primarily use digital means for socializing and entertainment. Although their study focused on secondary school students, the same results could be expected for university students. Alakrash et al. (2022) argue that although university students possess digital skills that would allow them to benefit from digital tools for language learning, their use of language learning platforms cannot be linked to these skills. Moreover, students began sharing complaints about the AI-powered platform in real life and online. The comments varied in content; some addressed the platform's accessibility and functionality. Other comments focused on their lack of interest in the platform because of how it managed the language-teaching and learning experience.

2. LITERATURE REVIEW

2.1.Rosetta Stone as An Example of AI Powered Language Learning

Rosetta Stone is a language learning app that contains twenty-four languages. All the languages presented in Rosetta Stone can be studied through a subscription, but for Moroccan students the English language and other few languages are free to study in the app after registration in the university. The current work focuses on the outcomes of this platform/application in regards to accessibility and digital equity. The urgency to tackle this topic

The application presents language through an arrangement of methods, ranging from images to audio and text (Sinaga & Sari, 2023). For the English language, two accent are presented to learners, the American English and the British English. There are not many differences between

the two, except for pronunciation and certain vocabulary items. When gaining access to the platform, the learner is presented with a test that determines their appropriate level. The levels are separated into two sections: foundations that range from level A1 to level A2 according to the Common European Framework of Reference (CEFR) and fluency builder which ranges from CEFR level B1 to C1 (Rosetta Stone, 2025). The learners must complete various activities to fully complete a unit and gain access to the next one. The themes and units change across levels and sections. Each unit has different lessons that target either different and separate skills (listening, reading, speaking, and writing) or all skills together.

This application was chosen as the scope of this article because it is an AI-powered platform (used both as a desktop app and a smartphone app) that assists with language learning at Moroccan universities. Karasimos (2022) mentioned that the Rosetta Stone application was renowned for its ability to teach language in a manner that simulates the process of language learning in a child's brain. It repetitively presented bite-sized content to its users. Rosetta Stone provides some feedback on the language produced by the learner. In speaking activities, the mispronounced words would be highlighted or underlined. In grammar exercises, mistakes are highlighted in red, but corrective feedback is not provided. The learner is to find the correct answer on their own. Although the platform uses AI to assess the language learners provide in the previously mentioned activities (Meleen, 2024), Santos (2011) states that the interactional aspect of Rosetta Stone is far from the real-life interaction needed for language learning.

2.2.Digital equity in language learning platforms

When all learners are presented with similar opportunities for education through safe, background- and status-irrelevant digital means, we can say that those learners have digital equity (Dastyari et al., 2024). Digital equity means that all learners are able to use technology for learning, and in our case, for language learning. Despite their financial situation and their physical or mental state, digital equity ensures the ease of learning. This means that those platforms and applications can facilitate learning and provide a learning experience that matches learners' needs. According to Dastyari et al. (2024), digital equity nowadays means that learners are equipped with the essential means to fully immerse themselves in the digital environment. Davis et al. (2007) argued that digital equity is not only defined by the availability of digital means but also by the ability to enhance awareness and digital knowledge and skills. If a learner is surrounded by digital and AI tools to use but is clueless about how to use them and benefit from them, then digital equity is not achieved according to Davis et al.'s (2007) definition. Dastyari et al. (2024) support this argument as they state that accessibility, affordability and ability are the main variables to keep in consideration in order to achieve digital equity and inclusivity. Davis et al. (2007) also argued that the learner's age and geographical location are variables that can either create or hinder digital equity.

Highlighting the importance of technology and AI in education, Willems (2019) argues that, in this era, if we strive for equity, digital equity is a must. Regarding language learning, Willems et al. (2019) explained how technology enables learners to experience the authentic language and culture of the language they are learning. Given the availability of various resources that expose learners to language from native speakers and allow them to explore it at a much more meaningful level, digital equity is crucial for language development. Digital equity in language learning platforms means learners can access, use, and benefit from technology to build and develop their language skills. In AI-powered platforms such as Rosetta Stone, learners receive

bits and pieces of authentic language at their own pace. However, some researchers, such as Amjad et al. (2024), argue that the content of the resources is not the problem that could hinder the learning experience, but rather the accessibility of these resources.

