

# Virtual and Traditional Classes of English Language at UQU: A Comparative Study of Learning Outcomes

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## Abstract

Many earlier studies assessed virtual vs. traditional learning outcomes. The majority of them had two limitations. (1) learners self-selection of virtual classes, and (2) the lack of exams proctoring. It has been stated that these factors give more opportunities of unrealistic elevation of learning outcomes of virtual classes over the traditional ones. This study is of comparative corpus-based nature applied on 1324 male students of Medicine enrolled in Joint First Year Program (JFYP) at Umm Al-Qura University (UQU) in the first semesters of the academic years (2017-2018) and (2018-2019). Participants of this study were given English classification test before commencing their JFYP. In the first semester of the academic year (2017-2018), 624 students were taught English in traditional classes by the English Language Center (ELC) at UQU. The other 700 students studied English through virtual classes by TeachCast with Oxford via Eleutian platform. Then, all participants sat for final exams by the end of their first semesters. Comparing the participants' grades in these two tests is meant to (1) test the claims of the earlier studies, (2) reveal the impact of English instruction by the ELC at UQU and (3) disclose whether the English learning outcomes of controlled virtual classes surpass the traditional classes' or not. Findings of this study indicated that the learning outcomes of virtual classes significantly surpassed the traditional classes although the affecting factors stated by earlier studies were eliminated. Then, the study recommendations were suggested.

**Keywords:** Virtual classes, traditional classes, UQU, comparative, learning outcomes.

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## INTRODUCTION

Demand on virtual teaching has been growing dramatically over a quite few number of years. In 2002 the number of students who were studying at least one virtual course in higher education touched a total of 1,602,970 students. By 2011, 6,714,792 students took one or more virtual classes. The virtual instruction dominance can also be measured by the percentage of the total virtual enrollment. This percent grew three times from 9.6% in fall 2002 to 32.0% in fall 2011 [1]. According to annual survey from leading official bodies at approximately 2,800 institutions of higher education, these indicators of the dominance of virtual instruction, have increased three times over the last decade [1].

Recently, the growth of virtual instruction is exemplified by its extension to Massive Open Online Courses (MOOCs). This tendency maximized interest in the persistence of higher education as we know it, a system focused on the traditional classroom delivery of knowledge. At present, 2.6% of higher education institutions have a MOOC while 9.4% report that they are in the planning stages [1]. However, some

difficulties are reported in getting MOOC students enroll on campus, and attracting students who will pay a fee to take a MOOC for actual college credit [2]. However, this mode of instruction has been gradually growing and it seems it will be a global trend of teaching and learning languages in particular.

Previous research that thoroughly compares student learning outcome between virtual and traditional classes is marked by some incompatible findings and recurrent restrictions [3-8] for reviews see Means, Toyama, Murphy *et al.*, [9]; Shachar & Neumann [10]. First, in almost all studies, students can freely select either virtual or traditional classes. To the extent that the characteristics of virtual students differ from the traditional, in terms of GPA, age, marital status and learning styles such as audio vs. visual learning, self-selection can bias the results on academic outcome [1, 3]. Second, the processes of measurement of students' outcome are largely unclear. As long as exams are given virtually with no real supervision, the outcome of students in virtual classes may be greater than in traditional classes. Invigilation of exams in traditional classes minimizes cheating. The overall

cheating in virtual classes is up to four times greater than that in traditional classes, see [11, 12]. Therefore, the outcomes in presence of these incompatibilities cannot be overgeneralized.

The present study is applied on Medicine students at Umm Al-Qura University (UQU, henceforth). It potentially contributes to the literature by addressing these limitations. First, the self-selection opportunities into the virtual classes of the course were intentionally excluded. Medicine students at UQU who enrolled in the Joint First Year Program (JFYP, henceforth) represent one stream among other two (Scientific and Administrative) streams of this preparatory program. Each stream is of two sections: male students and female students. Those streams have been offered English course in traditional classes. In the first semester of the academic year (2018-2019), implementation of virtual classes was decided. Because of lack of facilities, It was decided, too, that only the male students of this stream would take their English course virtually. In this study, learning outcome of the Medicine virtual classes students is compared with the learning outcome of their counterparts, the traditional classes students of the first semester of the previous academic year (2017-2018). It is anticipated to explore whether the learning outcome of virtual classes students surpass the traditional classes students learning outcome or not.

