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Online Learning Impacts on General Foundation Program (GFP) Students` English Language Academic Performance during the Covid-19

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Abstract

This paper aims to investigate the potential effect of the Online Learning (OL) mode on Omani General Foundation Programs (GFP) students` English language skills performance. Numeric data related to the learning achievement of the GFP students (tests and assignment scores) was collected to explore the hypothetical differences between the two modes of learning. Five students were selected randomly to conduct the focused group interview. The difference in favour of any mode of learning is considered as a sign of the effectiveness of that model. Independent Samples t-test was used to analyze the data and the study found that although emergent unplanned strategies and policies to employ online learning in the University of Technology and Applied Sciences (UTAS), there is a statistically significant difference between the English language achievement of the GFP students who studied through OL was higher than those who had studied Face-to-Face (F2F) before the Covid-19 outbreak. As the difference was in favor of the OL group and statistically significant (p=.002 at alpha=.05 level), the study concluded that OL students appear to have outperformed their F2F counterparts and that, based on these findings, OL is an effective method of teaching/learning. The study offers a discussion of these findings.

Keywords: Face-to-Face Learning, GFP Students, the Covid-19, Online Learning, Synchronous and Asynchronous Learning

1. Introduction

Omani universities and schools, like many other educational institutions around the world, shifted to the online teaching/learning mode due to the COVID-19 pandemic at the beginning of March 2020. The shift came as a response to an emergency rather than as a matter of choice and students, teachers, and academics adopted new methods of teaching/learning to keep the delivery of their institutions' curricula ongoing at a time when Face-to-Face (F2F) interaction entailed substantial health risks, prompting decision-makers to halt it and adopt the Online Learning (OL) alternative. While the potential health consequences of the pandemic have now largely been put under check, humanity is yet to identify and respond to the long-term implications of this global pandemic on various aspects of human life. What is obvious thus far is that a new norm has been established, as life will not return to the pre-Covid state. As education operates in no isolation from other aspects, educational provision is expected to undergo significant changes in response to a growing conviction that teaching/learning may never return fully to the old, face-to-face mode. Some new research started to study the impact of Covid 19 on students.

Some of these studies' findings indicate positive effects on students' academic performance (Gonzalez, et al. 2020; Mahyoob, 2021; Lockman and Schirmer, 2020; Zheng, et al. 2021), while others showed negative impacts on students (Fawaz and Samaha, 2021; Noori, 2021). Research is scarce in this area, however, on the effect of online learning on Omani students' English academic performance. This study, thus, explores the effect of changing learning mode on GFP students' English skills performance and how they performed in the online teaching/learning mode compared to their counterparts in the face-to-face mode in the five years.

2. Theoretical Background

It has to be acknowledged from the onset that, although the impetus for modes of learning mediated by communication technologies (known throughout this paper as 'online teaching/learning') gained momentum with the Covid-19 pandemic, the move towards the use of technology as a tool for teaching/learning predated the pandemic. Its roots may be traced back to the last quarter of the outgoing century when personal computers became available and affordable and communication technology became more reliable. The debate has generated rich literature about both the concepts and practices of online teaching/learning. It may be ventured that the focal question in this debate is about the effectiveness of online methods in delivering the desired learning outcomes; this entails an equally important question about the ability of technology to replace humans in the creative, interactive process of teaching/learning.

3. The Concept and Applications of Online Learning

Many different concepts have been attributed to e-learning such as computer-based learning, technology-based training, computer-based training, and more recently online learning (Sangrà, et al. 2012). Online learning or e-learning refers to any learning process that takes place over the internet or " any learning that is Web-based or Internet-enabled" (Abbad, et al. 2009, p.2). It is not new and it has blurred the boundaries of traditional language instruction so teachers are no longer teaching using only printed textbooks and whiteboard and markers or blackboard and chalk. They started to employ a variety of electronic educational tools (e.g., Google Classroom, Skype, etc.) to extend students` exposure to authentic target language beyond the classroom and to entice their attention. Elliott-Dorans, (2018) found that preventing students from using laptops leads to hinder student performance in the class more than to help. Many new models of learning have emerged to better utilize technology for online learning, e.g.: the Flipped Learning pedagogical model, introduced by Kari M. Arfstrom in 2013 (Lesley University, (n.d.)), which refers to maximizing learning time and enabling teachers to utilize class time for active learning and provide students with supplementary materials to be viewed and studied at home.