2.3.Accessibility as a key variable

In the field of education, accessibility means the ability of all students, especially those with disabilities, to use digital means without issues. It is the process of facilitating the learning experience to guarantee that all students are on equal footing. In terms of technology, there are certain features that need to exist in language learning platforms or applications for them to be considered accessible. McAlvage and Rice (2018) identify three key features necessary for accessible technology: screen readers, alt text, and captions. In their study, these features are cited as separate applications that could work alongside PDF documents, Word documents, or web pages. However, it is worth noting that some applications or platforms have these features built in. These features enable disabled students to interact with technology without any issues, thereby creating digital equity. Screen readers help visually impaired learners. This feature turns text into speech, enabling students to hear the texts they deal with. Alt text is another option for students with weak vision, as it provides an alternative format that is easier to read. Captions, on the other hand, are a feature that enables deaf students to read any speech-related activities. For a platform to be accessible, it needs features that facilitate the learning experience for disabled students. The lack of such features can lead to digital exclusion (Khalid & Pedersen, 2016). The lack of assistance that helps students access information would lead to a divide between students who can use the platforms and those who cannot.

Goldenthal et al. (2021) argue that the "one size fits all" approach to AI-mediated communication accessibility is not beneficial. Despite the premise that AI can be highly helpful for language learning (Jaboob et al., 2024), companies that develop language learning applications and platforms rarely consider accessibility features. A study by Morris (2020) argues that AI is capable of detecting disabilities. In Morris's (2020) study, this argument is presented as a threat to privacy and bias, but it could also be considered as an argument for development. If AI can detect the existence of a disability, it can also present the appropriate accessibility features to enhance the learning experience. In support of this claim, Gilligan (2020) argues that AI and this new generation technology are key variables regarding accessibility. Digital means can provide students with disabilities with significant opportunities to achieve their language-learning goals. With the abundance of sites, apps, and platforms that rely on AI to create an accessible environment, accessibility is no longer a barrier to learning.

2.4.Bite-sized content

The learning process through language learning applications and platforms is quite different from traditional learning. As mentioned before, AI-powered platforms focus on providing learners with a holistic experience through texts, audio, images, and sometimes videos (Sinaga & Sari, 2023). However, it is worth noting that the content presented is not provided to the student at once; these platforms use bite-sized learning, or, in other words, micro-learning strategies, to help develop students' language. Micro-learning is when content is presented in small doses to the learner in a manner that simulates the brain's natural language acquisition process, according to Jomah et al. (2016). This strategy is designed to help the learner avoid the anxiety that often accompanies learning. This is executed in a way that allows the learner to focus on one thing at a time (Jomah et al., 2016). The learner is to deal with one unit at a

time (Shail, 2019). Moreover, their learning experience is timed; the units include a variety of activities that are each a couple of minutes long. In the case of Rosetta Stone, the units are divided by language skill. These platforms and applications allow learners to pause and resume on different devices (Shail, 2019). Granting the learner comfort and ease, knowing they can easily start learning at any moment that seems appropriate.

Ebbinghaus (1885), a psychologist who worked on memory, micro-learning, and retention issues, argues that when information is not reintroduced to a learner, it is bound to be forgotten. That is where the importance of these AI-powered platforms is highlighted. As Shail (2019) stated, "reintroducing the lessons in smaller increments will help participants retain knowledge for an extended time" (p.3). In the case of Rosetta Stone, the information is presented through a micro-learning strategy for the first time, and is then reintroduced to the learner in the same manner later, under the guise of "revision. Thus, enhancing the retention of said information. The findings of Sirwan Mohammed et al. (2018) showed that micro-learning can improve students' learning ability by up to 18% compared to traditional, non-technology-based strategies. The learners displayed a positive attitude towards the digital tools and platforms used to support the micro-learning process. Furthermore, they showed great motivation towards the learning process as a whole as a result of the use of this strategy and technology.

