Original Research

The impact of presentation skills on Moroccan engineering students' language abilities

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In EFL education for Engineering students, effective communication skills are crucial for academic and professional success. However, mastering these skills, particularly in the realm of presentation, poses a challenge. This study addresses the need to assess the impact of technology-assisted presentation skills on EFL Engineering students' English proficiency. The primary aim of the study is to examine the influence of technology-assisted presentation skills on the English proficiency of fourth-year Moroccan Engineering students, who possess a minimum B2 level of English proficiency. The study focuses on three key sets of presentation skills, namely the ability to define and illustrate, categorise and describe, and compare and analyse engineering processes and products. The study employs a mixed-methods approach involving 183 fourth-year Moroccan Engineering students. Quantitative data is gathered through pre and post-tests, while qualitative insights are obtained from focus-group interviews. Data is analysed using both quantitative and qualitative methods to provide a comprehensive understanding of the impact of technology-assisted presentation skills. The findings reveal that students' English proficiency improved significantly in the post-test compared to the pre-test, corroborating the main hypothesis. Specifically, students demonstrated significant enhancements in their ability to define, illustrate, categorise, describe, compare and analyse engineering concepts and products through presentations. This research highlights the effectiveness of technology-assisted presentation skills in enhancing the English proficiency of EFL Engineering students. The results underscore the importance of incorporating such skills into curricula to better prepare students for academic and professional communication. Additionally, the study emphasises the need for ongoing practice and gradual skill development to fully harness the potential of these presentation skills. These observations offer valuable implications for educators and institutions seeking to improve language instruction in engineering programmes and similar fields.

KEYWORDS: *communication skills, employability, EFL methodology, ESL methodology, ICT, presentational skills, English language proficiency*

1. INTRODUCTION

Language teaching pedagogy practices have witnessed enormous changes in the last decades that reflected the recurring trending philosophies and the social reality (Celce-Murcia, 2001). As evidenced in the series of approaches that have been initiated in the last decades, this concern for the best method that would feature the objectives of these societies is part of the continuum. As of late, the Covid-19 pandemic lockdown has initiated immense social and economic changes which urged educationalists to rethink the existing pedagogical practices and reshape them to fit these objectives. In the context of English language teaching to Engineering students, most impetus emanated from business studies, most of which envisage these application of presentation skills as a major component of assessing students' communicative abilities. On the same line, many teachers have

resorted to the application of new instructional designs and new pedagogical practice that facilitate learning and equip students with the skills required in the job market. One type of these practices has been the introduction of presentation skills in English as a means of developing students' communication skills in English. Unlike institutionalised knowledge that warrants Engineering students' vocational aptitude, these skills are considered as the tools whereby students can practise their transactional realism thoughts mediated learning experience to communicate their concerns (Barker & Sparrow, 2016; Biesta & Burbules, 2003; Abouabdelkader, 2018) and display their communication abilities. In this practice, the do-it moulds of presentations offer students the opportunity to immerse in communication activities which foster their knowledge of the foreign language and structures (De Grez & Valcke, 2010) and communication skills.

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The concept of presentation skills is not easy to define, as it involves a mix of communication and thinking skills. Most current definitions given by researchers suggest that presentation skills are competencies that enable students to display their knowledge and communication skills in the target language (Masoud & Al Muhtaseb, 2021), and most of these definitions are centred on the outcomes rather than the means whereby these skills are made. Now, it is time to investigate these skills/competencies as a cognitive compound of constructs, which development is self-regulatory, context-bound, and basically depends on the learner's history and motivational drives.

As conceived of in this study, presentation skills comprise the knowledge states triggered by self-regulated process-oriented thinking skills through social interaction (De Grez et al., 2009). Within this framework, presentation skills are considered as language-bound thinking skills that function as a catalyst of effective communication skills in the content knowledge of the vocational subjects of the learners (El-Moamly, 2010). The term 'presentation skills', as its name implies, involves the ability to effectively convey information about an object or a process by utilising the necessary skills and knowledge needed to complete a communicative task in English. This task typically encompasses activities like introducing, explaining, and analysing a topic, as outlined in Schulz's (2008) model.