On the other hand, using technology is not an alternative to instructors` interaction and guidelines but as a complementary and that technology can lead to negative effects on students` performance when it is not guided by instructors and parents. That is, students with different levels and grades, without appropriate management, might tend to overuse technology and/or use it for entertaining more than educational purposes which, as a result, lead to negative academic outcomes (Carstens, et al. 2021). Banning using smartphones, as Beland and Murphy, 2015 study showed, leads to improving low-achieving students' outcomes and does not affect high achievers.

Students' and teachers' F2F interaction and presence are vital and powerful in language learning as body language (e.g. facial expression, eye contact, growing, movement, etc.) may largely contribute to successful communication. With the remote distance between students and teachers, body language and interaction might become harder between students themselves and between students and teachers. In online learning, students with kinesthetic learning styles might be negatively affected. That is to state, students in fully OL might face many challenges like lack of physical and body interaction (Al-Nofaie, 2020; Newman, 2020) in which learning outcomes will not be achieved as planned.

The teacher can easily adjust his/her teaching method and provide instant feedback to suit students` levels and interests, which technology is hardly able to achieve. According to Darling-Aduana and Heinrich (2018), teachers can easily make adaptations to the used language but technology-based programs that assume grade-level reading

regarding the personal information of the signed participant may not be "practical in all settings, discouraging use and effectiveness if these are the only accessible resources" (p.419)

The question about the role of technology as an alternative teacher or mediator is even more crucial in the teaching/learning of language. Language learning refers to developing the skills and abilities in the use of an oral/aural, written, and semiotic code to communicate and socialize with the community using that code. As it has become a global language, used worldwide to facilitate universal communication, educational systems throughout the world have responded to the growing need to introduce English in their curricula, albeit to varying levels: while in some countries English was simply taught as a second or foreign language, many others adopted it as the language of instruction in all or some school subjects, notably in the fields of science and medicine. One such country is the Sultanate of Oman, an Arab country where English is the medium of teaching and training in private and public higher education institutions (Al-Issa, 2005). In EFL contexts, learning a new language effectively should be an interesting process and recent research suggests that the use of technology inside and outside the classroom, i.e., in teaching/learning may make this process even more motivating (Godzicki, et al. 2013; Ahmadi, 2018, Abo-alhija, 2021). The value added to the learning process is attributed to technology's ability to utilize and mobilize the learners' various senses, providing thus new learning opportunities for people with a variety of learning styles, interests, and needs. In other words, students can view and grasp the content of the course via using a variety of ways like in the form of texts, pictures, videos, tables, or graphs which can motivate, activate, and energize the students and encourage more thought-provoking (Yunus, et al., 2013; Licorish et al. 2017).

4. The Case for Online Teaching/Learning

Research comparing the potential impacts of OL and F2F teaching/learning on students' performance has not reached definitive, authoritative conclusions. Some research found that students perform better under the OL mode, whereas another body of literature argues that F2F teaching/learning is still the mode of choice for effective learning and the third set of researchers found that the teaching/learning model does not appear to be a predictor of learners' performance.

Ebadi and Rahimi (2019) examined the impact of using online synchronous learning and interaction with participants (through Google Docs) to provide standardized scaffolding feedback (Dynamic Assessment (DA)) on IELTS students' academic writing skills. The students benefited from the process and their IELTS writing skills have improved. Similarly, Narayanan and Mathew (2021) also studied the effectiveness of online learning on six Omani students` IELTS writing skills. The students were interviewed to self-assess themselves and teachers were interviewed to assess their students and the learning process. Students' results in the pre-test were compared to the post-test results. The study showed the positive effect of online learning on students' IELTS writing skills. This finding has been echoed in Croatia where Librenjak, et al. (2016) studied e-learning materials related to the curriculum and deployed them in Asian language (FL) classrooms. Croatian students were tested in grammar, vocabulary, and reading. Students` results in the pre-test were compared to their post-test results to identify the effectiveness of using e-learning. The results of the study showed a positive great improvement in the skills of reading, vocabulary, and grammar in students who used e-learning materials more frequently and only a slight difference in students who used e-learning materials less frequently. As communication has now become more associated with mobile/portable technology, the use of various communication gadgets as teaching/learning tools has become more frequent. Mahmoudi (2020) studied the impact of online learning via smartphones, i.e., Mobile-Assisted Language Learning (MALL), on Iranian EFL learners' grammatical accuracy improvement in the domains of knowledge, comprehension, application, and analysis. In his study, he divided the students into two groups; one in an experimental group and another in a control group. By comparing students' results in pre-test and post-test in both groups, the findings showed that the students' English grammar performance in online classrooms was much better than the students who studied it using the traditional method. Students', based on questionnaires he used, levels of motivation to learn English were also boosted.

