

# Engineering Students' Performance in Communication Skills Courses: Does Attendance Really Matter?

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Received: November 25, 2023

Accepted: January 19, 2024

Online Published: February 20, 2024

doi:10.5539/jel.v13n2p130

URL: <https://doi.org/10.5539/jel.v13n2p130>

## Abstract

Compulsory attendance in communication skills courses offered at colleges of engineering seems to be a problematic issue for many students because it prevents them from performing well in such courses. Many students believe that time spent on these courses comes at the expense of focusing on core courses and worsens their overall performance in these courses. As such, the purpose of this study is to investigate the relationship between attendance and students' overall performance in communication skills courses for the sake of providing suggestions that would enhance students' performance as well as allowing them to allocate more time to the core courses they are enrolled in. Making students' life easier would not only improve their status at the educational level but would also create a feeling of comfort and satisfaction in their surroundings, particularly among family members and friends. Participants in the study are university students enrolled in the college of engineering at a Middle Eastern university. The study yields significant results showing that compulsory attendance has no significant relationship with students' overall performance in communication skills courses. Relaxing attendance regulations might provide some margin of freedom for students to focus more on the engineering core courses without compromising their success in communication skills courses. The study provides significant recommendations that stakeholders can utilize to motivate students to perform well in communication skills courses while addressing any concerns they might have regarding the core courses they are enrolled in.

**Keywords:** communication skills courses, attendance, engineering students, overall performance

## 1. Introduction

General education courses are part of the higher education curriculum in many universities around the world, and there seems to be no intention on the part of educators to exclude such courses from the curriculum. Reich and Head (2010) stated clearly that a general education course is an essential part of the curriculum that all university students must take: "Its visibility and positioning make it a significant trademark of the institution" (p. 69). Expressing a similar opinion, Rhodes (2010) stated that general education encompasses liberal learning that involves a range of practical and intellectual skills, fundamental knowledge, collaboration, and both individual and social responsibility and that such courses should be taken by university students.

However, many university students believe that general education courses such as social sciences, arts and humanities, language classes, history, or communication skills are taking up much of their time, putting them under a lot of pressure, as well as affecting their performance in other courses; some are even arguing that there is no need to take such courses at all. For example, Donnelly and Gumm (2023) stated that many students believe that they are forced to enroll in and pay for classes that they do not want to take. Similarly, Thomson et al. (2015) revealed that university students in general do not believe that general education courses have any value and that they would prefer to enroll in core courses related to their major. Their data showed that most of the participants believed that they should take additional courses related to their major and not to general education.

Although many university students do not believe that general education courses are of great value (English, 2020; Thomson et al., 2015), generalizations cannot be made because general education courses cover a variety of subjects ranging from arts to humanities, science, communication skills, and so on. In fact, communication skills courses are becoming a major part of the general curriculum in many universities around the world. Alther (n.d.) stated that enrolling in communication skills courses/programs has many benefits from increasing self-awareness and ability to dealing with difficult behaviour to enhancing morale, building trust, and offering a

clear sense of direction. Moreover, communication skills courses are essential to prepare students for real-life situations whether they are seeking postgraduate studies, looking for employment, or planning to start their own business. Komba (2015) stated that communication skills courses should be continued because they have a major impact on students' academic performance in other courses.

As such, there seems to be a need to explore factors that might impede students from performing well in communication skills courses. More specifically, there is a need to investigate the role played by attendance in these courses, especially in universities where attendance is compulsory, and to try to find ways that would help university students focus on the core courses without ignoring the importance of paying attention to the general courses they are enrolled in.

The aim of this study is to understand the relationships between university students' attendance and the students' performance in a first-year communication skills course, particularly under the assumption of the Solow effect theory that class attendance is a good predictor of students' performance (Romer, 2012). Understanding such relationships will allow educators to adopt strategies that would enhance students' performance in communication skills courses offered at faculties of engineering. The study's author will address the following research questions:

- 1) Is there a significant relationship between attendance and engineering students' score in the final exam?
- 2) Is there a significant relationship between attendance and engineering students' overall performance in communication skills courses?