## LITERATURE REVIEW

While there are plentiful studies on the possible impact of instruction via virtual vs. traditional classes on student learning outcomes, there are conflicting findings [3-8, 13] for analytical reviews of 86 and 50 studies respectively see Means, Toyama, Murphy, *et al.*, [9]; Shachar & Neumann [10]. Some studies report that exam scores are higher for traditional classes than virtual classes [7, 4, 8] while others report the opposite [5, 6, 9]. Still others do not report any significant difference in student performance between both modes of instruction [13]. However, caution should be considered in interpreting the findings in this body of research for some limitations. For example, virtual classes students may have more opportunities for cheating, which may enrich students' learning outcomes. Available survey data indicate a higher self-reported instance of cheating in virtual classes compared to traditional classes [11, 12].

A Meta-analysis of 86 studies determined that students in virtual classes of a course generally score higher on standardized final exams than students of traditional classes [10]. The reported difference was large, approaching half of a standard deviation. A more recent Meta-analysis, limited to 50 findings from the relevant research, also confirmed that academic performance was higher in virtual vs. traditional classes [9]. However, most research was unable to or did not control for factors which may give students of virtual

classes the advantage over their counterparts in exam scores. As mentioned above, these factors include: (1) selection bias in choice of mode of delivery (virtual vs. traditional), and (2) opportunities for cheating with a focus on the extent to which exams are proctored. Many studies have been unable to control possibility of students' self-selection bias between virtual vs. traditional classes of a given course [4]. Students who freely choose virtual classes may have different characteristics than students who choose traditional, live classes. The present study addresses this call through a control for self-selection.

Most research does not report proctoring the virtual students' exams. The absence of a proctor during exams increases opportunities for cheating. While there have been technologies developed to reduce cheating, such as having students show ID's while taking exams on a webcam, it is not clear if these have been enough to reduce cheating or not. Students report that they are up to four times more likely to cheat in virtual classes compared to traditional classes [12]. Traditional classroom instruction generally involves the presence of a proctor during exams. This generally assumed not to be the case in virtual classes. Research on virtual teaching often does not report the details of the virtual exam environment [7]. It was reported that the students of virtual classes, who were able to take the exams in the absence of invigilation, were partially able to get better grades than the students of traditional students whose exams were invigilated [14]. It is an expected outcome since the absence of invigilation can lead to an "open book" exam, which can give the unproctored students an advantage over the invigilated students (presumably closed book). This may explain the finding that virtual students tend to do better than their counterparts in traditional classes [9, 10].

### The Study Context

The present study compares the classification test scores and the final exams scores gained by both virtual and traditional classes male students of Medicine stream enrolled in the JFYP at UQU. The virtual classes were implemented in the first semester of the academic year 2018-2019 through TeachCast with Oxford by Eleutian Technology Inc. platform.

Participants of this study are fresh students joined their preparatory JFYP at UQU. Enrollment in this program involves two successive semesters in which the enrolled students traditionally study English for General Purposes (EGP) in the first semester, and English for Specific Purpose (ESP) in the second semester beside other courses. EGP Textbooks by OUP are used by the English Language Center (ELC) at UQU as teaching materials in the first semester by which it is meant to promote students' proficiency in EGP up to (B1) level, according to the Common European Framework of Reference for languages (CEFR, henceforth). B1 is the ELC's target level at

which students of JFYP can start their ESP course in the second semester of this program.

According to their performance in the classification test which is regularly offered at the beginning of the JFYP at UQU, the enrolled students are categorized into different levels of EGP. The classification test is based on (B1) level of CEFR and

meant to group students as (A1 level, A2 level and B1 level) of EGP. Then, the students of each level are assigned number of contact hours per week.

The following table demonstrates the OUP textbooks levels and the classification test scores, along with the contact hours assigned for each level.

**Table-1: EGP textbooks levels, the CT scores & the assigned contact hours**

| EGP Textbooks Levels | Classification Test (CT) Scores | EGP Contact Hours |
|----------------------|---------------------------------|-------------------|
| A1                   | 0 – 24                          | 20 hrs./week      |
| A2                   | 25 – 59                         | 16hrs./week       |
| B1                   | 60 – 94                         | 8hrs./week        |

**Source:** The ELC administration, UQU

As shown in this table, students who score (0-24) in the classification test are assigned 20 contact hours a week to study three books of Milestones series (A1, A2 and B1). But the students who score (25-59) in that test are assigned 16 contact hours per week to study two books of that series (A2 and B1). However, the students who score (60-94) are assigned 8 contact hours a week to study one book (B1 level) of Milestones.

