

## COMPARATIVE ANALYSIS OF LANGUAGE LEARNING OUTCOMES IN ONLINE AND TRADITIONAL CLASSROOM SETTINGS

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### **Abstract**

*This study explores a comparative analysis of language learning outcomes in online and traditional classroom settings. With the growing trend of online education, especially spurred by world events, such as Covid-19, this research aims to find out whether online language learning is as effective, if not more effective, than the traditional face-to-face instruction system. The major goal is to analyze the strengths and weaknesses of each environment from a learning performance perspective, in terms of student engagement, motivation, interaction between instructor and learner as well as overall satisfaction. The study has a mixed-methods approach as it uses quantitative data from language proficiency tests and surveys as well as qualitative information from interviews and focus groups. Results show that although both types of learning have their benefits, traditional classrooms encourage greater degrees of student interaction, engagement, and immediate feedback. In contrast, Online Learning can provide a significant amount of flexibility, cost efficiency and personalized learning experiences. However, challenges such as technological barriers and reduced level of motivation in the online setting were observed. These findings provide a focus on the potential for blended approaches between blended learning, which is a combination of the best of both. The implications of this study are large to educators, policy makers, and institutions alike as it provides knowledge about how language curricula can be optimized for diverse learning environments-that focuses on enhancing student outcomes both online and in traditional learning settings.*

### **Keywords**

*Language learning, online education, traditional classroom, engagement, motivation, instructional methods, learning outcomes, feedback.*

### **1. Introduction**

In a world increasingly interconnected with others, the importance of being able to learn and communicate in multiple languages has been now more important than ever before (Li & Akram, 2023, 2024; Ramzan et al., 2025, 2023). Language learning not merely addresses cultural differences but is also a key factor for individual, academic and professional development (Nunan, 1999). Traditionally, language education has been delivered in one's physical classroom where face-to-face interactions between instructor and student provide the basis for the educational experience. This method has been regarded by many as the gold standard due to the direct and immediate feedback it provides, the potential to engage in real-time interaction as well as the structured learning environment (Brown, 2000).

However, due to the advent of digital technology, online learning has emerged as a force to reckon with (Anderson, 2008). With flexible times and different resources, online platforms have been a rapidly growing emerging choice among learners all over the world (Akram & Abdelrady, 2023, 2025), an alternative that has the potential to accommodate different learning needs (Means et al., 2010). While the global pandemic helped to accelerate this shift, the question in the background still remains: Can online learning offer the same (or better) results when compared with traditional

classroom learning environments as far as the language learners acquire and student satisfaction is concerned?

This research addresses this very question by comparing the learning results of students with online language courses, and students in the classroom. In particular, the study focuses on some of the key aspects, e.g., student engagement, motivations, instructor's interaction, and the overall effectiveness of the learning in both the environments (Gonzalez et al. 2020; Seok et al. 2010).

While a growing body of researches has been conducted on the effectiveness of online learning, there is somewhat lack of knowledge on how this compares specifically to traditional classroom based learning of languages. Some studies indicate that online platforms are just as effective as face-to-face education (Sims & Schuman, 1999; Salcedo, 2010), while others point out possible limitations of online instruction including lack of interaction and engagement (Artino, 2008). Language learning is especially a complex process that involves not only the learning of knowledge but also the process of motivation, social interaction and practice in real life. Understanding the role of these elements in both online and traditional settings is of great importance to educators and decision makers seeking to maximize language teaching methodologies (Johnson et al. 1999).

### **Research Objectives and Questions**

- How do the academic performance outcomes of students in online language courses compare to those in traditional classroom settings?
- In what ways do instructor-student interactions differ between online and traditional classrooms, and how do these differences impact learning outcomes?
- How do students perceive their engagement, motivation, and overall satisfaction with language learning in both online and traditional environments?

### **Significance of the Study**

This research has a huge importance for educators, institutions and policy makers because it sheds light on the strengths and challenges of both the online and traditional learning formats. By knowing the factors that contribute to successful language acquisition in each of these environments, the results of this study can be used to help shape future curricula that are a compromise between the best aspects of both approaches (Graham, 2006). The results of this research may suggest pedagogical approaches to design better and more efficient language courses to plaintiffs, while for institutions and policy makers the research offers a great deal to be learned with respect to resource investments, design of courses and technology integration in language learning (Garrison et al., 2000).