## **2. Historical Background**

The literature shows that general communication courses are an important part of any curriculum because of their benefits to students: General education courses prepare students to become independent individuals who can benefit from experiences and knowledge gained from such courses and provide a solid basis for successful academic and lifelong learning as well as satisfying the duties of local, national, and global citizenship (Tezlaff, n.d.).

At numerous universities across the Middle East, particularly at the university under investigation in this study, students enrolled in faculties of engineering are expected to take a few general education courses in their first year. One of these courses is communication skills. Engineering students are not allowed to drop this course at any time during the semester and must finish it with a minimum 60% passing grade if they want to complete the program. Researchers have shown that most students perceive communication skills to be important and of use in the future (Mercer-Mapstone & Mathews, 2017); however, students invariably complain of the additional burden that comes from compulsory attendance. They believe that being enrolled in a lot of core courses puts them under undue pressure and leaves them with no chance of meeting the requirements of general education courses (Oldfield et al., 2019; Papageorgiou, 2019; Puckdeevongs et al., 2020). As such, there is a need to review the curriculum associated with general education courses. Universities should aim to update course content and delivery methods, ensuring sufficient availability of both human and material resources to achieve the intended course objectives.

Universities should strive to revise the courses in terms of content and delivery approaches and ensure that both human and material resources are adequately available for the realization of the anticipated course outcomes (Komba, 2015). Further, there are many other important factors that might be impeding university students from being active participants as well as achieving in those classes. Research on such factors in a communication skills classroom has revealed that attendance is a crucial factor that might affect performance (Ayodele, 2017; Charan et al., 2011; Latif, 2013). However, to the knowledge of the researcher, no study has ever examined students enrolled in communication skill courses provided at colleges of engineering, particularly the impact compulsory attendance might have on students' performance.

Finally, although university students' focus has always been on mainstream courses, this should not undermine the value of enrollment in general education courses, particularly communication skills. As mentioned earlier, those courses are essential to help develop students' personalities and their ability to excel in their future careers. As such, investigating the factors that might affect students' performance in such courses may be essential to reduce the pressure that students find themselves under, especially in terms of attendance. Findings and recommendations from this study will be important for many reasons: First, the study addresses the role played by attendance in communication skills courses provided at colleges of engineering and their effect on students' overall performance. Second, based on the findings of the study, suggestions will be made to reduce the pressure put on students, allowing more time to be spent on core engineering courses. Finally, most of the literature in the

field has focused on performances that were mainly based on exams. The special nature of this communication skills course is that the overall performance is based on tasks and assignments that are mainly done in class, in addition to a final exam that counts for only 10% of the overall performance.

### 3. Research Design

The research incorporated both descriptive and inferential statistical methods for data analysis. By calculating the mean (M) and standard deviation (SD), the analysis assessed the average number of absences, final exam scores, and students' final grade/overall performance, focusing on the deviation of each value from the mean. Pearson correlation was used to determine any significant relationship between attendance and final grade as well as performance in the final exam using OriginLab. Had a significant correlation been identified between attendance and final grade/overall performance, a regression analysis would have been conducted to investigate whether attendance could predict the final grade/overall performance.

### 4. Methodology

#### 4.1 Subjects

The focus of the study was university students enrolled in a first-year communication skills course provided to engineering students at a Middle Eastern university. The sample included 136 students from eight different sections. A Google Spreadsheet was created to enter the marks for every single task/activity and exam taken by students throughout the course. Instructors had to enter marks on a weekly basis, and they had full access to the file because it was shared on Google Drive. As such, the researcher had access to the marks of each single activity, attendance, as well as the students' overall performance in the course. Out of the 150 students enrolled, 14 students failed to complete the course because they exceeded the absences threshold of 24%.