2.5.Learner engagement

Engagement is the interest shown towards an action. In education, learner engagement occurs when a learner is actively involved and interested in the learning experience for whatever reason (Xu & Li, 2024). Moreover, engagement could also be defined as "the amount of physical and psychological energy that the learner devotes to the academic experience" (Astin, 1997, p.297). Learner engagement is not limited to students' involvement in the activity; it also includes the emotions and motivation that drive students to participate (Lee, 2024). With recent advances in technology, AI has been widely considered a tool that could enhance learners' engagement in higher education (Nguyen et al., 2024). Although not all institutions rely on AI to enhance students' learning experience, AI tools have long established their role as a primary tool for acquiring, digesting, and retaining knowledge in a personalised manner (Nguyen et al., 2024). Learner engagement is not always linked solely to the tool; it can also result from the tool's outcomes and other factors (Geroche & Guay, 2024). When learners realize that AI tools add value and enhance the quality of their learning experience, their engagement increases. They are also most likely to become more engaged in the learning process if the AI tool is easily accessible. The accessibility and availability of resources are significant factors that interfere with students' engagement (Geroche & Guay, 2024). AI-powered platforms and apps were statistically proven to increase learner engagement and focus and decrease procrastination (Ma & Chen, 2024). In their study, Ma and Chen (2024) tested whether AI-powered tools could increase focus and engagement by conducting an experiment in which they introduced these tools to a group of university students. Their results provide a positive outlook on the use of AI-powered tools, as the control group performed worse than the experimental group.

3. METHODS

3.1.Approach, design, and sample

This study adopts a quantitative research approach to investigate the issue at hand through a numerical perspective. This work uses a descriptive correlational research design to investigate how technological and socio-economic barriers affect accessibility, and the relationship

between learner engagement and perceived digital equity. The variables of this study are learner engagement, accessibility and perceived digital equity. Since learner engagement and perceived digital equity were hard to measure as is, the variables were examined through 2 sub variables each. For learner engagement and motivation, the hours learners spent on the platform were used. For perceived digital equity, the platforms' ability to cater to students' learning needs, and its suitability for students with different economical situations were used. The target population of this study was Moroccan university students who are users of AI-powered language learning platforms. Due to time constraints, a small convenience sample of 40 master students who belong to the University of Moulay Ismail, school of arts and humanities were selected to participate in this study. The sample is affiliated with the geography department, and it had mandatory language modules that encouraged the use of the AI-powered language-learning platform Rosetta Stone, which is why this sample was selected. The sample consisted of two separate groups. A group of 19 full-time students and a group of 21 part-time students. The two groups study the same curriculum and courses.

Furthermore, they have the same instructors for all modules. The only difference between the two groups is the classes' schedule. It is worth noting that this sample includes two students with disabilities, further supporting accurate perspectives on accessibility. The first student has monocular vision. This is when the person has vision in one eye and is completely blind in the other. The second student has a mobility impairment. This is a type of disability that impairs a person's mobility.

3.2.The research questions

The research questions that this study aimed to provide answers for are as follows:

1-To what extent does socio-economic factors interfere with the learner's access to the AI-powered language learning platforms?

2-Can technological barriers affect the student's accessibility to these platforms?

3-What is the relationship between learner engagement and the perceived digital equity for master students?

3.3.The instrument

The research instrument used in this study was an original questionnaire developed by the researcher based on the literature review. The questionnaire was divided into four sections. A section for demographic information of the sample that gathers information about the learners' age, gender, geographic location, availability of income, and access to technology. The second section gathered information about learners' accessibility to language learning platforms. A third section targeted learner engagement. Finally, a fourth section that investigated the learners' perceived digital equity in regards to the platform used in their master program. The questionnaire had an assortment of questions most of the questions were multiple-choice questions with the majority being a 5-scale Likert scale type of questions. There are also two other types of questions that are, binary questions with a yes or no answer, and open ended questions for the variable of age and for the number of hours spent on the platform.

3.4.Procedure

In this study, all students from both classes were recruited to provide their perspective and share their ideas concerning the use of the AI-powered platform. The questionnaire was

developed in an online platform; Google Forms. After the creation of the research instrument, all of the students from both groups were provided with the research instrument. The link that gives access to the questionnaire was shared with both of the groups' representatives. The representatives were asked to share the link in their respective group chats with their classmates. The students were informed about the premise of the study and were given the freedom to either take part in the study or not. Out of 40 master students, 32 took part in the study. The data collection period lasted about two weeks to reach the previously mentioned number.

To analyse the results, the statistical package for social sciences (SPSS) was selected. This software provides the researcher with descriptive as well as inferential statistics. This software was used for the correlation test that was needed to investigate the relationship between learner engagement and the perceived digital equity for master students of the school of arts and humanities, in Moulay Ismail University. However, for descriptive statistics and simple pie graphs, the statistical tools of Google Forms were used.