Due to the undefined functions of English in education and training in Moroccan higher education, the current state of vocational English language teaching (VELT) at the Ecole Nationale d'Arts Et Métiers (ENSAM), like in most engineering schools across the country, is still at the mercy of arbitrariness because the modular approach put forward to developing competencies has not been implemented. As most of these schools give more attention to engineering subject matters, English instruction is allotted a subsidiary role and inconsiderable teaching hours. In spite of all the efforts made by some scholars to upgrade its place in the curriculum, the outcomes are still embryonic and personal. As detailed in this section, the real problem in these schools is a matter of harmonising the curricula and coming to a consensual organisation of the discipline. The difficulty of achieving this objective, however, is due to the fact that such action requires the implication of all the stakeholders in higher education at both the content and pedagogical levels, as well as the educational policy decision making.

2. THEORETICAL BACKGROUND
2.1. Communication skills and employability

Though very limited and scarce, the existing literature on presentation skills indicates that preparing students to give self-initiated oral presentations is a hands-on activity in which students can practice some of the skills required in the job market. The studies reported in this section relate to the communicative, cognitive and the technological benefits of presentation skills.

Research studies maintain that presentation skills are ranked as key competency for communication strategies, on the one hand, and an important asset of employability for Engineering students (Boud & Falchikov, 2006; Thom, 2016; Zusho et al., 2003). These researchers not only report that these skills enable students to carry out communication skills; they also make them experience technology-bound skills that are necessary for their prospective engineering careers (Gyori, 2013; Mousawa & Elyas, 2015). These studies have identified presentation skills as an important facet of employability and suggested that the teaching of such skills should form part of the undergraduate curriculum (Fallows & Steven, 2000; Pittenger et al., 2004).

Besides, oral presentations offer students the opportunity to learn several skills that are required in the job market, and that prepares them to the world of work (Al-Issa, 2007). As Al-Issa and AL-Qubtan (2010, p. 230) argue, *'presenting in the EFL classroom prepares students for the job market that they will enter when they leave school'.*

Within this trend, several researchers probed the content and methodologies adopted in the current Moroccan English curricula for EFL Engineering students. Abouabdelkader (2018) maintains that communication skills should address the development of functional communication skills that relate to the students' vocational education. Along the same line, Chamorro-Premuzic et al. (2010) stress the importance of implementing '... *a set of non-academic attributes, such as the ability to cooperate, communicate and solve problems, often referred to as generic or soft skills in higher education'* (Chamorro-Premuzic et al., 2010, p. 221).

Other researchers maintain that the delivery of IT-assisted presentations enables students to acquire the ever-changing and complex needs of the contemporary workplace (De Villiers, 2010; Sleezer et al., 2004; Possa, 2006).

In response to the above cited reality, new guidelines have been approved at the educational level internationally by the Institute of Professional Engineer New Zealand (IPENZ) and the US Accreditation Board for Engineering which consider effective communication skills as an essential component of the engineering formal education and training (Cochrane, 2009). Locally, the Moroccan ministry of Higher Education recommends the reinforcement of the teaching of soft skills, of which communication skills are a necessary component, to align the curricula with the requirements of globalisation and employability. This move towards the empowerment of students with skills that would facilitate mobility has been reported in a benchmark key competencies report (Chaibate et al., 2020).

2.2. Presentational skills and cognitive skills

In the modern world, you cannot give an oral presentation to any audience without having the necessary tools. Before delivering your message, you need to decide on several issues, starting from who you are addressing, what you want to say, how to say it, and what for. Such designs require that you make several decisions before making any move. A second exigency is that you need to decide on what information would allow you to achieve your goal. As described in Bradbury's (2006) *Successful Presentation Skills*, these steps underscore the cognitive and metacognitive demands of these skills. One of the major assets of presentational skills is that they build on the students' ability to interact in groups and call for thinking processes that involve problem solving, selection, and organisation of data (Jahan & Jahan, 2008). These cognitive skills promote students' ability to communicate in English and boost their confidence (Mousawa & Elyas, 2015).

In fact, all the skills at stake in the present study are reported to be key thinking skills in the learning of communicative skills in cognitive science. Iijima et al. (2009), for instance, emphasise the importance of some skills, such as problem identification and problem solving, which may include both creativity and logical thinking when applied to language learning. More specifically, they clearly identify some of the attributes of communication skills. According to them, *'communicative competence includes knowledge of the grammar and vocabulary of the language, but equally important is knowledge of the rules of discourse – knowing how to begin and end conversations, recognising context and thus adapting the topic, the forms of address and response type to different situations'* (Iijima et al., 2009, p. 269).