In addition to this, the study gives the possibility for reflection on the changing face of education (Sohail & Akram, 2025). As digital learning continues to pick up, it's important to know how to take advantage of the capabilities that online platforms have to offer us in terms of enhancing language learning while retaining the advantages of in-person interactions (Russell, 1999). The results of this study aim to provide information on how to balance these two modes of instruction to provide more accessible, personalized, and effective learning experiences to language students learning worldwide.

### **2. Literature Review**

A growing amount of literature has been sifted through on the subject of the effectiveness of both online and traditional language learning. The comparison of these two modes of instruction has shown a mixed result. Some research has indicated that both online and more traditional approaches are equally effective, depending on the design of the learning environment. For example, research by Sims and Schuman (1999) concluded that the online and face-to-face groups

of students showed comparable levels of achievement, especially if the course materials were equally interesting and well organized. Similarly, in Cahill and Catanzaro (2004), the research concluded that online learners had similar performances to their classroom counterparts when given language assessments, especially in writing tasks; this clearly suggests that the lack of physical interactions did not affect the learning outcomes to a great extent. On the other hand, Johnson et al. (1999) noted that students in traditional classrooms showed higher levels of satisfaction, particularly in terms of interaction with describes taught, and peers and that they found this led to greater comprehension and retention of language skills.

In contrast, other research indicates that some aspects of learning languages are supported better in a face-to-face environment. Salcedo (2010) stated that traditional classrooms provide better social interaction which is essential for language skills, such as speaking and listening. These interactions do not only help to enhance communication, but there is immediate feedback often lacking in online learners. Furthermore, Artino (2008) pointed out that the students in traditional settings are more often engaged and motivated because of the structure and discipline in the classroom environment.

At the same time, the flexibility of online learning can contribute to more self-directed learning which is an advantage for some students (Al-Adwan et al., 2022). Means et al. (2010) indicated that online learning environment can lead to more autonomy and individualized learning experiences which is particularly important for adult learners with busy schedules. The fact that materials can be revisited at one's own pace is an important advantage of online education especially for language learning where repetition and personal learning is a misunderstood concept (Russell, 1999).

Constructivist Theory, with its foundation in the works of Piaget (1970) and Vygotsky (1978) has developed the view that learning is through active engagement with the environment. According to Vygotsky's Zone of Proximal Development or ZPD, learners benefit most when they are supported by others who have higher levels of understanding in a particular area, such as a teacher or another student, to reach a higher level of understanding than they could reach on their own. In traditional classrooms, this theory can be seen reflected through collaborative learning activities and immediate feedback, considered to be important for enabling language acquisition. Online environments however, pose challenges to this theory, because face-to-face environments provide direct interaction and the immediate scaffolding that is available in immediate learning environments (Garrison, Anderson, & Archer, 2000).

Cognitive Load Theory was developed by Sweller (1988) and this theory states that learning is most effective when the instructional materials are designed to minimize unnecessary cognitive load. In the case of language learning, this theory implies that instructional techniques must be designed so as to balance the cognitive load inherent in the subject material itself and the cognitive load added by the instructional design (Abdelrady et al., 2025). Traditional classrooms often support this balance with interactive teaching methods and immediate feedback (Ramzan & Alahmadi, 2024), while the online platforms might require some careful designing to keep the learner from being overwhelmed with too much information or too many resources, to the extent that it becomes difficult to learn the language (Sweller et al., 2011; Ramzan et al., 2023).

While there has been significant research to compare online and traditional language learning, nevertheless, there are some visible gaps in the literature that need to be explored further. One important area that has not yet been widely investigated is that of student engagement in both environments. Most of the existing studies focus on overall learning outcomes, whereas less attention has been paid to the impact of engagement (both emotional and behavioral) on learning

in online and traditional settings. Engagement is a key factor, as it has been found to play a role in motivation and retention (Akram & Li, 2024; Chen & Ramzan, 2024), which are key to a language learning success (Fredricks et al., 2004).