Educational platforms such as Google Classroom, Moodle, Google Meet, etc. are designed for teaching/learning. They provide the students with a variety of interaction channels including chat rooms and video-conferencing. This allows learners to communicate with their teachers or classmates, providing them thus with an opportunity

to use and improve their writing, vocabulary, grammar, and reading skills. Kamnoetsin (2014) illustrates that in his study, he used Facebook as an interactive learning and socializing platform, positive impact on learners` writing, grammar, and vocabulary abilities. Besides, the actual performance improvement, learners who used OL appeared to have positive perceptions about the impact of this mode on their performance (Marcum and Kim, 2020; Kamal, et al. 2021).

On the other hand, OL is challenging and learners acknowledge that the main difficulty they encountered in distance learning was the lack of teacher-student interaction ((Pulker and Kukulska-Hulme, 2020) and which affected their learning outcomes. In Callister and Love's study (2016), students learning outcomes were compared in OL and F2F modes and they found that the F2F group outperformed the OL group in negotiation. They contributed this result to the lack of body movement and interaction. Similarly, Tratnik, et al. (2019) indicated in their study that students were less satisfied with the OL compared to F2F due to the lack of interaction. Students prefer F2F as it provides a memorable learning experience and less stressful environment, (2019). Students admitted that their learning has worsened when they moved to e-learning due to COVID-19 (Chen, et al., 2021). Many other studies found students' grades in F2F were higher than in OL ((Bettinger et al., 2017, Fischera, et al. 2020). Other studies indicate no significant difference between students` achievement in the two modes: F2F and OL (i.e. Lyke and Frank, 2012; Szeto, 2014; Lau, 2017). For example, in Lau's study (2017), she concluded that there was no significant relationship between using smartphones for academic purposes and learners` achievement.

5. The Setting of the Study

In line with the guidelines from the Supreme Committee, the Ministry of Higher Education and Research Innovation (MoHERI) announced a full lockdown of all educational institutions in Oman and instructed them to shift to online learning in March 2020. The former Colleges of Applied Sciences (CAS)- the setting of the present study- followed suit, ordering the immediate closure of their premises and the shift to the online mode, provided that teaching is synchronous, i.e., the interaction between the instructors and their students is live. Given the flexibility of choosing the platforms they deem most appropriate for their students' needs, instructors tended to use Zoom, Microsoft Teams, or Google Meet to deliver their synchronous classes. Instructors were expected to follow their regular schedules during the working hours between 8 am and 4 pm and students were required to attend their classes. Attendance regulations applicable to the FTF mode continued to be enforced: failure to attend class without excuse counts as a no-show and students are withdrawn from courses if their absence in those courses exceeds the predetermined rate. Online learning feature of flexibility in time is limited, however, lessons are recorded and uploaded after the class time in Google Classroom and blackboard to enable those students who had internet disconnect during the lesson to view their lessons. In other words, synchronous teaching/learning is the default and the asynchronous mode is used as a backup in anticipation of any emergencies that may prevent students from taking part in the live classes.

For socio-cultural reasons, students don't need to activate their cameras during the regular classes, but this option does not extend to examination sessions where examinees are expected to keep themselves visible to their remote invigilators. Students are assessed using blackboard and invigilators are available to make sure students are not using any other devices except their laptops during the examination time. Two raters then mark each student's paper to ensure test reliability. The test has four sections: Language Knowledge, Listening, Reading, and Writing. Speaking is assessed on a different day. The structure and test format have not changed after using fully online learning during Covid-19 and students are tested twice (mid-term and final examination) in one semester and part of their semester evaluation process involves writing a project paper and presenting it. Consequently, the overall performance of the GFP students covers their work during the semester and examination results.

6. Research Questions

The present study attempts to answer the following research questions:

1. Does online teaching/learning (OL) have any effect on GFP students` English language performance in the Sultanate of Oman?

2. How do the GFP students of the online teaching/learning mode perform compared to their counterparts in the face-to-face mode?

The Null and alternative (research) hypotheses for both questions are as follows:
Research Question 1:

- H_0: There is no impact of online teaching/learning on the performance of GFP students at alpha=.05
- H_1: There is a statistically significant impact of online teaching/learning on the performance of GFP students at alpha=.05

Research Question 2:

- H_0: The GFP students of the online teaching/learning mode perform at the same level as their counterparts in the face-to-face mode at alpha=.05.
- H_1: The GFP students of the online teaching/learning mode perform differently (higher or lower) from their counterparts in the face-to-face mode at alpha=.05.