This interest in the cognitive dimension of presentation skills is also reported by Cismas (2009), who states that presentation skills are a necessary skill for Engineering students because *'students' mobility among universities all over the world, research exchanges, and the migration of professionals in search of better, more challenging jobs, require both foreign language fluency and a unified approach to communication tasks'* (Cismas, 2009, p. 236).

From a transdisciplinary perspective, this process of teaching presentation skills as cognitive entities that promote several communication skills is also supportive of students' ability to accurately perceive the world around them, using linguistic and content knowledge appropriately in communication. As Delahunty et al. (2020, p. 395) argue, *'visuo-spatial cognitive processes were found to support the conceptualisation of convergent problem-solving tasks'*. Based on these facts, Engineering students' ability to express their basic thoughts in social communication contexts needs to be considered in terms of improving students' thinking skills and knowledge content. Delahunty et al. (2020) suggest that requiring students make presentations allows them *'to engage in six processes (i.e., problem and constraints identification, research, ideation, analysis of ideas, testing and refinement, and communication and metacognition) and behaviours (i.e., read books, brainstorm, search websites, do hands-on activities, and com-* municate with their group members)' (Delahunty et al., 2020, p. 159). These aspects of presentation skills elevate this practice to an exceptional student-centred learning tool. Gyori (2013) points out that presentations help teachers *'discover hidden talents in our students and in ourselves and begin reinventing the education system in the place where it lives and breathes: our classrooms'* (Gyori, 2013, p. 183).

Looked upon from a holistic perspective, most of the strengths listed above are also reported by the proponents of Project-Based Learning (PBL). Bransford et al. (2000) and Hutchinson (2001), for instance, advocate that PBL encourages the use of critical thinking and language in real life situations, focusing on developing communicative skills for lifelong learning and collaboration among students. Others, such as Helle et al. (2006), Belland (2010), and Gallagher (2009), suggest that collaborative work pushes the learners not only to achieve their goals and objectives, but also to improve their achievements. Similarly, Ben Kaddour (2020) carried out a study that investigated a set of skills, like the ones explored in the present research, through PBL and concluded that providing freedom to students to prepare projects with the help of information technologies leads to better language performance among Engineering students.

Other researchers also reported that learner-centred instruction approaches have the advantage of developing students' cognitive abilities and several skills (Gómez-Pablos et al., 2017; De Grez & Valcke, 2010).

Considering the attributes highlighted in the cited works, the present study assumes that presentation skills rank among the most essential skills in English for Engineering curricula – an assumption grounded in their capacity to enhance students' cognitive abilities.

2.3. Presentation skills and information technology

Most of the existing research related to language education agrees that IT is intimately connected to communication endeavours for language learners across all age groups. In fact, it is challenging to separate presentations from the realm of new technologies. When students prepare presentations, they extensively rely on their computers throughout the entire process, employing them for tasks such as internet research, brainstorming, idea generation, locating images and videos, and constructing their presentation slides. As reported in a study by Pino (2008) on the importance of web-based learning, the internet is a useful resource on the ground that *'the potential to integrate effective Web-based instruction into ESL courses for their immediate application can add a valuable new dimension to language teaching and learning'* (Pino, 2008, p. 70).

From a pragmatic perspective, the role of technology assisted learning opportunities would, then, be to provide additional opportunities to learn and practice the new language in simulated real-time situations, or what Neal (2005) referred to as the student's 'learning culture'. Neal's (2005) argument is that learning a foreign language is a matter of using the foreign language in

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purposeful and meaningful experiences through authentic content-based resources and simulated real-life situations. As a substitute for classic didactic teaching, IT-supported presentation skills development offers more opportunities for independent learning outside the classroom and creates more effective interaction between the two parties inside the English language class.

Other researchers report that IT-aided presentation skills serve as a simulation of real-life activities that enable students to juggle with the vocational knowledge related to their field of study, on the one hand, and practice their communication skills, and techniques to achieve communicative acts, on the other (Tversky, 2005; Van Rooij, 2010). Obviously, renewed attention and praise of both synchronous and asynchronous use of IT in education have even multiplied following the Covid-19 pandemic (Bonk & Wiley, 2020) in order to achieve these objectives.

