



## COMPARING THE ACADEMIC ACHIEVEMENTS OF PANDEMIC AND PRE-PANDEMIC HIGHER EDUCATION LEARNERS IN AN AD-HOC GRAMMAR COURSE

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**Abstract.** *This study intended to compare the academic achievements of two samples of pre-pandemic and pandemic groups within the context of an ad-hoc grammar programme, English Competency Course (ECC), administered at a university in Lima, Peru in 2018 and 2020. The thesis for this study sustained that the students who took part in ECC during the Covid-19 cohort of 2020 – delivered online – performed much better in terms of academic achievement than the ones who took the same course in 2018 in non-pandemic times. The data was treated through the non-parametric Mann-Whitney-Wilcoxon U test resulting in better performance for the pandemic group than for the pre-pandemic one. However, it was found that the former sample showed some degree of asymmetry, which questioned the conclusiveness of the test. This fact led to applying the bootstrap resampling method executing 10,000 Mood's median tests; the result was a 98.9% of significant p-values in favour of the pandemic sample. Consequently, it is claimed that on statistical grounds, the 2020 pandemic subjects proved to have attained a better academic achievement in English language learning than the 2018 pre-pandemic ones. In the light of the above results, some recommendations to obtain more valid results concerning the peripheral conditions in which university students learn the English language under online scenarios are provided.*

**Key words:** *Higher education, grammar, academic achievement, pandemic*

### 1. INTRODUCTION

How useful can it be for a university student to master a foreign language going beyond the realm of communication, i.e. being fluent and at the same time accurate in his/her production of both oral and written discourse? In higher education, grammar proficiency should undoubtedly be one of the drives to attain that goal (Zevallos, 2024). However, due to the sudden appearance of the Covid-19 pandemic in March 2020 and its presence for the next three years, much of what had been attained regarding linguistic competency in foreign language higher education, at least in the Peruvian context (Rojas, 2021), remained at a stand-by point (Hartshorn and McMurry, 2020).

During the pandemic period, attempts to reach students' pre-pandemic levels in terms of oral production did not prove to be so successful despite the unprecedented efforts

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from the part of teachers, who relied primarily on the use of the emerging digital tools at their disposal to grapple with the situation. By 2021, it was constantly reported that with students being confined at home due to lockdowns, they were likely to assume passive and receptive roles during online classes, something that had not been observed in in-person environments (Sepulveda-Escobar and Morrison, 2020).

In the context where this study took place, deductive instruction (Thomas, 1970) leading to linguistic (Chomsky, 1968) and communicative competence (Hymes, 1971) was barely present during the online mode at pandemic times. Instead, inductive techniques were desperately applied along with the ongoing and trendy digital support. However, learners' pre-pandemic production levels were not reached, and as time went by, empirically speaking, students would become more receptive than productive.

## 2. LITERATURE REVIEW

Aligned to the thesis which gives light to this study, several reports have referred to both positive and negative aspects of online language learning during the Covid-19 pandemic. Some of them highlight better performance in terms of academic achievement compared to non-pandemic times whereas others emphasise the enhancement of issues such as soft and social skills in on-site learning.

Research on undergraduates' preferences regarding instructional material and assessment for both online and in-person modes (Kemp and Grieve, 2014) revealed a strong inclination towards the latter modality. Despite the convenience of completing tasks online under flexi-time conditions, participants valued activities such as discussions with peers and consolidation tasks done in the physical class due to the engagement generated and immediate feedback received. Concerning test performance, the study yielded no relevant differences between both types of assessment reaching similar levels of academic achievement in both types of learning.

A study by Quesada *et al* (2023) on learning perceptions showed preferences towards online over in-person learning despite having admitted that face-to-face classes proved to be more effective for them. Unfavourable aspects such as a significant increase in class workload, poor quality of internet connection, an increase in a sense of isolation and loneliness, etc. did not deprive participants from sharing a positive perception of virtual learning during pandemic times over in-person learning.

Opposed to students' inclinations towards the virtual mode, it might be claimed that at pandemic times, skill-oriented courses decayed in assuring effective learning rates. As a result, the trend towards face-to-face learning over online English courses has revived according to Contreras *et al* (2021). In their study, students and professors' perceptions of online versus face-to-face experiences at the Bachelor in the English Language - University of Chihuahua, Mexico conclusively showed preferences towards teaching-learning in the on-campus mode. Professors also reported lower rates in students' performance via online regarding the development of social skills than in a face-to-face semester.