Another gap exists regarding the understanding of the impact of real time interaction between students and instructors. While in-person classrooms have an advantage in creating immediate feedback and lively interaction, gathering online is often skewed toward using asynchronous technologies, which can cause delayed responses and fewer chances for verbal improprieties to be cleared up on the spot (Richardson & Swan, 2003). More research is required to investigate the effects of these delays on learning outcomes especially in language learning where timely correction and practice are crucial to one's proficiency. Lastly, little research has been conducted on the impact of technological tools and resources on language learning. Emerging technologies such as language learning apps and interactive platforms may be a key component in the effective online education, though the effect on learner engagement and learner success has not been adequately researched (Hattie & Timperley, 2007). The conclusions from earlier research are very important for language learning practice (Nawaz et al., 2021, 2022). Blended learning, which is a combination of both online learning and traditional learning, has also become a promising approach because educators are able to utilize the benefits of both types. Research by Graham (2006) has shown that blended learning can help to increase student engagement and performance by allowing for flexibility when learning while also retaining the social interaction and structure of traditional classrooms. Moreover, educators can create online courses with more interactive features and encourage more student-to-student interaction (Akram et al., 2021, 2022). Technologies like video conferencing, discussion boards and collaborative platforms can help reduce some of the isolation felt by online learners to create a more dynamic and engaging learning environment (Gonzalez et al., 2020). For institutions it provides a reminder of the importance of investments in teacher training for online. Instructors must not only be skilled in language teaching, but must also be skilled in their use of digital tools. As Makarova (2021) points out, a great deal of the success of online learning relies on the instructor's ability to facilitate interaction, give timely feedback, and build a supportive online community. Finally, the growing demand for flexible learning opportunities must also be taken into account by policymakers, especially in the case of language education. As online platforms do continue to evolve there is the need to examine policy which supports the integration of technology in ways which support equitable access to high quality language learning experiences (Means et al., 2010). It would be highly interesting to look at learning outcomes in a multilingual country such as Pakistan, having a very rich linguistic backdrop (Ali, Shah & Hamid, 2020; Shah, Pillai & Sinayah, 2019).

### 3. Research Methodology

#### ***Research Design***

This study uses a mixed method approach in order to comprehensively assess the language learning outcomes in both online and traditional classroom learning environments. By combining quantitative and qualitative data, a keen grasp of the factors that affect student success in various learning environments is the aim of the research. The quantitative component refers to the use of standardized language proficiency tests when the academic performance of the students both in online courses and face-to-face courses is to be objectively measured. In contrast, the qualitative aspect aims to capture the experience of language learning through interviews and focus group enabling the participants to share their perceptions and attitudes towards their learning environments.

### ***Population and Sample***

The research focus adults learners who are taking language classes in various educational institutions. A stratified random sampling technique was used to make sure that the sample was representative of the traditional classroom and online learning environments. A total of 200 students took part in the study, being 100 students coming from online language courses and 100 students from class-based courses. The selection criteria were students who had taken similar language courses in the same academic semester as a control for course content and instructional quality.

The sample also considered key demographic factors like age, gender and previous language level to ensure diversity and enable possible influences these variables might have on learning outcomes to be explored.

### ***Data Collection Methods***

The process of collecting data included several different instruments to gather feelings along with scientific factual information to provide a sample of objective performance data. These included:

- 1. Language Proficiency Tests:** In order to evaluate the language skills of the students, standardized language proficiency tests were given at the start of the semester and at the end of the semester. These tests included tests of important language skills, such as reading, writing, listening and speaking. The tests have been chosen according to the international language proficiency standards so as to ensure validity and reliability (Larsen-Freeman & Long, 1991).
- 2. Surveys:** A comprehensive survey was conducted in order to collect information regarding student learning experiences, motivation and engagement in online and traditional settings. The survey included items of Likert scale, which provided the opportunity to gather quantitative information regarding the perception of their learning environment by students (Schutte, 1997).
- 3. Interviews and Focus Groups:** A subset of 20 students (10 from each learning setting) were interviewed in in-depth semi-structured interviews. These interviews offered information about how students view their learning experiences, the issues they encounter and what factors affect their participation and motivation. Additionally, focus group discussions were conducted with groups of 5-7 students in order to investigate collective perceptions and experiences of the language learning process.

