
| RESEARCH ARTICLE

Digital Transformation of English Language Learning in Moroccan Higher Education: A Study of Altissia in Moroccan ISTA Institutes

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| ABSTRACT

This study examines the impact of Altissia as a language learning platform on English proficiency among students in Moroccan vocational institutes (ISTA). While Altissia is intended to support self-paced and blended learning, its effectiveness remains uncertain. Using a quasi-experimental pre/post-test design with control and experimental groups, along with student perception surveys, the study found no significant improvement in English proficiency among Altissia users compared to non-users. Although students expressed moderate satisfaction, concerns about Altissia's efficacy persisted. The findings suggest that Altissia, in its current implementation, does not significantly enhance language learning in ISTA institutes. The study highlights the need for improved instructional design, structured implementation, and stronger support mechanisms to optimize digital language learning tools in vocational education.

| KEYWORDS

Impact, Altissia, ISTA, English proficiency, blended-learning, self-paced learning

| ARTICLE INFORMATION

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1. Introduction

The integration of technology in education has transformed language learning making it more dynamic and accessible. Digital platforms have reshaped language learning offering learners flexible and interactive experiences (Correa 2012). One such platform is Altissia, a language-learning tool developed in 2005 by the Catholic University of Louvain in Belgium. Designed to facilitate foreign language acquisition, Altissia offers seven languages and is widely adopted in Morocco, particularly in ISTA vocational institutes, universities, and private institutions.

While Altissia is intended to enhance self-paced and blended learning, its effectiveness remains a subject of debate. Despite significant investment in its implementation, concerns persist regarding its impact on students' English proficiency. Previous research on Altissia is scarce. A few published studies mainly from Indonesia assessed its educational value. Observations from ISTA institutions suggest low student engagement and motivation, raising critical questions about the platform's strengths, limitations, and its role in improving language skills.

This study aims to understand the impact of using Altissia on English language learning among ISTA students by employing a pre/post-test to evaluate improvements in language proficiency and a questionnaire to assess students' perceptions of the platform's effectiveness. The pre/post-test provided measurable data on students' progress in key language skills, while the questionnaire captured insights into their engagement, motivation, and overall experience with Altissia. The study seeks to determine whether Altissia effectively enhances language learning outcomes and to identify potential challenges or limitations in its implementation within vocational education settings.

The study seeks to answer two key questions to evaluate the effectiveness of Altissia in English language learning among ISTA students. First, it will examine whether there is a significant difference between the control and experimental groups in terms of perceived learning outcomes through assessing whether students who use Altissia alongside traditional instruction demonstrate greater improvements in language proficiency compared to those relying solely on conventional teaching methods. Second, it will explore how ISTA students feel about Altissia, investigating their perceptions of the platform's usability, engagement features, and overall impact on their learning experience. By addressing these questions, the study aims to provide a comprehensive understanding of how Altissia contributes to language learning in vocational education and whether it effectively supports students' needs and expectations.

2. Literature Review

2.1. Mobile-Assisted Language Learning (MALL) and Altissia

The integration of Mobile-Assisted Language Learning (MALL) in English as a Foreign Language instruction has gained increasing attention due to its accessibility and interactive features. Research has shown that students generally hold positive perceptions of MALL. Losi (2022) found that students who engaged with Altissia reported significant improvements in their listening, speaking, reading, and writing skills. However, the study also noted that students with lower proficiency levels were often those who did not utilize the platform, emphasizing the importance of consistent engagement with digital learning tools.

Further investigations into Altissia's effectiveness have reinforced its role in foreign language education. A study conducted at Universitas Muhammadiyah Tapanuli Selatan (UMTS) in Indonesia evaluated the impact of Altissia-based training on students preparing for international internships (Suwarno et al., 2024). The research revealed that after 200 hours of structured training, 68 out of 71 participants demonstrated measurable improvements in their Common European Framework of Reference for Languages (CEFR) levels. While reading skills reached the A2 level, listening and speaking remained at A1+ and A1, respectively. Male students outperformed their female counterparts, and challenges such as limited vocabulary, pronunciation issues, and difficulty understanding fast speech were identified. Despite these obstacles, students reported increased motivation, confidence, and self-directed learning, underscoring the platform's potential benefits.