Along with low academic achievement, cases of risk at facing online instruction have also been reported. Frolova *et al* (2021) argue that "... *the lack of readiness of students to maintain the necessary level of self-organization led to a decrease in students' requirements for themselves as an active participant in the educational process, while increasing requirements for digital competencies and personal qualities of the teacher.*"

The authors also highlight other features of the virtual mode class delivery worth being considered such as “... *the need for additional measures to maintain interest in learning: game context, network interaction in the student-student system, charismatic presentation of material*”, which will be worth deepening later in this study.

In a descriptive-correlated study, Gutierrez Alberico (2021) assessed the impact of usage versus use of the English language in a group of university students in The Philippines. The results revealed no correlation between variables but emphasised the role of the students’ proficiency of the target language and its adequate application or use in their oral and written production within higher education contexts.

A further investigation on the learning equivalence between online and campus-based instruction by Slover & Mandernach at Grand Canyon University (2018) considered age as a key factor in the students’ learning experience. Older or non-traditional students opted for online instruction and “traditional” or younger learners took courses on campus. The results revealed higher scores in an international high-stakes examination for those involved in online learning than the ones receiving classes on campus. However, some underlying factors associated with working schedules for the non-traditional students influenced their choice of online-based instruction and were worth considering when interpreting their actual preferences.

### 3. BACKGROUND

The quantitative data for the present study stems from a non-credit, grammar course called English Competency Course (ECC). This was a seven-week programme offered by the Bilingual Department of a private university in Lima, Peru, between March 2018 and June 2020, to university leavers who had not succeeded in passing their last general English course called English VI with the minimum mark of 14 over 20. The university gave them two options to overcome the situation: registering in the *ad-hoc* ECC or presenting the passing results of either the Preliminary English Test (PET), or First Certificate in English (FCE) - now known as English First.

Thought to be a remedial course, ECC was designed to make participants review the main grammatical structures they had learned during their first three years of general English studies at university. The course would cover typical structures belonging to A1 up to B2 levels according to the Common European Framework of Reference for Languages or CEFR (Council of Europe, 2020) in a period of seven weeks. The weekly contents of ECC corresponded to the main grammatical structures that the participants had studied in their English I to VI courses. What is more, the effectiveness of the ECC programme was demonstrated by Zevallos (2024) in a study that used pre- and post-test grades from the 2018 to 2019 sections as independent variables, and the non-parametric Wilcoxon signed-rank test. The findings were an effect size of nearly 70% which confirmed its effectiveness.

#### 3.1. Data collection and analysis procedure

Two sample groups were selected for this study, one that belonged to the 2018 May-December sections, i.e. pre-pandemic subjects, and the other one from the 2020 May-December pandemic sections. For the former year, 60 subjects were taken, and for the latter one, 66. The variable of interest was the grade in the final exam of the course. Both groups received the same treatment in terms of content and teaching styles and methods. They were

exposed to the grammatical structures that belonged to A1-2 and B1-2 levels according to CEFR (Council of Europe, 2020) following the same scope and sequence map that had been devised by the ECC course designer. The main criterion for subject selection was the teachers in charge of the sections. For instance, for the 2018 cohort, two sections taught by the course designer and coordinator of the ECC programme and one by another teacher were chosen, totalling 60 students. For the 2020 cohort, again, two sections run by the course designer and the other by another teacher were selected, with a total of 66 subjects.

As additional reference, the number of ECC participants in 2018 totalled 436 and for 2020, the pandemic group, 260. It is worth mentioning that in 2020, the decay in the number of students compared to the two previous years was due not only to the Covid-19 context, but also to the fact that the Peruvian government had issued a law in which university leavers would be benefited by obtaining their bachelor degree automatically; in other words, they would not need to comply with requisites such as proof of foreign language proficiency, or other requirements to receive the degree. Consequently, as one of the purposes for the creation of the ECC programme started to fade, it was eventually withdrawn from the university's undergraduate curricula.

The first step to compare the grades obtained in the final exam of both groups was to execute the student's t-test for the independent samples. However, the restriction for its application was that even though both samples complied with the assumptions of homogeneity of variance and independence, for one of them normality was not verified. Therefore, the non-parametric Mann-Whitney-Wilcoxon U test was executed instead.