#### 4.2 Lectures

The objective of this course was to enhance students' communication skills, particularly within the context of the faculty of engineering. The instructors expect students to apply their verbal, textual, and technical abilities in various situations. Apart from oral communication, the course also focuses on improving students' reading, writing, presentation, and technical communication skills. The course requires students to meet five days a week. Each day, instructors deliver two lectures that last for 100 minutes, 50 each. In this study, the same instructor, who was fully responsible for his class, ran the lectures for each section. All instructors had a minimum of 10 years' experience teaching this communication skills course at the university. Teachers have created all the material used in these classes from the textbook to the activities, tests, and marking rubrics.

The whole term is divided into two modules. The first module lasts for 6 weeks, and the second module lasts for 9 weeks. During the first module, students are supposed to hold daily readings on topics related to engineering such as ethics in engineering, engineering and problem solving, and critical and creative thinking. Based on the readings and on class discussion, instructors ask students to write one essay and give one presentation related to the topic of the week. Evaluation of this module depends on two main tasks, writing and speaking, that are conducted on a weekly basis. Teachers choose the best five out of six marks for writing and speaking. Each of these skills counts for 10% of the overall mark. As to the second module, students are expected to write 1500–2000-word research papers. This module lasts for 9 weeks. Every week, students must finish one task. Tasks include topic negotiation, where students must discuss their topic with an external evaluator who is expected to provide feedback and to give final approval on the topic chosen. Students must undertake a great deal of writing such as introduction writing, methodology writing, findings writing, discussion writing, and abstract and conclusion writing. Moreover, students must deliver two major presentations related to their research topic. These presentations are evaluated by external evaluators. Tasks related to this module count for 65% of the final grade. Finally, students must submit an e-portfolio that covers all their work throughout the semester. The e-portfolio accounts for 5% of the final grade.

#### 4.3 Final Exam

The evaluation in the communication skills classes primarily serves as a formative measure, promoting ongoing learning and development. It involves active collaboration among students, teachers, and peers, allowing for continuous feedback. Throughout the course, students receive regular updates on their progress. This assessment method emphasizes students' practical abilities rather than theoretical knowledge, making it predominantly performance oriented. Though there are many communication skills classes, the same exam is administered to the various sections at the same time. A common grading scheme/rubric is also used to ensure fair grading for all students. The tests are proctored and marked by different instructors than those who taught the class. The final exam is conducted at the end of the semester and is based on the material taught in the class during the whole

semester; the exam consists of a reading passage related to one of the topics taught in the class. Students are asked to answer multiple-choice questions that include vocabulary, grammar, syntax, and comprehension questions. Students are also asked to write an article on one of the topics discussed in the class. The exam also includes questions about the research the students did in class. Finally, students are asked to analyze some charts/graphs. The final exam counts for only 10% of the final grade.

## 5. Results

### 5.1 Descriptive Statistics

#### 5.1.1 Attendance

Teachers manually take student attendance of the various sections daily. Teachers follow strict rules as required by the faculty of engineering attendance policy. Students who are 6 minutes late to class are marked as late. Two late records on Sheets on behalf of a student are equivalent to one absence. Students who are 15 minutes late to class are marked absent. Moreover, as mentioned earlier, students who have 25% of absences (37.5 absences) or above are given a DN (denied) regardless of their performance. Table 1 presents the descriptive statistics for the exam, final grade and absences. Data reveal that the M of absences was 22.27, which indicates that the students missed 15.9% of the lectures on average.

Table 1. Mean and standard deviation of the various variables

	Mean (M)	SD
Exam	6.50	2.37
Final Grade	75.62	14.87
Absences	22.27	22.26

#### 5.1.2 Final Exam

The final exam counts for 10% of the final mark. The exam covers material that has been given in class over a period of 15 weeks of instruction. All the questions in the exam are based on students' knowledge of content material given during class sessions. Table 1 shows the M of the students' scores on the exam was 6.5 out of 10.