### ***Data Analysis Techniques***

The analysis of the quantitative data was performed with the use of descriptive statistics in order to summarize the demographic characteristics and the level of performance of the participants. Inferential statistical techniques, such as t-tests and ANOVA were used to compare the language proficiency scores of the students in the online and traditional setting. These statistical tests helped to find out any significant difference between the academic performances of the two groups.

For the qualitative data, thematic analysis was used to identify common themes and patterns in the responses of the students in the interviews and focus groups. This approach provided the opportunity for the systematic categorization of important topics including student motivation, engagement and interaction with instructors and peers. Thematic analysis was selected because it allows for flexibility and enables information to be drawn from complicated and qualitative data, making it an ideal tool for this study.

#### 4. Results

##### ***Quantitative Results***

The quantitative data for this study was collected mostly using language proficiency tests and survey responses from students in the online and traditional classroom setting. These data were examined to assess the language skills of students in four major areas of language: reading, writing, listening, and speaking. The proficiency tests were given at the start and conclusion of the course to monitor the progress in the acquisition of language.

Overall, students in both groups improved on their language proficiency at the end of the semester. However, there were some distinct differences in the progress made. Students in traditional classrooms showed greater significant improvement on speaking and listening skills, probably because of the real-time and interactive nature of face-to-face instruction. On the other hand, the group of students in the online group demonstrated higher improvements in writing and reading skills, which may be attributed to the self-paced, individualized characteristic of online learning.

As can be seen from the tables below the mean scores of each group revealed statistically significant differences. For example, traditional classroom learners had a better increase in their average scores for listening comprehension than online counterparts.

Skill Area	Traditional Classroom Mean Score	Online Learning Mean Score	t-test p-value
<b>Reading</b>	78.5	81.2	0.03
<b>Writing</b>	75.3	80.4	0.01
<b>Listening</b>	82.6	76.7	0.02
<b>Speaking</b>	79.4	74.8	0.05

These differences were further emphasized according to the results of the survey. The responses relating to satisfaction with learning outcomes were more positive among traditional classroom students who especially appreciated the real-time feedback and structured lesson plans (Gonzalez et al., 2020). In terms of disadvantage, online learners reported a lower satisfaction with the instantaneous feedback provided which was a disadvantage (Artino, 2008).

### ***Qualitative Results***

The qualitative component of the study involved interviews and focus group discussions with some of the students (20 in total [10 from each learning environment]). Thematic analysis of the interview data allowed us to gain several important insights into students experiences and perceptions of language learning within the two settings.

For traditional classroom students, the most common theme that was mentioned was value of instructor presence and peer interaction. Many students emphasized the value of spontaneous discussions and the chance to ask questions and get immediate feedback, which they felt helped them with their learning process significantly. Engagement was often cited as being higher in the traditional setting with the students describing their classroom environment as being more interactive and motivating.

In contrast, online learners focused more on the ability to be flexible and to learn in a personalized way that online education allowed. Several students said they liked being able to work in their own time, particularly those who have other commitments such as work/family. However, online learners have also expressed some difficulties with self-motivation and technological barriers. A common concern was how hard it was to keep engaged with lessons that happened without face-to-face interactions with teachers and other students in real time.

Some of the online learners also mentioned the technological tools that they found helpful like language learning apps and multimedia resources which they thought helped them expand their vocabulary and understand their reading better. However, a few participants raised that poor internet connectivity or lack of familiarity with the technological tools sometimes interfered with their learning experience (Seok et al., 2010).

### ***Comparative Analysis***

The results obtained from both quantitative and qualitative data have a complete comparison of the language learning outcome of both the groups. Overall, traditional classroom environments seem to be more conducive to the development of social interaction and engagement, both of which are important for language acquisition (Brown, 2000). In contrast, online learning can have the advantage of being more flexible and personalized, which can be beneficial for learners who require a self-paced and personalized approach to study (Graham, 2006).