The role of Altissia in maintaining interactivity in language learning has also been examined in the context of synchronous and asynchronous learning modes. Serrar and Ibrahim (2024) analyzed the use of Altissia alongside Microsoft Teams to facilitate real-time and self-paced learning. Their study highlighted the advantages of digital tools in enhancing pedagogical communication while acknowledging the necessity for proper training and adaptation to maximize their effectiveness. They proposed a hybrid learning model that integrates both synchronous and asynchronous methods to improve student engagement and motivation.

Additionally, student perspectives on Altissia have been explored in various academic settings. Research conducted at Universitas Islam Kebangsaan Indonesia (UNIKI) indicated that students found Altissia engaging and beneficial in developing pronunciation, listening comprehension, and grammar skills (Fajrinur, 2022). The study emphasized the platform's flexibility, allowing students to learn at their own pace. However, technical issues such as registration difficulties and password-related problems were identified as barriers to effective usage.

The potential of Altissia in blended learning environments has also been highlighted. Fitriani et al. (2024) discussed how Altissia can be integrated into blended learning to optimize reading comprehension for senior high school students. The study suggested that Altissia's interactive exercises, personalized learning paths, and progress-tracking features make it a valuable tool for enhancing reading comprehension. Effective implementation strategies were recommended to maximize its benefits in classroom settings.

2.2. CALL in Moroccan Higher Education: Progress and Challenges

The integration of communication technologies in Moroccan higher education, particularly in Computer-Assisted Language Learning (CALL), has been widely explored. Riyami, Mansouri, and Poirier (2016) highlight that ICT and CALL are often used interchangeably in Morocco, categorizing higher education into state universities, private institutes, and vocational training centers. State universities invest in ICT infrastructure, including hardware, software, and digital classrooms, with government initiatives like INJAZ providing students with affordable technology. Private institutes similarly integrate digital tools to enhance engagement and learning.

Naciri (2015) underscores the pedagogical benefits of ICT, emphasizing its role in constructivist learning, self-directed education, and critical thinking. ICT fosters collaboration, creativity, and access to resources, significantly improving English language teaching and better preparing students for the job market. Similarly, Riyami, Mansouri, and Poirier (2016) examine ICT in vocational training, particularly within the Institut Spécialisé de Technologie Appliquée (ISTA) which translates into English Specialized Institute of Applied Technology. Their findings indicate that ISTA institutions utilize advanced e-learning platforms and interactive tools to

support learning and assessment. However, observations from instructors and students suggest discrepancies between theoretical claims and practical implementation which requires further research.

In a similar vein, Bakou (2020) and Hammou and Elfatih (2021) highlight ICT's role during the COVID-19 pandemic in maintaining educational continuity but also note significant barriers such as digital illiteracy among teachers and poor internet access, especially in rural areas. Many students lack personal computers, further widening the digital divide. However, regardless of the governmental efforts, several challenges hinder ICT integration in education. Ait Hammou and Elfatih (2021) identify two main obstacles: institutional constraints and teacher-related limitations. Schools lack sufficient ICT resources, and overloaded instructors struggle to incorporate technology into their curricula. Additionally, inadequate ICT training limits teachers' ability to effectively utilize digital tools. Therefore, research indicates ongoing deficiencies in ICT infrastructure and training. Addressing these gaps through better resource allocation, comprehensive teacher training, and equitable digital access is essential for the future success of CALL in Moroccan higher education.

The literature review highlights the growing significance of Mobile-Assisted Language Learning (MALL) such as Altissia in foreign language instruction because of their benefits in enhancing language skills, engagement, and self-directed learning. While studies affirm Altissia's effectiveness, challenges such as technical issues and lower proficiency learners' reluctance to engage remain a challenge. In the Moroccan context, the integration of Computer-Assisted Language Learning (CALL) in higher education demonstrates promise but faces obstacles, including digital illiteracy, inadequate infrastructure, and teacher training deficiencies. Addressing these challenges through better resource allocation and pedagogical support is crucial for optimizing the impact of digital learning tools.