#### 5.1.3 Overall Performance

Table 1 shows the M and SD of students' final grade in the course. As mentioned earlier, students' final grade in the course is based on their overall performance. Students must do a lot of writing and speaking tasks in addition to the final exam.

### 5.2 Pearson Correlations

The researcher's intention was to run linear regression analysis to see if attendance in communication skill courses can predict students' final grade/overall performance in the course. To do that, Pearson product moment correlations were used to determine any significant relationships between absence and students' scores on the final exams and their final grade. As revealed in Table 2, there was no significant relationship between attendance and student score in the final exam and final grade both at the 5% level and the 1% level of significance. However, there was a significant relationship between attendance and instructor and between the final exam and final grade.

Table 2. Pearson Product Correlations Among the Various Variables

	1	2	3	4
1. Final Exam	1	.78**	.022	-0.02
2. Final Grade		1	-.09	-0.21
3. Attendance			1	0.81**
4. Instructor				1

Note. \*\* Correlation is significant at the .01 level (two-tailed).

## 6. Discussion

The only significant correlations in this study were between attendance and instructor ( $R^2=81\%$ ) and between the final exam and final grade in the course ( $R^2=78\%$ ). The finding that instructors affect students' attendance is not surprising. This is corroborated by the findings of many researchers such as Liu and Loeb (2019). A possible

explanation for such a finding is that some instructors might be more effective than others. Their teaching techniques and methods seem to be more appealing to students, which encourages them to attend classes and be more involved in class discussions and activities. There is no doubt that when students are motivated to learn they will try to attend classes as much as possible. Another possible explanation is that whereas some instructors might be a little flexible about attendance, some others are very strict, with students having no choice but to attend classes.

The finding that there is a correlation between the final exam and final grade/overall performance is not surprising. It makes sense that a student who does well in the final exam is a student who will perform well in the course in general even if the final exam counts for only 10% of the final mark.

More importantly, the findings of the study reveal no significant relationship between attendance and university students' final grade/overall performance in communication skills courses. Such findings raise many questions about the significance of imposing strict attendance policy on university students in communication skills courses. These findings are supported by some other researchers in the field who found that forcing students to attend classes does not guarantee that students will do well (Andrietti, 2014; Bai & Chang, 2016).

Attendance might be essential in core courses where students are not encouraged to miss any class because that would hinder their comprehension of the whole curriculum, and this would in turn affect their final grade; the situation seems to be different in communication skills courses. This study has shown clearly that attendance is not what makes students perform better in these courses. As such, there is an urgent need to revisit attendance policies in such courses. If a university's aim is to impose attendance as a main requirement for being enrolled in a communication course, there might be a need to change the syllabus. Introducing pop-up quizzes and random tasks or evaluations might be an important factor to force students to attend classes. If students feel that they can miss classes and still pass the course, nothing will prevent them from using this to their advantage.

A possible implication for the absence of a correlation between compulsory attendance and performance in communication skills courses among university students could be attributed to a variety of reasons: First, students' learning styles may be diverse, and some might excel in independent study environments, finding that compulsory attendance does not necessarily improve their mastery or comprehension of communication skills courses learning outcomes. Moreover, factors such as motivation and self-efficacy could also be related to the mastery of such learning outcomes, as suggested by Zogheib (2015). Additionally, the quality of engagement during class hours may vary, with some students actively participating and benefiting from the content, whereas others may merely fulfill attendance requirements without being actively involved in the learning process. Furthermore, external factors such as personal commitments, health issues, or conflicting schedules may influence attendance, impacting performance irrespective of class attendance. It is also plausible that the teaching methods employed may not effectively resonate with all students, making attendance a less influential factor in determining academic success in communication skills courses. Further research and exploration of these multifaceted dynamics could provide valuable insights for refining educational strategies and policies.