7. Study Sample

For this study, a sample of n=768 scores were randomly selected among the overall scores of the GFP level A students, ages between 17-18 years (both males and females). GFP students in the six CAS colleges were selected as the population of this study because they adopt the same synchronized course materials and course objectives and are assessed using unified assessments. All the students involved in this study belonged to level A because this level is considered as the main door to move on to higher education programs and lower levels (B, C, and D) are subsumed to it, as those students placed in these levels have to achieve the learning outcomes of level A before they are allowed to start their post-foundation programs. Half of the cases (n=384) were randomly selected from the period between Fall 2017 to Fall 2019, i.e. when teaching/learning was face-to-face. The second half (n=384) was selected from the GFP students' scores during the pandemic period when OL was implemented, i.e., from Spring 2020 to Spring 2021.

8. Scope and Limitations of the Study

The scope of the present study is restricted in many respects. In terms of the target population, it was restricted to the GFP students who studied in the former Colleges of Applied Sciences before and during the Covid-19 pandemic. More specifically, only those students placed at the A level were included. Concerning the method of research, the experimental method was ruled out, leaving the study with the only option to adopt a descriptive approach.

9. Data Collection

The data collected for this study consisted of authentic results which GFP students scored at the end of academic semesters. As mentioned above, the final result of each student is regarded as a reliable indicator of their performance, as it encompasses the cumulative results of all assessments used during the semester namely: project and presentation, mid-term, and final examination. The project is a written piece during the whole semester which aims to encourage students to research and write academically about a specific topic. The students, at the end of the semester, present their projects. The students also have mid-term in Week 8 and final examination in week 16 of the semester. Both examinations adopt the same format: language knowledge, listening, reading, and writing, while speaking is assessed on different days.

Approval for access to the data was secured through the appropriate procedures and the scores were submitted in the form of data sets disaggregated by college, academic year, semester (Fall, Spring), and level (A, B, C, and D). The scores of Level A were consolidated into two sets, one for the semesters covering the F2F period and the other for the semesters where OL was implemented. The sample (n=736) was then randomly selected equally from both

sets and with both genders. Then, five students from those who experienced online learning during the pandemic, cohorts spring 2020 to spring 2021, were selected randomly as a focus group to dig deep to analyse the effect of online learning on students` performance from their perspectives. The interviews run in Arabic to avoid any lack of language that may hinder their expressions. The interviewees were informed about the research purpose and the interview was recorded, translated, and coded to find out major themes.

10. Data Analysis

The factors that helped determine the most appropriate tool for data analysis are as follows:

- The Grouping Variable (mode of study) consisted of two levels: online and face-to-face
- The data analyzed consisted of two sets of numeric data (namely), namely the performance of both online and face-to-face GFP students
- The data was collected from two separate groups of GFP students and not from the same students under two different conditions
- There was no manipulation of the data or procedures on the part of the researcher; the numeric data collected was the authentic scores of GFP students before and during the Covid-19 pandemic, i.e., the F2F and OL GFP students
- The data analysis process consisted only of comparing the two means
- Major themes and students' concerns of OL effects on academic performance are collected from the focused group interview

As the study design was descriptive rather than experimental, the Independent Samples T-test emerged as an appropriate tool and was used to compare the two means. A two-tailed analysis was conducted, as the study focused primarily on the potential similarity or difference between the means rather than on the performance of a specific group. The significance level was set at alpha=.05 level and the confidence interval at CI=3.5 due to the relatively large sample.

11. Findings

As mentioned above, the study aims to explore the potential effects of online learning on GFP students' English language performance by comparing their performance to the performance of GFP students who studied face-to-face. The study found that:

Table 1: Group Statistics

	Mode	N	Mean	Std. Deviation	Std. Error Mean
Score	FTF	384	69.2214	13.83714	.70612
	OL	384	72.2500	13.16996	.67208

Table 2: Independent Samples Test

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | 95% Confidence Interval of the Difference | |
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Score	Equal variances assumed	.032	.859	-3.107	766	.002	-3.02865	.97483	-4.942	-1.114
	Equal variances not assumed			-3.107	764.14	.002	-3.02865	.97483	-4.942	-1.114

- The T-score (F2F-OL) is negative (-3.107), suggesting that the performance of OL students is higher than the performance of their FTF counterparts. This is confirmed in **Table 1** where the mean score of OL students was m=72.25 whereas the FTF students' average performance was m=69.22
- As **Table 2** shows, the difference between the two groups is statistically significant (p=.002), at alpha =.05 level. The study rejects the null hypothesis (H_0) of no difference between the two means.
- A focused group interview has revealed two major themes which are convenience and accessibility.