3. Methodology

3.1. Research Design

This study adopts a qualitative research design to investigate the impact of Altissia on Moroccan ISTA students and to evaluate their attitudes toward using the platform as a tool for language learning enhancement. A quantitative approach was chosen because it provides an exploration of participants' experiences, beliefs, and perceptions, offering a richer and more nuanced understanding of their interactions with the platform.

3.2. Research instruments

This study employed two data collection instruments; pre/post-test and a survey. The pretest in this study aimed to evaluate first-year ISTA students' prior English knowledge before starting their course, identifying their strengths and weaknesses. It measured their retention of grammar, vocabulary, and reading skills from high school, following Morocco's official English curriculum. The post-test, designed in alignment with ISTA's English syllabus, assessed students' learning after blended instruction. Its purpose was to determine the effectiveness of the program by comparing results between the experimental and control groups.

To investigate students' opinions on Altissia and address the research questions, a five-point Likert scale questionnaire was designed and distributed in hard copy. The questionnaire had four main sections: the first collected demographic and educational information, along with perceptions of Altissia's linguistic content, specifically its effectiveness in improving reading, writing, speaking, listening, grammar, and vocabulary. The second section evaluated technical aspects such as features, display, accessibility, and the quality of audio-visual materials. The third section assessed user satisfaction and the perceived usefulness of Altissia as a learning tool, while the final section examined its role in enhancing motivation for learning English, including factors like free access and flexibility.

3.3. Participants

To assess the impact of Altissia on language learning, a pre-test and post-test have been conducted with first-year ISTA students. This group was chosen because they were just beginning their studies, making it possible to evaluate their knowledge before and after exposure to the treatment. A total of 100 students enrolled in one of the ISTAs in Rabat participated, with 50 assigned to the control group and 50 to the experimental group. This design allowed for a clear comparison of learning outcomes between those who used Altissia and those who did not, providing valuable insights into the platform's effectiveness.

To measure students' attitudes and perceptions of Altissia, second-year ISTA students were selected as they had prior experience with the platform. Their familiarity made them well-suited to provide informed opinions on its usefulness and impact. A total of 200 students from an ISTA in Salé participated in the survey, offering a broad and representative sample. By focusing on second-year students, the study captured perspectives based on actual usage, ensuring that the feedback reflected real experiences rather than initial impressions.

3.4. Reliability

To assess the reliability of the pretest, test-retest reliability was examined, as it evaluates the stability of test results over time (Cresswell, 2012). Ten recently graduated baccalaureate students from ISTA Temara, previously taught by the researcher, took the pretest twice with a one-week interval under identical conditions. The intraclass correlation coefficient (ICC) was calculated using SPSS to measure consistency.

Table 1: Intraclass Correlation Coefficient of the Pretest

Intraclass Correlation Coefficient							
	Intraclass Correlation ^b	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	,895 ^a	,636	,973	18,075	9	9	,000
Average Measures	,945 ^c	,777	,986	18,075	9	9	,000

As shown in Table 1, the ICC values for single measures (0.895) and average measures (0.945) indicate a high degree of reliability. These results confirm that the pretest produced stable and consistent outcomes over time, validating its effectiveness in assessing students’ prior English knowledge.

To ensure the accuracy of the survey, its reliability was assessed using Cronbach’s Alpha, which measures internal consistency. Before large-scale distribution, a pilot test was conducted with 20 second-year ISTA students, who completed a four-part questionnaire. Cronbach’s Alpha was then computed using SPSS to evaluate the reliability of each subscale.