That said, the cornerstone of communication skills courses is using English as the main language of instruction. As such, it could be argued that students who are competent English speakers might have no problem performing well in communication skills courses. In our case, students enrolled in the communication courses had already taken a 1-year language course at the English language institute at the university during the foundation year. In this course, students take four levels of English starting with level 1 and ending with level 4. It is expected that by the end of level 4, students will be able to communicate effectively in English, particularly the productive language skills: speaking and writing. This means students enrolled in the communication courses at the university have a certain level of language competency that would allow them to be active participants in the class. As such, failing to meet attendance requirements seems to be the main reason for failure.

However, no one can deny that language could still be a main factor in students failing the communication skills courses, especially given such courses focus on teaching the productive language skills of speaking and writing. As a result, assessment is mainly based on asking students to give presentations or write essays about topics related to engineering. As such, to judge students' level of English by the time they join the faculty of engineering would mean to scrutinize the entirety of language classes they undertook in the foundation year. This is beyond the scope of this study and could be the focus of future research.

Furthermore, the structure of the communication skills courses provides students with flexibility, allowing them to skip several classes (24%) before it affects their attendance status. Because the course outline/syllabus is very clear from the beginning, students are well familiarized with all the important dates by which they must submit their marked assignments or tasks. What really matters to students is that they do not cross the threshold that

would lead them to get a DN on the course. If students do not miss any class and submit all their work on time, this would not affect their final grade. Students seem to manipulate the attendance policy to their advantage by simply attending classes that are “important” to them, ignoring the fact that every single class is important, even though there are no marked assignments done in these classes.

Finally, whereas students whose aim is to get a very high mark on the course would care about attending as many classes as possible, even if they know there are no marked tasks/assignments in most of the classes, some others seem to be satisfied if they pass the course without having to attend as many classes as possible. Those students believe that time “wasted” on communication skills can be spent on studying core course materials. In fact, some of these students are highly competent language learners. However, they give priority to core courses at the expense of communication skills. As such, they meet the minimum requirements to pass the course even at the expense of the final mark, as long as they do not get a DN or do not have to take the course again. One way to prevent this is by reducing the number of attendances students are required to meet. Students should not feel pressured. They should feel that communication skill courses provide a chance for them to develop the skills that would help them after graduation, whether in their job hunt or their social life in general.

In conclusion, the evidence suggests a need to reevaluate the attendance policies governing communication skills courses, given that regular attendance does not seem to be a critical factor in the majority of students’ ability to pass, unless they cross the absences threshold set for the courses. Communication skills courses should be an opportunity for students to develop their skills away from the pressure of attendance. Such courses should provide a safe and comfortable environment where students get the chance to release the pressure caused by core courses. As such, based on the findings of this study, there is a great need to reevaluate the main objectives of attendance policies because such policies must align with the specific needs and goals of the communication skills courses. Another important recommendation is that students should be asked about their perceptions of the attendance policies being applied. Understanding what they really think about such policies can help teachers to communicate their feedback to policymakers. This would help design communication skills courses in a way that meets students’ needs.

### **7. Recommendations for Future Research**

Although this study yielded significant results about the role of attendance in communication skills classes at a particular Middle Eastern university, further research needs to be done before any generalization can be made. This study was limited to one university, and the sample was limited to male participants only. For future studies, it would be interesting to have female participants because gender is an important factor related to university students’ performance (Zogheib et al., 2015), especially given more girls are enrolled in faculties of engineering. Most importantly, because the findings of this study show no significant influence of attendance on students’ overall performance, future researchers must consider exploring the role of attendance as part of a larger model that includes other factors that might influence students’ performance in communication skills classes.

#### **Acknowledgments**

Not applicable.

#### **Authors’ contributions**

Not applicable.

#### **Funding**

Not applicable.

#### **Competing interests**

Not applicable.

#### **Informed consent**

Obtained.

#### **Ethics approval**

The Publication Ethics Committee of the Canadian Center of Science and Education.

The journal’s policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

#### **Provenance and peer review**

Not commissioned; externally double-blind peer reviewed.

### Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

### Data sharing statement

No additional data are available.

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