When the language acquisition results were compared, the traditional classroom students performed better in the area of skills that necessitate immediate feedback and interaction such as speaking and listening. These skills are aided by real-time communication, which is more available in face-to-face situations (Johnson et al., 1999). However, online learners did better than their classroom counterparts in the writing and reading assessments, perhaps due to the wide availability of digital resources to online learners, enabling them to access the material in a more flexible and individualized fashion (Russell, 1999).

In terms of student motivation and satisfaction, the traditional classroom learners experienced greater levels of motivation because structured schedules and direct interaction between instructors and students were implemented. In contrast, online learners liked the independence and self-paced nature of learning, although some learners felt less motivated because they did not receive immediate feedback or peer interaction (Gonzalez et al., 2020). In conclusion, although both learning environments have their unique advantages and limitations, the results seem to indicate that the blended learning models which utilize the best of both online and traditional learning methods may represent the best approach to enhancing language learning outcomes (Graham, 2006).

## 6. Discussion

The results of this study show important conclusions about the effectiveness of the online environment and traditional classroom in facilitating language learning. While both settings were successful in leading to improvements in language proficiency, there were distinct characteristics in the strength and limitation of the effects in the different language skills.

Traditional classroom learners made significant improvements in their speaking and listening skills, which reflected the impact of the real-time interaction and immediate feedback. These elements are important for the development of oral proficiency which needs frequent practice, correction and opportunity to engage in spontaneous communication (Ahmad et al., 2022; Amjad et al., 2021; Johnson et al., 1999). The findings are consistent with previous studies that indicate face-to-face environments offer greater possibilities for collaborative learning and social interaction, both of which are key to language learning (Brown, 2000; Garrison et al., 2000). The higher motivation and engagement that is noticed in traditional classroom students can be attributed to the fact that this is a structured learning environment which helps with accountability and direct teacher-student interactions (Gonzalez et al., 2020).

Conversely, online learners were better than their traditional counterparts in reading and writing proficiency. This outcome is suggestive that the flexibility and individualized nature of online learning environments are conducive to tasks requiring deep focus and personalized progress at one's own pace (Means et al., 2010). The availability of a variety of digital resources, including multimedia, interactive exercise, and language learning applications, was likely a factor in this improvement in writing and reading skills. These are tools that enable students to work with the language in a self-directed way to improve their ability to comprehend complex texts and to write more fluently (Russell, 1999).

The survey data further supported these findings as traditional learners rated themselves with greater satisfaction of the immediate feedback they received in the classroom which is critical in reinforcing learning (Artino, 2008). On the other hand, online learners appreciated the self-directed nature of their learning and the flexibility of accessing learning materials at their convenience. However, many online learners also cited the difficulty of maintaining motivation in the absence of the structure of the physical classroom and the social interactions that accompany it. This is consistent with several prior studies, which have indicated that social presence and engagement challenges often confront online learners (Richardson & Swan, 2003; Artino, 2008).

### ***Implications for Language Education***

These results have a number of significant implications for language teaching practices and curriculum development. First, both educators and institutions can rise to the unusual strengths associated with both types of learning environments and design a way of integrating both language learning environments. The success of online learners reading and writing appears to indicate that technology-enhanced learning can be very beneficial in the domain of such skills. Educators should contemplate bringing digital resources into the traditional classroom in order to supplement student reading and writing skills, including through the use of language learning applications and multimedia resources (Graham, 2006).

The strength of the traditional classroom with regard to the promotion of speaking and listening proficiency emphasize the importance of face-to-face interaction in language learning. For these areas, where feedback and real-time communication are important, traditional classroom environments should be maintained (even in a hybrid or blended learning mode). Therefore, language curricula should be designed to be partially in-person, partially online, giving students the opportunity to benefit from direct interaction for speaking practice, while also providing students the flexibility to study grammar, vocabulary and reading materials at their own time online (Gonzalez et al., 2020).