Table 2: Reliability Statistics of the Questionnaire

Reliability Statistics		
Subscale	N of Items	Cronbach's Alpha
Language content	9	,735
Feature and display	5	,725
Satisfaction and Usefulness	8	,669
Motivation	8	,731
Cronbach's Alpha Coefficient of the questionnaire	30	,865

As shown in Table 2, the subscales demonstrated acceptable reliability: language content ($\alpha = .735$), feature and display ($\alpha = .725$), satisfaction and usefulness ($\alpha = .669$), and motivation ($\alpha = .731$). The overall Cronbach’s Alpha coefficient for the questionnaire was .865, indicating a strong level of internal consistency. These results confirm that the survey items were highly correlated making it a reliable instrument for assessing students’ perceptions of Altissia.

3.6. Data Analysis

In order to get an in-depth understanding of the findings the following tests were used. The table below Table 3 summarizes the statistical tests and measurements that the current research used to analyze and interpret data for each instrument.

Table 3: Summary of the Statistical tests

Instrument	Types of tests	Statistical tests
Pre/post-test	<ul style="list-style-type: none"> ▪ Parametric 	<ul style="list-style-type: none"> ▪ Paired samples t-test. ▪ Independent Samples t-test.
Questionnaire	<ul style="list-style-type: none"> ▪ Non-parametric 	<ul style="list-style-type: none"> ▪ Man-Whitney ▪ Kruskal-Wallis

4. Findings

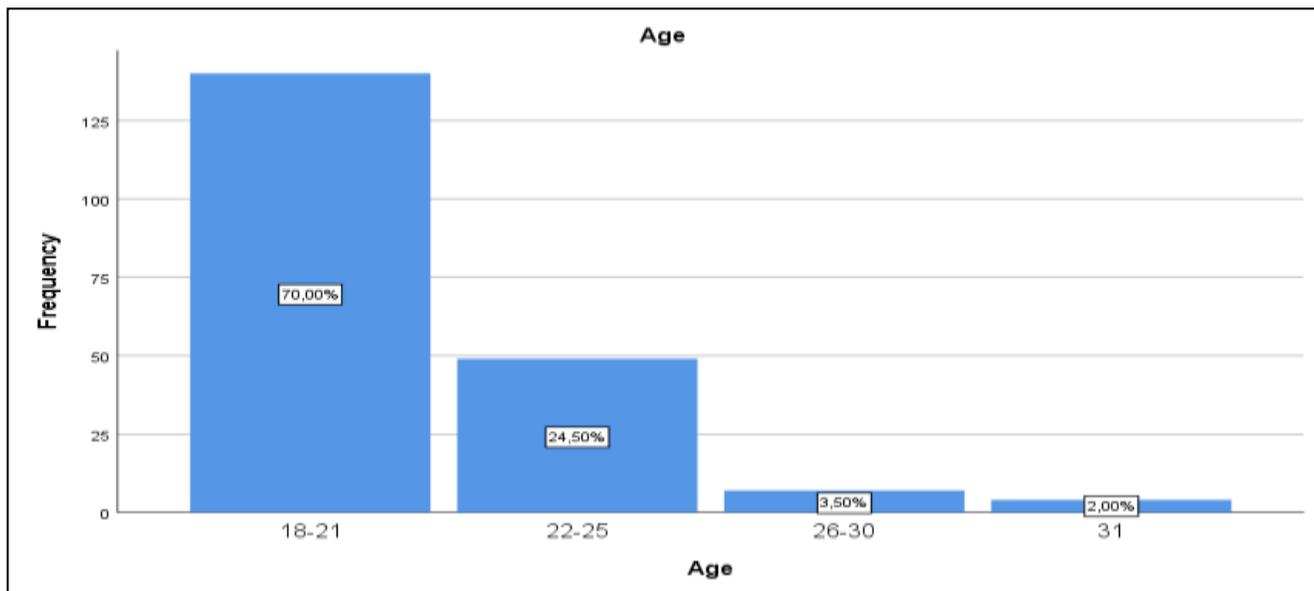
The questionnaire data highlights the gender distribution among 200 participants. As shown in Table 4, 34.5% (69) are male, while 65.5% (131) are female, indicating a significant gender disparity. This imbalance reflects the randomized data collection and the inclusion of ISTA majors, some of which are predominantly female-oriented. The study’s broad scope provides valuable insights into gender representation within the institute.