This study addresses the aforementioned two limitations which occurred hand in hand with the outcomes of the majority of the earlier studies: self-selection effects, and the absence of proctoring virtual exams. First, the self-selection of the participants of the present study is prevented. Second, this study has control for the presence of invigilation by arranging for proctors (the ELC instructors) during exams in both virtual and traditional exams of the course.

As abovementioned, it was decided to apply virtual classes in the first semester of the academic year 2018-2019. Learning progress of both virtual and traditional students was regularly followed up. Two weeks before the real start of this course, virtual classes students were assigned some physical meetings with the concerned ELC teachers for overall orientation. The platform registration codes were provided, and technical guidelines and support were given during those meetings. Then, the students were directed to commence their virtual classes according to the unified syllabus and pacing.

The virtual classes were offered through self-study modules, live teaching classes and on-demand recorded lessons for the same live classes. Throughout these modules, there was a quiz on each five lessons which should have been already studied.

## METHODOLOGY

The participants of this study are 1363 male students of Medicine joined JFYP at UQU in the first semesters of the academic years (2017-2018 and 2018-2019). The students of the academic year (2017-2018)

were 663 offered English course through traditional classes. However, the students of the academic year (2018-2019) were 700 offered the same English course through virtual classes. The scores of the participants in their classification test and final exams represent the corpus of this study. These scores are compared to explore the effect of eliminating self-selection of offering virtual classes and the impact of proctoring those classes on their learning outcomes, and to which extent the English course offered by the ELC to the students of the JFYP at the UQU, whether traditionally or virtually, is effective. In addition, whether the final learning outcomes of virtual classes students are better than their counterpart traditional classes students' or not is tested by comparing these scores.

### The Study Questions

This study tries to answer the following questions:

- How effective is the English course offered by the ELC at UQU on the learning outcomes of the joint first year program learners?
- Do the learning outcomes of virtual classes surpass the learning outcomes of the traditional classes?

### The Study Instrument

This study is a comparative study applied on the virtual and traditional Medicine male students at UQU. The grades of classification and the final tests gained by those students represent the corpus of this study. The grades of these tests are used to compare the learning outcomes of both.

### The Study

This study is conducted to compare the learning outcomes of virtual and traditional students at UQU. It is applied on the Medicine male students participating in English language e-learning project launched by the ELC at UQU. The ultimate goal of this study is to find out whether the learning outcomes of the virtual students is better or worse than the traditional students'. Partially, the goal of this study is to explore the effectiveness of the EGP course offered by the ELC at UQU. It is anticipated, as well, that this

study will help the concerned decision makers at UQU to decide whether to continue implementing virtual classes instruction in future or not.

In order to start with a solid departure point of comparing, it seems realistic to begin with comparing

the (virtual and traditional students) participants' classification test scores. With this point of departure, a core dimension of this process can be drawn. The following table demonstrates the percentages of both traditional and virtual classes students' grades in their classification test.

**Table-2: Percentages of the participants' grades in their Classification Test compared**

| Grades               | Classification Test Grades |     |     |     |    |
|----------------------|----------------------------|-----|-----|-----|----|
|                      | F                          | D   | C   | B   | A  |
| Traditional Students | 79%                        | 6%  | 6%  | 7%  | 2% |
| Virtual Students     | 53%                        | 15% | 13% | 15% | 4% |

Source: The ELC Marking Unit, UQU

By the end of the first semester of each academic year, the JFYP students have been usually given unified exams based on B1 (CEFR level). Those exams have been prepared by the ELC Exams Unit for both virtual and traditional students, and the examinees have been also proctored by the ELC staff. The traditional classes students are assigned to take their

exam traditionally (paper-based) using answer sheets (scantrons), and the virtual classes students' exam is assigned online in language labs on the UQU campus.

The following table shows a comparison of the percentages of the final grades of both traditional and virtual classes students.