Several other studies on the integration of information technologies in language education also support this new trend. Billings (2000) stated that internet-assisted learning environments allow students to increase the time available for completing learning goals. Means et al. (2003) argue that, by using technologies, students have more than what teachers can offer, and that they have *electronic analogues to virtually every educational resource traditionally employed for teaching and learning – not only books, encyclopaedias, chalk-boards, pencils, and typewriters but also drafting boards, three-dimensional models, slide-rules, and dissecting tables'* (Means et al., 2003, p. 2).

Altogether, these views suggest that the teaching of English to Engineering students is not simply a matter of exposure to the foreign language; it is a matter of guiding the students to develop their communication and thinking skills through collaborative work and exploitation of information technologies (Jonassen, 2000).

Despite all the reviewed studies, this combination of skills needs further investigation in terms of its impact on English language proficiency improvement – a task which has been prioritised in the current study. By adopting a mixed-method approach, this study seeks to ensure higher levels of validity and reliability of the findings, using a set of instruments that address the variables under investigation. The main purpose of this methodology is to empirically examine the impact of involving Engineering students in delivering presentations on their English language proficiency. All the variables investigated seek to examine the extent to which the use of IT-assisted presentation delivery impacts Engineering students' communication skills and English proficiency level and isolate the skills that students master more.

3. METHODOLOGY
3.1. Population and sample of the study
The study's population comprises engineering students, while the sample consists of 183 Moroccan fourth-year students, who have been divided into four groups, each comprising 46 students. For their presentations, each group chose a theme corresponding to one of the six units scheduled for the term. These six units focus on developing three primary skills: (1) defining and illustrating, (2) categorising and describing, and (3) comparing and analysing. These skills have been organised into three sets of data.

3.2. Phases of the study
The study involved a three-phase approach. Initially, the students underwent a language proficiency pre-test to assess their initial skill level. Subsequently, they were introduced to the targeted skills through explanation and practical demonstrations. Key aspects of effective presentation delivery were presented to establish clear benchmarks for the intended activity. Finally, a post-test was administered to the entire study population.

Regarding the preparation and execution of presentations, the training encompassed steps to achieve the following objectives: (1) effective planning and organisation, (2) compilation of relevant information and materials, (3) refinement and personalisation, and (4) delivering coherent discourse.

While technical aspects posed no significant challenges, the training primarily emphasised the communication skills involved and how to apply them effectively in an English context. To facilitate this, the teacher created a model project in the form of a portfolio, serving as a guide to align students with course expectations. This orientation was integrated into the planned activities and was introduced during the semester's induction session.

3.3. Research question
The study's research questions are designed to explore the impact of IT-assisted presentations on the English achievement of Engineering students, specifically in relation to their performance in the prescribed set of skills. These questions are as follows.

1. Does students' English achievement improve in the assessed skills during the post-test?

2. How do students perform across the various skills in their presentations?

3. Can the preparation and delivery of presentations be considered an effective EFL teaching approach for Engineering students?

To investigate these interconnected research questions, a mixed-methods approach was employed for data collection and analysis, as suggested by Johnson and Onwuegbuzie (2004). Given that presentations can introduce unexpected variables, the data were analysed both qualitatively and quantitatively.

To ensure the validity and reliability of the data, several measures were implemented in the design of various data collection instruments.

3.4. Instruments

The three sets of instruments used in the study include (a) a teaching course/treatment containing the communication skills required in the preparation and delivery of effective presentations; (b) a language test that addresses students' English proficiency level at both the pre- and post-test stage, and (c) an interview.

3.4.1. Course content/treatment

The English course designed for fourth-year students aims to cultivate a range of communication skills by involving them in the preparation and delivery of presentations centred around topics relevant to their vocational interests. These targeted skills are derived from the textbook *English for Engineering* by Ibboston (2008).

Due to the course's limited duration, only those units that connect vocational content with the specific set of communication skills to be assessed were chosen for inclusion. The primary objectives of these selected units are as follows: (1) enhance students' functional communication abilities; (2) develop proficiency in the use of engineering terminology and knowledge to address real-world vocational challenges; (3) cultivate spoken and written communication skills in the English language; (4) familiarise learners with the fundamental aspects of delivering presentations in English; (5) encourage collaborative work beyond the classroom, fostering teamwork; (6) provide opportunities for hands-on problem-solving activities.

Therefore, the course has functioned as an intervention aimed at acquainting the learner with the six skills covered in the module. The instruction for these skills was provided through induction sessions following the administration of the pre-test.