Table 4: Gender Distribution of Participants in the Questionnaire

		Gender		
		Frequency	Percent	Valid Percent
Valid	Male	69	34,5	34,5
	Female	131	65,5	65,5
	Total	200	100,0	100,0

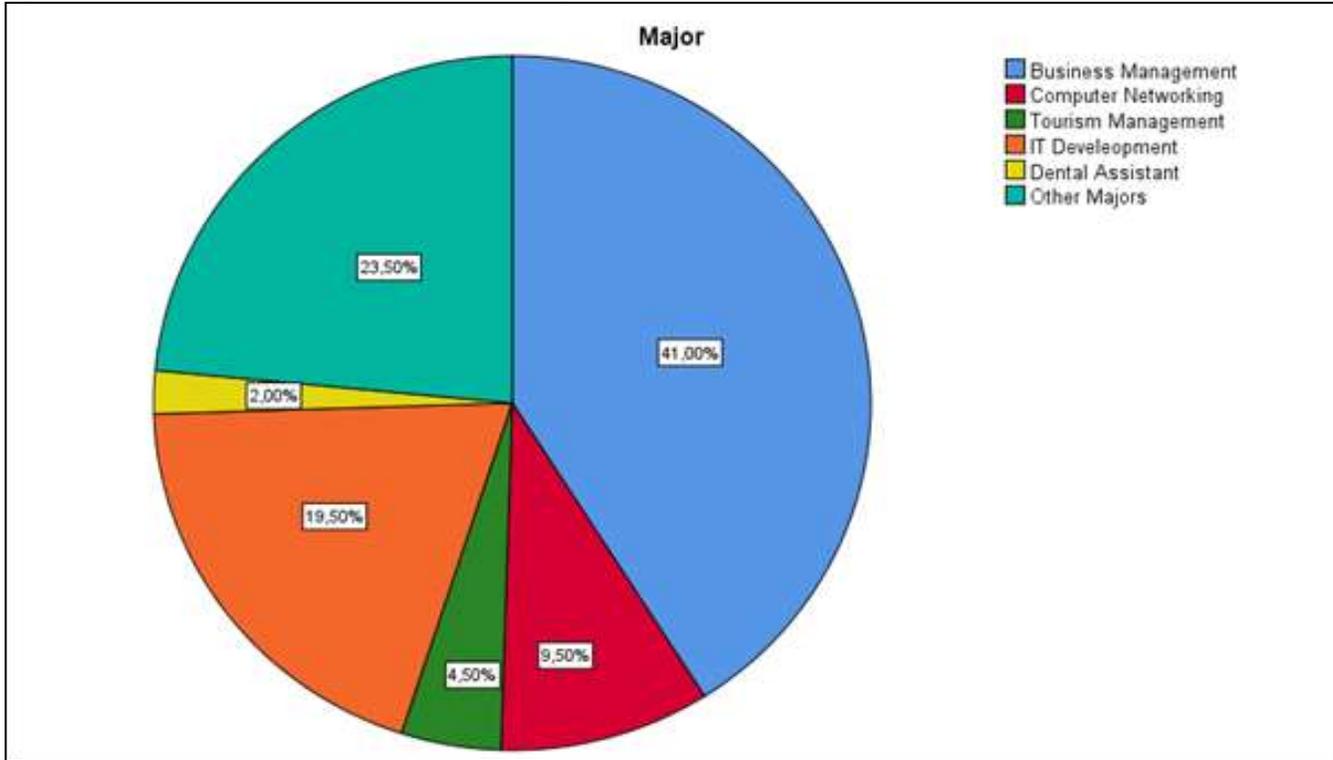
The 200 questionnaire participants are categorized into four age groups: 18-22, 22-25, 26-30, and above 30. The majority, 70%, fall into the 18-22 age range, reflecting a strong presence of young students and recent high school graduates. The 22-25 age group comprises 24.5%, likely including individuals with university degrees or those returning to ISTA for vocational training. Participants aged 26-30 represent 3.5%, and those above 30 make up 2%. These smaller proportions are likely due to age restrictions in certain ISTA majors.