4. RESULTS

4.1.Response rate

The questionnaire was shared with 40 master students. Initially, at the first week, only 18 students took part in the study. Which gave a response rate of 45%. Nevertheless, after providing the participants with more time and an extra week to take part in the study, 14 other students provided their answers making the final response rate of the study 80% at a two weeks period of data collection.

4.2.Characteristics of the sample

The sample mean age was 36 years old with a range from 22 years old to 64 years old. Out of 100% of the sample, 71.9% (n=23) were males and 28.1% (n=9) were females. 65.6% (n=21) of the sample live in an urban area and 34.4% (n=11) live in a rural area. Concerning income, 62% (n=20) of the sample have a monthly income and 37.5% (n=12) do not have a monthly income. As for the students' access to technology, all of them disclosed that they do in fact have access to technology. Regarding their knowledge on technology use of being tech-savvy, this question was grated on a 5-scale Likert scale. The biggest percentage for this question 43.8% (n=14) was for the choice of having considerable amount of knowledge on technology and its use. 25% (n=8) of the sample stated that they possess great knowledge amount of knowledge on technology and its use. While having the lowest percentages of 9.4% (n=4) for both choices separately of having little amount of knowledge on technology and its use, and having no knowledge on technology and its use. Almost all of the participants 93.8% (n=30) use exclusively Rosetta Stone as their go to platform for AI assisted language learning. The remaining 6.3% (n=2) uses Duolingo alongside Rosetta Stone to learn the English Language.

4.3.Accessibility

Concerning the variable of accessibility, 53.1%(n=17) of the participants stated that the current platform they use, which is Rosetta Stone for 93.8% of the sample, does not offer sufficient features that accommodate individuals with disabilities. However, 28.1% (n=9) of the participants strongly agree that the platform cater to all of their learning needs. 25% (n=8) of the sample is neutral about this statement. 21.9% (n=9) is agreeing with the statement. While 18.8% (n=6) of the sample disagrees with the statement and 6.3% of the sample strongly disagrees with the statement.

4.4.Research question 1

The first research question was as follows: To what extent does socio-economic factors interfere with the learner's access to the AI-powered language learning platforms?

The answer for this question came in three parts. First, whether they faced any challenges in their learning experience due to financial reasons. In spite of the mention of financial reasons as a barrier to digital learning in the literature and in other related studies, that was not assumed in this study. Thus, there was a need to establish the existence or lack of this barrier. Second, the device or devices that are available to students to use to access the platform. This part examines whether the students have an abundance of tools that allows them access to the platform. Third, their ability to have reliable and constant access to the internet. This would provide us with the current situation of the students, because some might have access to the internet, but it could be unreliable and can't assist them carry out their learning experience.

For the first part, 71.88% (n=23) of the sample did in fact state that they faced challenges when using the platform. out of that percentage 25.8% (n=8) of the sample said that they faced challenges in terms of using and accessing the platform due to financial reasons. But 48.4% (n=15) of the sample stated their challenges were due to other reasons. For the second part, the biggest percentage of participants 67.75% (n=22) stated that they use only their smart phones. The second biggest percentage is for individuals who have access and use both devices and they make up 21.88% (n=7) of the total number of the sample. The remaining 9.38% (n=3) of the sample uses laptops only to study. For the third part, 68.8% (n=22) of the participants find their internet connection somewhat reliable. The other percentages went to both extremes, as 18.8% (n=6) of the participants find their internet connection very reliable. While the remaining 12.5% (n=4) found their internet connection as unreliable at all.

Correlations

		Learner_ engagement	Learners_perceived_digital_equity
Learner_ engagement	Pearson Correlation	1	,427*
	Sig. (2-tailed)		,015
	N	32	32
Learners_perceived_digital_equity	Pearson Correlation	,427*	1
	Sig. (2-tailed)	,015	
	N	32	32

*. Correlation is significant at the 0.05 level (2-tailed).