3.4.2. The language proficiency test

The notion of English language proficiency in the present study is considered in terms of its functionality rather than its general configuration. Functionality refers to the extent to which a student's English proficiency level matches the learning outcomes sought in the curriculum and the way they are applied in the vocational context (Abouabdelkader, 2018). The language proficiency test (Appendix 2), used at a pre- and a post-test stage has been designed and administered to the population under investigation within a framework that combines learning outcomes and assessment. The test involves a set of rubrics that address the students' English language proficiency in the three

clusters of the communicative skills taught in the course. These skills comprise (1) defining and illustrating, (2) categorising and describing, (3) comparing and analysing. All the items of the test have been drawn from the textbook in use. The pre-test was administered at the beginning of the course and the post-test at the end of the module.

3.4.3. Focus-group interviews

The qualitative data gathered for this study comprises students' assessments of their peers' presentations, measured in relation to their own learning experiences. These features have been considered in a series of focus-group interviews based on a peer evaluation judgment checklist adapted from a tentative textbook evaluation checklist used by Mukundan and Nimehchisalem (2012).

By engaging students in their own learning evaluation, every effort was made to get at a better understanding of the variable under investigation. Focus of this evaluative judgment was on the following criteria: (1) general attributes, (2) content and methodology, (3) technological attributes, (4) thinking skills, and (5) language abilities. These five rubrics seek to understand the extent of student engagement in performing the targeted skills.

Considering the nature of the variables under investigation, data regarding students' perceptions of learning presentation skills were obtained through focus group interviews. These interviews were conducted using evaluation checklists that were aligned with the study's objectives and guidelines.

3.5. Data analysis procedure

The study employed both qualitative and quantitative analyses to achieve its objectives. These analyses were based on numerical data and students' perspectives on various factors relevant to the study.

All students participated in both the pre-test and post-test phases. However, for ethical reasons, only students who volunteered were involved in the focus-group interview sessions, a valuable method frequently utilised in the social sciences, as indicated by Gibb (1997). The total number of interviewees amounted to 75 students, comprising 41 females and 34 males.

The quantitative analyses centred on the pre-test and post-test scores gathered to assess students' English language proficiency before the experiment and at the end-of-term examination. These tests were evaluated by the two teachers responsible for fourth-year Engineering students. The combined scores from the three sub-sections determined the overall score.

Altogether, both data analyses seek to answer the research questions of the study. While the qualitative analyses attempt to investigate the query of RQ3, whose concern is the isolation of the benefits of presentation delivery as a method of learning and teaching English, the quantitative analyses, in turn, seek to display the differences in performance in English, prior and after the experiment as well as the variation between the communicative skills investigated in RQ1 and RQ2.

4. STUDY RESULTS

4.1. General observations

Study findings confirm that the learning and teaching of presentation skills can serve as a catalyst for the development of students' communicative abilities, and also indicate that this pedagogical approach may not be beneficial to students with low level of English proficiency. In other words, while this approach improves students' achievement in English, it also proves to have limitations. Details of the results are presented below in accordance with the study's research questions and the objectives.

In response to the research questions addressed in this study, the obtained analyses have uncovered noteworthy insights. Concerning students' achievement, the data reveals that the mean score of students' performance in the pre-test was M=12.153, with a minimum score of 6/20 and a maximum score of 14/20. In contrast, the post-test mean score was M=15.203, with a minimum score of 8/10 and a maximum score of 17/20. It is important to note that the minimum score for each of the three rubrics on this scale is 1.

The mean scores pertaining to the sub-skills also yielded significant results. When examining the results related to these sub-skills, it becomes apparent that students' overall achievement is relatively high when compared to the three sets of sub-skills. This suggests that not all sub-skills have improved to the same extent, and students still encounter challenges with certain aspects of the English course.

Notably, some students displayed poor results in both the pre-test and post-test, indicating that students' prior language proficiency plays a crucial role in English language instruction. It implies that language skills are less likely to undergo substantial changes in situations where learners fall below a certain linguistic proficiency threshold.