Figure 1: Frequency of the Questionnaire Participants’ Age



The study examined students from various majors to assess their interest and motivation, assuming that some fields require higher English proficiency. For example, Tourism, Business Management, and IT typically demand strong English skills for career success. Figure 1 shows the distribution of participants across these majors. Business Management is the most dominant, with 41% of the sample (82 participants), followed by IT Development (19.5%) and Computer Networking (9.5%). Smaller majors like Tourism (4%) and Dental Assistant (2%) were also included. Overall, the study covered a broad range of majors from ISTA institutes in Rabat and Salé.

Figure 2: Participants' Academic Majors (ISTA- Region of Rabat / Kenitra)



To assess the potential impact of Altissia on English language learning, an experiment was conducted with both an experimental and a control group. The experimental group received classroom instruction along with unlimited access to Altissia, while the control group only received classroom instruction. Both groups completed a pretest before the experiment and a posttest afterward.

Table 5: Pretest Descriptive Statistics: Experimental and Control Groups

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Experimental Group (Pretest)	50	7,00	50,00	24,0000	11,02872
Control Group (Pretest)	50	5,00	52,00	22,6200	11,54210
Valid N (listwise)	50				

Table 5 shows the pretest scores, revealing that the experimental group (M = 24.00) had slightly higher mean scores than the control group (M = 22.62), with similar score dispersion (SD = 11.03 and SD = 11.54, respectively).

Table 6 below presents the posttest results, where the experimental group (M = 26.49) also had a slightly higher mean score than the control group (M = 23.67). The experimental group showed a slightly wider spread in scores (SD = 8.11 vs. SD = 6.95). Despite these differences, the pretest and posttest results indicate minimal differences between the two groups.

Table 6: Posttest Descriptive Statistics: Experimental and Control Groups

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Experimental Group (Posttest)	50	5,00	39,00	26,4900	8,11241
Control Group Posttest	50	4,50	35,00	23,6700	6,94997
Valid N (listwise)	50				

To determine if there is a statistically significant difference between the control and experimental groups in terms of learning outcomes, an independent sample t-test was conducted. Levene's test for equality of variances showed a p-value of 0.441, indicating no significant difference in variances between the two groups. The t-test resulted in a p-value of 0.065, which is above the 0.05 significance level, suggesting no significant difference between the groups' learning outcomes.

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Post-test's scores of (Control & Experimental)	Equal variances assumed	,600	,441	1,867	98	,065	2,8200	1,51072	-,17797	5,81797
	Equal variances not assumed			1,867	95,746	,065	2,8200	1,51072	-,17885	5,81885

Table 7: Statistical Analysis of Post-test Scores: Independent Samples Test

Based on this analysis, it can be concluded that there is no significant impact of Altissia on the English learning outcomes of ISTA students.

As far as students' satisfaction is concerned, this study examined students' satisfaction with Altissia's content and overall effectiveness in enhancing English proficiency. The results revealed moderate satisfaction, with mean scores ranging from M = 2.9500 to M = 3.7950 and standard deviations from SD = 0.97351 to SD = 1.18513, indicating a moderate dispersion of responses.

Table 8: Descriptive Statistics of learners' satisfaction with Altissia

Descriptive Statistics (Satisfaction)					
	N	Minimum	Maximum	Mean	Std. Deviation
I am satisfied to use Altissia to learn English.	200	1,00	5,00	3,7950	,97351
I enjoy learning English with Altissia.	200	1,00	5,00	3,6350	1,01831
I recommend Altissia to my colleagues to learn English.	200	1,00	5,00	3,6300	,98384
Altissia increased my self-confidence to develop a level of English.	200	1,00	5,00	3,3900	1,04082
Altissia shortens the time to learn English compared to traditional learning methods.	200	1,00	5,00	3,4650	1,10675
Altissia helped me interact with the rest of my classmates.	200	1,00	5,00	3,0850	,97598
Thanks to Altissia I am able to learn English anytime and anywhere.	200	1,00	5,00	3,2550	1,08899
Learning English on the Altissia is better than face-to face education.	200	1,00	5,00	2,9500	1,18513
Valid N (listwise)	200				