This test proved to be statistically significant favouring the pandemic group in terms of academic achievement. However, since some degree of asymmetry was identified (Fig. 2), certain doubts regarding the conclusiveness of the test arose. Therefore, it was decided to apply the bootstrap resampling method. It executed 10,000 Mood's median tests yielding a 98.9% of significant p-values, confirming that the students who belonged to the pandemic sample had performed much better academically speaking than the pre-pandemic ones.

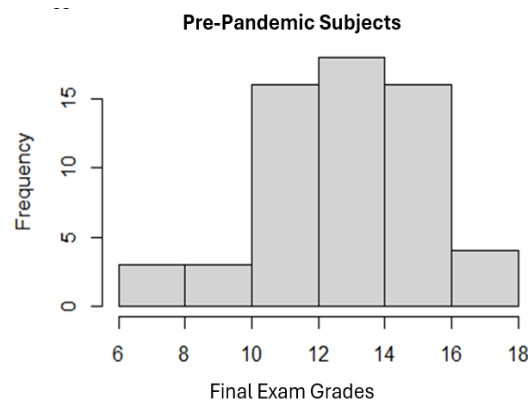


Fig. 1 Final exam grades for the pre-pandemic subjects

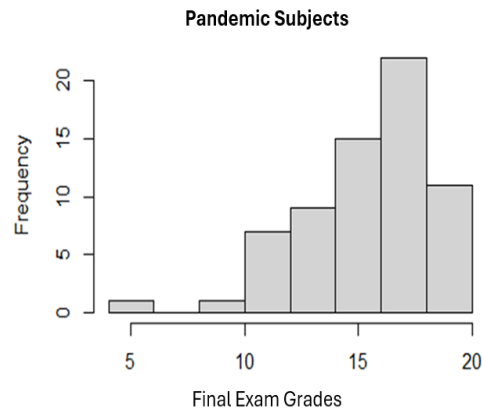


Fig. 2 Final exam grades for the pandemic subjects

#### 4. THE FINDINGS

It was found that the mean for the final exam grades in the pre-pandemic group was 12.9 (SD = 2.4), whereas the mean in the pandemic group was 15.5 (SD = 2.8). A Welch two-samples t-test showed that the difference was statistically significant,  $t(124) = -5.39$ ,  $p < .0001$ ,  $d = 0.90$ .

Since the normality assumption for the t test was not validated for the pandemic sample, a Mann-Whitney U test was performed to compare the true location shift of the final exam grades between pre-pandemic and pandemic students of the ECC course. The results revealed a significant difference in the final exam grades between pre-pandemic and pandemic students of the ECC course;  $W = 955.5$ ,  $p = .000$ .

However, as it can be seen in the above histograms, the pandemic sample shows some degree of asymmetry making the conclusiveness of the results questionable. The bootstrapped Mood's test performed on 10,000 resamples was significant 98% of the times ( $n_1=60$ ,  $n_2 = 66$ ,  $p < .05$ ), indicating that the median of the final exam grades for the pandemic group was greater than the one for the pre-pandemic group.

#### 5. DISCUSSION

According to the results found in this study, the students who took part in the English Competency Course during the Covid-19 year of 2020 – delivered online – performed much better in terms of academic achievement than the ones who took the same course in 2018 in non-pandemic times. Several authors coincide with these findings.

One of them is the Išaretović *et al* publication (2021), a study on the impact of the Covid-19 pandemic in a college in the Republic of Srpska – Bosnia and Herzegovina. Like in the present research, the Išaretović paper (2021) focused on measuring the academic performance of groups of learners attending classes in person, online and in a mixture of both modes. However, emphasis was put into the influence of the teaching methods applied, something that had not been included here despite having used a variety of digital tools and innovative pedagogies aligned with the trendy technological tools that

emerged at the time. Adoption and adaptation of these tools for the teaching of English, or in the case of ECC, for the review of grammatical structures, were present in both pieces of research work.

The Slover & Mandernach study (2018) on the influence of age over academic achievement, also supports the findings of the present study. Higher scores were obtained by the more experienced students, the ones who preferred taking the language course online compared to the younger students who took classes on campus. This was due to greater levels of maturity, schedule organisation, and some extrinsic motivational factors such as the application of the target language in real working environments, a plus that younger students could not have experienced.