4.5.Research question 2

The second research question was to detect if technological barriers affect the student's accessibility to these platforms. Out of 32 participants 48.4% (n=15) stated that their challenges in using the platform was due to technological reasons. Two follow up questions were included in the questionnaire that asked the participants about their knowledge and skill regarding technology. 43.8% (n=14) of the sample stated that they have average knowledge about technology.25% (n=8) of the sample stated that the have a lot of knowledge and are very skilful with technology. 12.5% (n=4) of the participants have decent knowledge regarding technology. 9.5% (n=3) of the sample stated that they have low technological knowledge, and 9.5% (n=3) of individuals stated that they have no knowledge at all on how to use technology.

4.6.Research question 3

The third research question was about the relationship between learner engagement and the perceived digital equity for master students. To answer this question, two variables were used; learner engagement and perceived digital equity. The results of the correlation test between learner engagement and the learner's perceived digital equity show that there is a statistical relationship between the variables.

The Pearson correlation coefficient value was 0.427 as it is displayed in the table above. Moreover, the Sig value was 0.015. This shows a positive correlation and a statistically significant relationship between the two variables.

5. DISCUSSION

This study investigated how technological and socio-economical barriers affects accessibility, and the relationship between learner engagement and perceived digital equity. Previous studies proposed that learning through AI-powered platforms can make a huge impact on the field of education (Geroche & Guay, (2024), Houmane et al., (2024), Ma & Chen, (2024)). It was suggested that learning through AI digital means could result in positive outcomes. The learner benefits from a personalised learning experience that will enhance their language learning procedures (Jaboob et al. 2024). These platforms promised their users with a learning experience that simulates the natural language learning process.

After the attention that they achieved for their capabilities, they were included in the Moroccan curriculum at the university level. The sample of this study were students from the Moroccan university and Moulay Ismail University, school of arts and humanities to be exact. They were users of an AI-powered platform that was integrated in their master program as a module and was encouraged to use. The sample was mostly males. The majority of the sample was on the older side as the mean for the age of students was 36 years old. Among the students, there were two students with disabilities. One student had a monocular vision, as he was completely blind in one eye. While the second student had mobility impairment as he could not make use of his full body. The students were using the platform since the beginning of the academic year. The sample choice was convenience sampling, due to time restrictions.

This study shed light on the issue of accessibility in regards to AI-powered language learning. The participants of this work stated that the platform they use which is Rosetta Stone for the majority, does not host accessibility features that could accommodate learners with disability (McAlvage and Rice, 2018). Although that the platform uses a mix of images, texts and audios, that could benefits learners with different disabilities, there is not a consistent use of accessibility features. The participants of this study all have access to the platform due to the fact that they own digital devices that could cater to this issue. Regardless of whether they live in an urban area or a rural area (Davis et al. 2007) and regardless of whether they have an income or not, they are all owners of smartphone and some of them even use laptops to complete their learning.

In regards to the first research question, this study showed that the financial barriers do not hinder the learning process of the students. Since the platform is free to use, and the users already own smartphones, finances were not a major barriers to the learning process. Moreover, it is to note that the participants do not find the internet accessibility as very reliable, but it does not hinder their learning process as well. Therefore, socio-economic factors do not have a big impact or interference on the learner's access to the AI-powered language learning platforms.

At a first glance, we would suggest that the socio-economic factors would be the first and most important obstacle in digital language learning, however, this was not the case in our sample. this is due to the fact that the university in collaboration with the Moroccan government and the platform/application itself provide free access to all students to the application. This is combined with the fact that almost all students have smartphones nowadays, on which they can use Rosetta Stone. Furthermore, in case of absence of a phone or a laptop where the students can pursue their learning via the platform, the university equipped its centers with computers available to students to use. The combination of these reasons is why socio-economic factors did not seem to hinder the learning process in the case of our study.

In regards to the second research question, technological barriers have more effect on the student's accessibility to the language learning platform in comparison to financial barriers. The participants' use of the platform can be affected if the platform itself is unreliable. The majority of participants have either good or decent knowledge on how to use technology, thus it seems that the application/platform might have some inconveniences that hinder the learning process. Seeing that although this platform is AI powered, not all aspects of it integrate AI (Rosetta Stone, 2025). The reason behind this variable affecting the learning process more than socio-economic factors is the lack of training. Unlike the assistance and the many solutions that students had on how to access the platform/applications, no training was offered on how to solve issues that might arise during the learning process. When students are using the AI tool to learn, they are by themselves and usually at home. The students are not usually near tech savvy individuals who could teach them how to navigate the new era of digital tools. That is why they become helpless and reported technological barriers as a reason that hindered their learning process