As indicated in the table above, a subset of respondents expressed enjoyment while learning, with a mean score of $M = 3.6350$, and reported confidence in improving their English skills ($M = 3.3900$). Additionally, the flexibility of learning anytime, anywhere, was praised ($M = 3.2550$). However, limitations were noted, including a faster learning pace compared to traditional methods ($M = 3.4650$, $SD = 1.10675$) and a lack of interactive features ($M = 2.0850$), highlighting the absence of synchronous interactions. Therefore, it is evident then that students are slightly satisfied with Altissia as a learning tool.

5. Discussion

The findings of this study provide empirical evidence that there is no statistically significant difference in English learning outcomes between students who utilized Altissia and those who did not. This suggests that Altissia, in its current form, does not offer a discernible advantage in enhancing English proficiency. In other words, while the platform is available as a learning tool, it does not appear to introduce novel or particularly effective learning experiences for its users.

This result stands in contrast to the broader body of research on Computer-Assisted Language Learning (CALL), which has consistently demonstrated the benefits of digital platforms in language acquisition. Numerous studies have highlighted how CALL enhances language proficiency, motivation, and autonomous learning. For instance, Almikhafi (2006) found that CALL had a positive impact on both language skills and motivation, while Yunus, Hasim, Embi, and Lubis (2010) emphasized its role in fostering independent learning through relevant and contextually rich materials. Given these well-documented advantages, the absence of a measurable impact from Altissia raises important questions about its implementation and effectiveness.

Interestingly, some research specific to Altissia presents contrasting results. Losi (2022) reported that the platform positively influenced student proficiency and motivation in learning English. This discrepancy highlights the complexity of digital language learning and suggests that the effectiveness of such platforms may be highly context-dependent. However, it is important to recognize that Losi's study was relatively limited in scope, focusing only on superficial aspects of Altissia rather than conducting an in-depth evaluation. In contrast, the present study takes a more comprehensive approach by analyzing not only the platform itself but also user experiences. This thorough examination underscores the need for further research to address existing gaps and highlights Altissia as a reliable English learning tool.

Beyond Altissia's specific challenges, broader issues associated with e-learning also come into play. Robert (2004) identified ten key problems in e-learning, some of which align closely with the difficulties faced by Altissia users. For instance, Moroccan students often struggle with self-paced online learning due to a lack of prior training on similar platforms. As a result, when assigned a self-study program, they may feel overwhelmed, unsure of where to begin, and ultimately disengaged.

Similarly, Katz and Mackli (2007) pointed out that students who lack effective filtering skills can feel disoriented by the abundance of online information. This suggests that better structuring and guidance within Altissia could help mitigate student frustration. Another significant issue, as highlighted by Bonk, Wisher, and Lee (2004), is that students tend to disengage when left unmonitored. This concern is common in by ISTA institutes where students are not supported and therefore feel unmotivated to continue.

Taken together, these findings point to several key areas for improvement in Altissia's design and implementation. Addressing the challenges of self-directed learning, providing clearer guidance, and incorporating mechanisms for feedback could enhance the platform's effectiveness. Ultimately, while CALL as a whole has been shown to be beneficial, the case of Altissia demonstrates that the success of any digital learning tool depends on careful consideration of learner needs, instructional design, and ongoing support structures.

Conclusion

This study examined the impact of Altissia on English proficiency among ISTA students. Despite its integration into vocational education, findings showed no significant improvement in learning outcomes between Altissia users and non-users. While students expressed moderate satisfaction, concerns about engagement, content relevance, and usability persisted. These results highlight the need for better instructional design, structured implementation, and enhanced support to maximize the effectiveness of digital language learning tools in Moroccan higher education.

Future research should explore alternative digital platforms and blended learning approaches. A more structured curriculum with teacher guidance may enhance Altissia's effectiveness. Additionally, addressing technical challenges and improving interactivity could boost student engagement.

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