Given the findings above, it appears that online learning (OL) has a positive effect on GFP students` English language performance. Students taught online tend to outperform their counterparts who study face-to-face.

12. Discussion

On the positive side, the conclusions reached by the present study hardly constitute any surprise: the general finding that the learning model is a predictor of learner performance is in line with the role of the environment in the learning process. More specifically, as outlined in the theoretical above, there is extensive research supporting the positive role of the online mode on the learners' performance. Lumadi (2013) found that online learning has a considerable positive effect on students` performance in which students who were taught using online learning/teaching consistently performed much better than students who were taught using the traditional learning/teaching methods in terms of student feedback. Although the CAS colleges' shift to the online mode took the form of a hasty, ill-planned move, with little training and infrastructure and up-to-date technical support (Slimi, 2020), two possible factors may be advanced to justify the rather unexpectedly positive results. Firstly, by the time the shift to online teaching was instated, CAS colleges were not completely unfamiliar with this mode; some of them had already been using educational platforms like Google Classroom and Moodle even before COVID-19 breakout to enrich the student learning experience. In other words, online learning was approached as supplementary rather than an alternative to face-to-face teaching/learning. Online platforms were used partly to post extra supplementary activities and lessons outside the classroom. Secondly, the results suggest that the young generations' adeptness to modern communication technologies may be a factor that institutions of higher learning need to take into consideration as potential facilitators of learning.

Students in the focused group interview expressed more positive feelings than negative toward the online learning experience. Two major themes were found which are: convenience, accessibility. Students stated that online

learning helps them to focus more as it provides them with a convenient environment. "*I feel more convenient at home holding my laptop with its screen very closed to me*". However, providing a convenient environment to students might sometimes be a disadvantage " *I sometimes tend to miss my classes and sleep or go around after being registered as a present*".

Students, also, expressed a high level of satisfaction when it comes to the easiness of using various websites to read, translate, and visualize. " In online learning, I can easily use a dictionary to help me translate some words and I do not see any problems with using multiple websites to expand my knowledge and learn something new".

However, students expressed negative feelings toward their teachers' attitudes and false expectations of their performance. On the negative side, there are procedural details that may have influenced the study findings. One such procedure is the administration of examinations remotely. With the narrow limit of the camera to capture 360-degree angles, there is no guarantee that students may not have access to unlawful means of support during examinations. According to Parksa, et al. (2018) technology has 'serious risks to academic environments and therefore has also been credited with the increased prevalence of academic cheating, or cyber-cheating, among students' (p. 308). Students might get better results in online learning because they were able to get assistance from outside resources, i.e., the internet or peers without invigilators' knowledge. Guangual et al. (2020) identified online cheating and dishonesty during Covid-19 as one of the main challenges encountered by faculty members in Oman when they were asked to express online learning challenges during the Covid-19 pandemic. Because of this shortage, teachers tend to express negative feelings toward students' answers. *" Our teachers always expect that we cheat and the essays we submit are not ours, but, with technology, we can read and check our grammar and vocabulary so obviously our writing will not be the same when technology is not available."*

Regardless of the statistical significance of the differences between the two groups and the practical importance of the findings of this study, it may be worth digging deeper below the surface to explore how and how much each of the language components is affected by online learning. While the overall performance appears to be improving, there may be language components where the effect may be adverse. Understanding how language learning is improved by the online mode of teaching/learning helps identify the mediation factors in the process which, in turn, provides curriculum designers valuable information on how to use technology optimally in learning. Thus, more qualitative studies on teachers' perspectives and evaluation of the effect of online learning on students' performance during and after the pandemic are encouraged in the future.

13. Conclusion

A learner`s academic achievement and productivity are affected by many factors (Walberg, 1981). Students' learning outcomes are influenced by learners' environment, learners` aptitudes, and frequency and quality of instruction. Face to face and online learning are two different environments. Many studies and academics encourage instructors to better utilize technology in learning and instruction as they believe that using technology contributes to enhanced learning. Teachers can easily post links that directly take students to watch, listen, and participate simultaneously with much engagement. However, online learning is not without risks, and without sufficient training and support to handle technical obstacles the results might be determining. To use technology effectively, educators need to design, organize, and follow up the process of students learning.

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