In terms of the third research question on the relationship between learner engagement and the perceived digital equity for master students. This study found a statistically significant relationship between learner engagement and perceived digital equity. In regards to engagement on itself, when learners are engaged in the process of learning they will devote a lot of energy towards the tasks they are working on (Astin, 1997). The findings of this study although include the use of AI, they support this argument. Furthermore, when the learners think that there is value in the knowledge they receive, and that there is equity and everyone is on equal footing, they will become even more engaged in the process of learning. Although this study tackles accessibility as well, these findings for the third research question support the arguments of Geroche and Guay (2024) on engagement and the use of AI. The struggle that students are facing in regards to the use of the platform seems to originate from the value that they deduce from the platform itself not the integration of AI in general. The issues of technological barriers are also another reason that could affect their experience. This is due to the fact that access to the platform to learn a certain language is more work than learning through other means. Moreover, this argument could be the missing link between the ideal situation of AI use in language learning and the current real situations of students where they are hesitant to use this technology.

5.1.The implications of the study

The implications of these results can be summarized into three parts: pedagogical implications, technological implications, and finally institutional implications. Starting with the first part, the use of such AI-powered tools in educations grants a more inclusive learning experience. As

we shift towards learning with AI, we shift away from a one-size-fits-all approach. Learners who require more work in specific language areas will no longer have to be left behind in order to cater for the whole classroom. The same goes for learners who are advanced. While we still have the support of the teacher inside the classroom just like in the case of this sample, the use of AI grants a more unique and personal experience to language learning. The results of this study show how far we can move in each approach to reach an optimum learning experience. For the second part which is technological implications, this study can act as a guide that points out the blind spots of this AI-powered platform. Although Rosetta Stone is not a relatively new application in the market, yet the results of this study showed us that there is more work needed to cater for students with disabilities to ensure accessibility and digital equity for all users. The results of this study also highlight the need for a digital training for university students. While we have digital natives who can survive in this digital era, not all learners are heavily exposed to technology and not all of them possess the required knowledge to use efficiently. That is why there is a serious call for a digital training to take place for students before implementing a new digital tool for learning. for the last part which is institutional implications, the results of this study show the implementation of an AI-powered tool for language learning is not as farfetched as it sounds. Using AI in language learning has been shown to be very possible and fruitful from the case of this study. With the necessary modifications, AI tools should be seriously considered for language learning in higher education. This implementation could also be the step to efficient use of AI in other modules and subjects in higher education.

5.2.Limitations and suggestions for further studies

While the results obtained by this study shed light on an important issue that students are living with currently, several limitations should be addressed. The sampling method used in this study, which is a convenience sampling method, and the small sample size do not fully support the generalisability of the results. Future research should strive to obtain a larger sample through a random sampling method to ensure generalisability. The study design which relied on a quantitative approach solely, could also be considered as a limitation. If interviews were conducted and a mixed methods approach was selected for this topic, a deeper understanding of the issue could have been achieved. Thus, it is best if future studies refer to a mixed methods approach that could generate both perspectives of this topic, quantitative, and qualitative. In regards to technological barriers, it would have been best if the participants were given the space to share their reflections of this matter. Many studies have worked on language learning platforms, but very few worked on these AI-language learning platforms as university modules. Future studies are encouraged to further investigate this field of research due to its importance in the academic career on bachelor students and master students.

6. CONCLUSION

This study has investigated how the technological and socio-economic barriers can affect accessibility in higher education. Furthermore, this study investigated the relationship between learner engagement and perceived digital equity. The results showed that although financial differences exist between the students. They were not noted to influence the experience of learning on the app/platform. Since the government and the university support free access to the application, the financial situation does not seem to impact the students' learning. However, it is to note that technological barriers have created more obstacles for students in terms of learning. if the students are faced with technological difficulties, they face learning difficulties as well since they are not equipped to solve the technological issues that they encounter. As for

learner engagement and digital equity, the study showed that there is a significant relationship between these variables. When students invest effort and time in a task and when they take notice that all individuals have equal opportunities to learning they become even more engaged in the tasks presented by the platform/application. Overall, this study shed light on the experience that a part of the general population of students go through when engaging with AI-powered platforms for language learning. These results show that although that there are some measures taken to ensure the learners access to the platform/application, more measures are needed for accessibility, digital equity, and thus learner engagement.