Another aspect that favoured the pandemic cohort was not being physically monitored as can be seen under in-person exam conditions which contributes to low rates of anxiety. Aspects such as comfort and the sensation of not being constantly “observed” may condition the online examinee to be relaxed, or at least not so anxious as in physical settings. Steven Krashen’s language acquisition theory (1982) sustains that, emotions, be these positive or negative, are directly or indirectly correlated with language output.

In like manner, ECC participants were mostly involved in internship or formal employment in either mode of study, in-person or virtual, however, what might also account for higher results for the pandemic group is the maximisation of time. During the lockdown circumstances, they managed to comply with academic and working commitments in a more organised way than when attending face-to-face classes. Some other external variables in favour of virtual learning such as no commuting costs, home safety, comfort, and flexitime (Quesada *et al*, 2023) may have likewise played against the face-to-face results. His studies showed students’ preferences towards online over in-person learning despite having admitted that face-to-face classes proved to be more effective for them. Unfavourable aspects such as a significant increase in class workload, poor quality of internet connection, an increase in a sense of isolation and loneliness, etc. did not deprive participants from sharing a positive perception of virtual learning during pandemic times over in-person learning.

In spite of the evidence presented above in favour of online instruction in the learning of English as a foreign language at tertiary level, there might be certain factors associated with learners’ preferences towards studying face-to-face supported by several scholars which at this point, can be worthwhile presenting.

In the first place, an earlier study by Kemp and Grieve (2014) on undergraduates’ preferences regarding instructional material and assessment for both online and in-person modes revealed a strong inclination towards the latter modality. Despite the convenience of completing tasks online under flexi-time conditions, participants valued activities such as discussions with peers and consolidation tasks done in the physical class due to the engagement generated and immediate feedback received. Concerning test performance, the study yielded no relevant differences between both types of assessment reaching similar levels of academic achievement in both types of learning.

Later, in a descriptive-correlated study, Gutierrez Alberico (2021) assessed the impact of usage versus use of the English language in a group of university students in The Philippines. The results revealed no correlation between variables but emphasised the role of the students’ proficiency of the target language and its adequate application or use in their oral and written production within higher education contexts.

Along with low academic achievement, cases of risk at facing online instruction have been reported. Frolova *et al* (2021) argue that “... *the lack of readiness of students to maintain the*

*necessary level of self-organization led to a decrease in students' requirements for themselves as an active participant in the educational process, while increasing requirements for digital competencies and personal qualities of the teacher.”* Additionally, the author mentions other features against online class delivery worth being considered such as “... *the need for additional measures to maintain interest in learning: game context, network interaction in the student-student system, charismatic presentation of material.*”

## 6. CONCLUSIONS AND RECOMMENDATIONS

The main conclusion based upon the findings of this study is having demonstrated statistically, the presence of a higher academic achievement in the students who took the English Competency Course (ECC) under pandemic conditions, i.e. via online learning, than the ones who studied in non-pandemic times, i.e. the ones who received face-to-face classes prior to the Covid-19 pandemic.

It is suggested though, to undertake further studies to validate the outcome obtained based on several assumptions. Firstly, it was not certain to know the extent to which the online examinees developed the test with the help of an external source, or if they did not look for help elsewhere. In this sense, it would be advisable to incorporate a tool such as specialised software that could deprive them from consulting web pages or opening applications to establish communication with peers while the exam is taking place, something that students on campus are not allowed to do.

In that respect, it can be arguable that as face-to-face learners are better monitored when it comes to taking tests, dishonest behaviours such as cheating or committing plagiarism can be better detected than on the virtual mode. In this way, the instrument used for online testing would therefore be very likely to yield a more reliable measurement of the students' learning.

In this sense, the ECC students exposed to face-to-face examination conditions could presumably have been at a disadvantage compared to the ones taking exams online. Therefore, to confirm the reliability and validity of students' exam results for future similar virtual courses, it is recommended that they can be called to take the exams on campus. Likewise, policies should be established so that these testing practices can be normalised, for example through the implementation of online exam proctoring software or other supervising online mechanisms.

Despite the outcomes of this study, the efficacy of in-person learning over virtual instruction can still be sustained. Even though external variables inherent to the pandemic context may have accounted for higher levels of achievement in favour of the virtual population, some uncontrollable variables may have also been present questioning the extent to which actual learning did take place for the pandemic subjects. Therefore, based upon the findings of this study, it is advisable to run experiments aiming at measuring the peripheral conditions in which university students can learn grammar under online scenarios, and most importantly, measure their impact on academic achievement levels.

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