**Table-3: Percentages of the participants' Final Exam grades compared**

| Grades               | Participants' Final Exam Grades |    |    |     |     |
|----------------------|---------------------------------|----|----|-----|-----|
|                      | F                               | D  | C  | B   | A   |
| Traditional Students | 2%                              | 7% | 8% | 20% | 63% |
| Virtual Students     | 0%                              | 0% | 2% | 18% | 80% |

Source: The ELC Marking Unit, UQU

## DISCUSSION

At the first glimpse, the classification test results in table (2) above reveal how poor the level of the participants in English language is. These results show that 79% of the traditional students got (F) and, hence, failed; and 53% of the virtual students got (F) and failed in that test. As for the grades of the participants who passed, 6% got (D), 6% got (C), 7% got (B) and only 2% got (A). Collectively, it is clear from these results that the virtual students could prove their little bit higher level in English language. 15% of these students got (D), 13% got (C), 15% got (B), but only 4% got (A).

Notwithstanding it might not be reported as an extraordinary outcome to have such results at this stage, it should be really impressive when the classification test results of the participants' shown in table (2) are compared with their counterpart results of the same participants' final exam presented in table (3) above. It is notably clear that the pyramid of the participants' English proficiency level is completely and positively altered. Comparing the traditional and virtual students' final exam results shows that 63% of the traditional students got (A) while 80% of the virtual students got (A). Successively, 20% of the traditional students got (B), 8% got (C), 7% got (D) and only 2% got (F). As for virtual students, 18% got (B) and 2% got (C). More significantly, none of the virtual students got neither (D) nor (F) in contrast with their counterpart traditional students.

## Findings

In order to answer the questions raised by this study, the percentages of the grades gained by the Medicine male students of virtual and traditional classes at UQU were compared. The compared grades of the participants in the classification and final exam reflect the effectiveness of the English course offered by the ELC at UQU, whether traditionally or virtually. This comparison was meant to draw some reliable findings that can be used to answer those questions.

As for the first question: (How effective is the English course offered by the ELC at UQU on the learning outcomes of the joint first year program learners?), it was found that JFYP male students of Medicine proved a significant improvement in their English proficiency. This claim is verified by considering that 2% of traditional students who got (A) in their classification test was converted into 63% of the same participants got (A) in the same exam of English proficiency level. When the virtual students' grades are considered, 4% got (A) in their classification test was increased to 80% of the same participants got (A) in their final exam of the same exam of English proficiency level. The second question is about the result of comparing learning outcomes of virtual and traditional classes at UQU. It inquires whether the outcomes of the first surpass the latter's or not. This question says: Do the learning outcomes of virtual classes surpass the learning outcomes of the traditional classes? With full confidence, the answer is a big YES!

80% of virtual students got (A) compared to 63% of the traditional students got the same grade. The most surprising findings of this study is that all students of virtual classes passed the final exam. More significantly, none of these students failed the course or even got (D) grade.

The majority of earlier studies was remarked by two recurring limitations: self-selection of the delivery of the virtual classes, and lack of controlling the exams environment which have been claimed that they would have given virtual classes a chance to score higher than the traditional classes. However, in this study the first limitation was eradicated by the decision taken by the ELC administration that the male students of Medicine per se would be offered virtual classes. The latter limitation was controlled by deciding proctoring the participants' exams. With the exclusion of these limitations, the findings of this study opposed such claims and proved that students of controlled virtual class students' learning outcomes are quite better than the traditional class students'.

It can be concluded, then, that: (1) the English course offered by the ELC at UQU to the students of JFYP students is satisfactorily effective and proves to improve the English language proficiency level of those students. (2) The findings of this study verify that there is a significant improvement of the learning outcomes of the students of virtual classes over their counterpart learning outcomes of the students of traditional classes.

## RECOMMENDATIONS

Some recommendations are suggested by this study. The first of them is to confirm the importance of the constant adoption and implementation of the policies that the ELC at UQU has decided to follow in serving JFYP students the English language course(s), whether traditionally or virtually. In addition to that, the ELC academic decision makers at UQU are recommended to keep seeking any other possible effective ways not to keep such levels of genuine success only, but to encourage and challenge themselves to get more and more achievements. In other words, they have to keep in mind that success should always lead to another success. More importantly, findings of this study present evidences of fruitful and positive implementation of virtual classes. It is proved that the learning outcomes of the students of virtual classes significantly surpass the learning outcomes of their counterpart students of traditional classes.

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