REFERENCES

Al-Mubireek, S. (2019). E-Learning in the English Classroom: Comparing Two E-Learning Platforms Impacting Preparatory Year Students' Language Learning. *Computer-Assisted Language Learning Electronic Journal*, *20*(2), 19–37.

Alakrash, H. M., Razak, N. A., & Krish, P. (2022). The Application of Digital Platforms in Learning English Language. *International Journal of Information and Education Technology*, *12*(9), 899–904. https://doi.org/10.18178/ijiet.2022.12.9.1699

Amjad, A., Aslam, S., Tabassum, U., Sial, Z., & Faiza Shafqat. (2024). Digital Equity and Accessibility in Higher Education: Reaching the Unreached. *European Journal of Education*. https://doi.org/10.1111/ejed.12795

Asrif, Y. (2024). *Students' Acceptance and Use of Artificial Intelligence-Assisted Language Learning for Self-Directed Learning: The Case of Rosetta Stone at Moulay Ismail University*. https://doi.org/10.13140/RG.2.2.28601.38242

Astin, A. W. (1997). *What Matters in College?: Four Critical Years Revisited*. Jossey-Bass.

Bengio, Y. (2025). *International AI Safety Report The International Scientific Report on the Safety of Advanced AI* . https://assets.publishing.service.gov.uk/media/679a0c48a77d250007d313ee/International_AI_Safety_Report_2025_accessible_f.pdf

Berns, A., & Reyes Sánchez, S. (2020). A Review of Virtual Reality-Based Language Learning Apps. *RIED. Revista Iberoamericana de Educación a Distancia*, *24*(1), 159. https://doi.org/10.5944/ried.24.1.27486

Chandra, A. L. (2018, July 24). *McCulloch-Pitts Neuron — Mankind's First Mathematical Model Of A Biological Neuron*. Medium; Towards Data Science. https://towardsdatascience.com/mcculloch-pitts-model-5fdf65ac5dd1

Dastyari, A., Itaoui, R., Hawkes, G., & Notley, T. (2024). *Digital Equity and Education: a NSW Case Study*. https://doi.org/10.26183/z20r-9j98

Davis, T., Davis, M., Jackson, S., Pittman, J., & Sweet, J. (2007). *A National Consideration of Digital Equity. Washington, D.C.: International Society for Technology in Education*. http://www.iste.org/digitalequity

Ebbinghaus, H. (1885). *Memory: A Contribution to Experimental Psychology*. Teachers College, Columbia University. https://dn790005.ca.archive.org/0/items/memorycontributi00ebbiuoft/memorycontributi00ebbiuoft.pdf

Elansari, H., & Loulid, M. (2023). Study of the Digital Transformation of Higher Education Establishments: The Case of the Moroccan University. *International Journal of Applied Sciences and Technology*.

Geroche, J. B., & Guay, F. J. G. (2024). AI in education: Unlocking college student engagement in the digital learning era. *International Research Journal of Science, Technology, Education, and Management*, *4*(4), 52–64.

Gilligan, J. (2020). Competencies for Educators in Delivering Digital Accessibility in Higher Education. *Universal Access in Human-Computer Interaction. Applications and Practice*, 184–199. https://doi.org/10.1007/978-3-030-49108-6_14

Godwin-Jones, R. (2023). Emerging spaces for language learning: AI bots, ambient intelligence, and the metaverse. *Language Learning & Technology*, *27*(2), 6–27.

Goldenthal, E., Park, J., Liu, S. X., Mieczkowski, H., & Hancock, J. T. (2021). Not All AI are Equal: Exploring the Accessibility of AI-Mediated Communication Technology. *Computers in Human Behavior*, *125*, 106975. https://doi.org/10.1016/j.chb.2021.106975

Houmane, J., Zaher, A., Brigui, H., & El Omari, A. (2024). Digital Citizenship And Language Learning: Attitudes Toward Rosetta Stone In Moroccan Higher Education. *IOSR Journal of Research & Method in Education (IOSR-JRME)*, *14*(4). https://doi.org/10.9790/7388-1404025260

Huang, M. H., & Rust, R. T. (2018). Artificial Intelligence in Service. *Journal of Service Research*, *21*(2), 155–172. https://doi.org/10.1177/1094670517752459

Jaboob, M., Manar Hazaimeh, & Al-Ansi, A. M. (2024). Integration of Generative AI Techniques and Applications in Student Behavior and Cognitive Achievement in Arab Higher Education. *International Journal of Human-Computer Interaction*, 1–14. https://doi.org/10.1080/10447318.2023.2300016

Jomah, O., Masoud, A. K., Kishore, X. P., & Aurelia, S. (2016). Micro Learning: A Modernized Education System. *BRAIN. Broad Research in Artificial Intelligence and Neuroscience*, *7*(1).