Furthermore, student engagement became an important factor for the success of language learning. In conventional classrooms, it was found that the higher levels of engagement among students due to schedule and the presence of instructor were associated with more favorable outcomes in speaking and listening. For online courses, however, keeping students motivated and present to the class is another challenge. Educators can mitigate this by establishing strategies that facilitate interaction in virtual classrooms, such as live discussion, group activities and peer feedback (Seok et al, 2010). By creating more of a collaborative online environment instructors are able to help reduce the feeling of isolation experienced by many online learners (Hattie & Timperley, 2007).

### ***Limitations of the Study***

While the study gives valuable information about the outcomes of language learning in various environments, several limitations should be noted. One of the main limitations is the sample size and scope. The study was done with a rather limited sample of 200 students from a particular region, which may challenge the generalisability of results to other populations or education settings (Cohen et al., 2018). The sample was also restricted to adult learners enrolled on English as a Foreign Language (EFL) courses, so the findings may not be applicable to learners of other languages or age groups. Future research should aim at including a more diverse sample in order to increase the external validity of the results.

Another limitation is the technological constraints that some online learners have faced which may have affected their learning experience. Issues like internet connectivity, technological literacy, access to digital tools etc. were not under uniform control during the study and may have affected the results of the results, especially for online learners (Seok et al., 2010). Future studies may try to correct this limitation by ensuring equal access to technology for participants and considering the technological infrastructure in various learning environments (Jalalzai et al., 2025).

Finally, the study was based on self-reported data gathered from surveys and interviews, which can subject the study to biases such as social desirability bias and response bias. Although attempts have been made to ensure anonymity and confidentiality, it is possible that participants gave responses which they thought would be more socially acceptable, rather than truly express their feelings or experiences. In future research, the use of a more comprehensive set of objective measures of engagement and motivation such as tracking student's participation in online discussions or completion of assignments would help reduce this bias (Mertens, 2014).

### ***Recommendations for Future Research***

Based on the results and limitations of this study, potential lines of future research arise. Longitudinal studies are suggested to discuss the long-term effects of online and traditional language learning. This would give greater insights into whether differences found in this study, especially in the proficiency of speaking and listening, will persist over time or whether there are any benefits of having one mode over the other that lessen after prolonged exposure (Graham, 2006).

Furthermore, future research could explore the effects of hybrid learning models that will integrate the advantages of both online and traditional learning. By examining how these models impact learning outcomes, engagement and student satisfaction, researchers can help to refine the way a language curriculum is designed to get the most out of both formats (Means et al., 2010).

Another avenue for future research is the role of technological tools in online learning of languages. Given the growing use of technology in education, future research could explore the use of specific technology, such as virtual reality, interactive simulations, or language learning apps, to improve language acquisition, especially in domains such as speaking and listening, which are more difficult to practice in a virtual environment (Hattie & Timperley, 2007).

Lastly, more research should be done to examine cultural differences in online and traditional language learning. It is possible that students from different cultural backgrounds may experience these learning environments differently and this may impact learning outcomes in language. Studies that consider the cultural context could help offer a more nuanced understanding of the ways in which different learners respond to a variety of teaching methods (Gonzalez et al., 2020).

### **Conclusion**

In all, this study identifies the comparative strengths and weaknesses of online and traditional classroom environments for language learning. Both environments had a noticeable effect on enhancing the language proficiency of students, however, each showed different advantages; traditional classrooms had a higher engagement level and better results in speaking and listening as a result of the real-time interactions, while the online environments provided flexibility and better results in reading and writing as a result of individualized learning path and access to diverse digital resources. These results indicate that a combined form of the two methods is worthwhile and could be the key to optimizing a language acquisition model. For educators and institutions, the study emphasizes the importance of using digital means to improve reading and writing in order to continue educating in person for speaking and listening practice. In addition, results from the study highlight the imperative of dealing with student engagement and motivation, especially within the online learning setting with its challenges such as lack of immediate feedback and isolation. Looking into the future, it appears that the future of language learning is in adapting to technological advancements and incorporating the use of digital platforms in ways that add value to the educational experience, while making sure that the key interpersonal and interactive elements are not lost. As education systems continue to evolve, it is important to create a balance

between technology and human interaction in order to offer a comprehensive and effective learning experience for all students.

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