Karasimos, A. (2022). The battle of language learning apps: a cross-platform overview. *Research Papers in Language Teaching and Learning*, *12*(1), 150–166. http://rpltl.eap.gr

Khalid, Md. S., & Pedersen, M. J. L. (2016). Digital Exclusion in Higher Education Contexts: A Systematic Literature Review. *Procedia - Social and Behavioral Sciences*, *228*, 614–621. https://doi.org/10.1016/j.sbspro.2016.07.094

Lee, M. T. (2024). The Influences of AI-Enhanced Learning on Student Engagement in English Classes. In *Proceedings of IAC in Budapest 2024*. Czech Institute of Academic Education.

Ma, Y., & Chen, M. (2024). AI-empowered applications effects on EFL learners' engagement in the classroom and academic procrastination. *BMC Psychology*, *12*(1). https://doi.org/10.1186/s40359-024-02248-w

McAlvage, K., & Rice, M. (2018). *Access and Accessibility in Online Learning*.

Meleen, M. (2024). *How To Use Industry-Leading AI Language Assessments to Positively Impact Your Business*. Rosetta Stone Enterprise Blog. https://enterpriseblog.rosettastone.com/how-to-use-ai-language-assessments/

Morris, M. R. (2020). AI and accessibility. *Communications of the ACM*, *63*(6), 35–37. https://doi.org/10.1145/3356727

Nguyen, A., Kremantzis, M., Essien, A., Petrounias, I., & Hosseini, S. (2024). Enhancing Student Engagement Through Artificial Intelligence (AI): Understanding the Basics,

Opportunities, and Challenges. *Journal of University Teaching and Learning Practices*, *21*(6).

Razkane, H., Youssef Sayeh, A., & Yeou, M. (2022). Internet use among Moroccan secondary school students: An exploratory study. *Journal of Applied Language and Culture Studies*, *5*, 51–77.

Rosetta Stone. (2025). *Rosetta Stone Support*. Rosettastone.com. https://support.rosettastone.com/s/article/How-to-Change-Levels-in-Catalyst?language=en_US

Santos , V. (2011). Review of Rosetta Stone Portuguese (Brazil), Levels 1, 2 &3. *CALICO Journal*, *29*(1), 177–194.

Shail, M. S. (2019). Using Micro-learning on Mobile Applications to Increase Knowledge Retention and Work Performance: A Review of Literature. *Cureus*, *11*(8). https://doi.org/10.7759/cureus.5307

Sinaga, T., & Sari, M. (2023). *The Effect of Rosetta Stone Application on Students' Vocabulary Mastery in the Eleventh Grade at Sman 1 Barusjahe.*

Sirwan Mohammed, G., Wakil, K., & Sirwan Nawroly, S. (2018). The Effectiveness of Microlearning to Improve Students' Learning Ability. *International Journal of Educational Research Review*, *3*(3), 32–38. https://doi.org/10.24331/ijere.415824

Statistica. (2024). *Morocco: number of internet users 2017-2021*. Statista. https://www.statista.com/statistics/1172769/number-of-internet-users-morocco/

Willems, J. (2019). Digital equity: Considering the needs of staff as a social justice issue. *Australasian Journal of Educational Technology*, *35*(6), 150–160. https://doi.org/10.14742/ajet.5503

Willems, J., Farley, H., & Campbell, C. (2019). The increasing significance of digital equity in higher education. *Australasian Journal of Educational Technology*, *35*(6), 1–8. https://doi.org/10.14742/ajet.5996

Xu, J., & Li, J. (2024). Effects of AI Affordances on Student Engagement in EFL Classrooms: A Structural Equation Modelling and Latent Profile Analysis. *European Journal of Education*. https://doi.org/10.1111/ejed.12808

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