The effectiveness of the IT tool in enhancing students' communication skills, as inferred from these analyses and corroborated by the interviews, has been observed as particularly beneficial for students with a high level of language proficiency. Detailed findings from these analyses are presented in Figure 1.
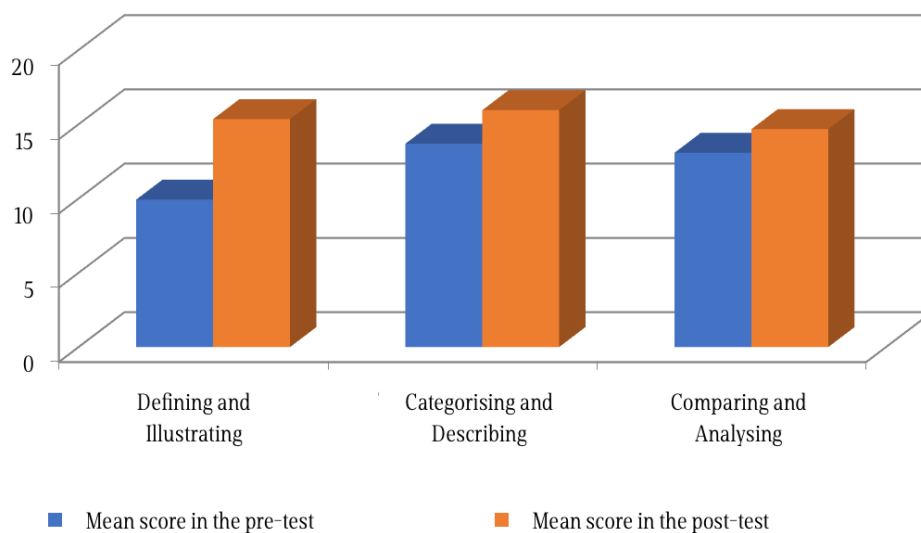
Figure 1. Comparison between the mean scores in the pre-test and the post-test

The general observation is that most students have experienced an improvement, albeit to varying degrees, in their overall mean scores from the pre-test to the post-test across all the investigated sub-skills. Notably, the progress was particularly substantial in the case of the Defining and Illustrating sub-skills, where the mean score increased from 9.93 in the pre-test to 15.35 in the post-test. In contrast, for the other pairs of sub-skills, the progress was less remarkable. The mean scores for the Categorising and Describing sub-skills showed a significant increase, with student grades rising from 13.69 to 15.95, while those for the Comparing and Analysing sub-skills increased modestly from 13.08 to 14.67. These discrepancies provide clear evidence of the positive impact of presentation delivery on students' English language proficiency.

Regarding the inquiry posed in RQ2, one of the principal research questions addressed in this study, the qualitative analyses have yielded intriguing findings, which will be elaborated upon below.

4.2. Results related to the sub-skills under investigation

Importantly, both the quantitative and qualitative findings suggest that students did not fully grasp all the skills taught and tended to rely on those with which they were more comfortable. The subsequent analyses indicate that the acquisition of presentation skills requires gradual and extended practice. The variations in results obtained for each of the investigated sub-skills, substantiated by qualitative data, suggest that students do not face the same level of difficulty across all skills.

'In the case of Illustrating skills, a majority of students reported that they were not familiar with this skill, as they believed that in scientific contexts, information should be precise. This misconception about how illustration can be employed is a result of the lack of practice with this skill in their other language courses, including the English module. Many students admitted to struggling with illustration because it demands a high level of mastery of the English language. In relation to RQ2, these findings suggest that some skills are more accessible for this category of learners to perform in English compared to others'

Some skills prove more challenging than others, underscoring that presentation delivery is particularly beneficial for students with a basic level of language proficiency.

4.3. Results for defining and illustrating skills

Among all the sub-skills examined in the study, it is evident that Defining and Illustrating skills have a more pronounced impact on students' language proficiency levels. The results pertaining to the Defining and Illustrating skills are highly significant, with a p-value < .00001, pointing to significance at p < .01. This underscores a substantial difference between the pre-test and post-test sub-scores. The mean scores observed in the pre-test and post-test, which are 9.93 and 15.39, respectively, strongly indicate the considerable impact of presentation delivery in enhancing these two sub-skills within the context of EFL instruction. This effect is further corroborated by students' overall achievements in the English test. Moreover, supporting evidence is derived from the figures obtained in the standard deviation (Eta squared = .65), indicating a substantial effect with a notable difference in the evaluation sub-scores for these two sub-skills before and after the project-based English for engineering course instruction.

The qualitative analyses were equally significant for these skills. As per the results from the focus-group interviews, students who participated in the experiment revealed that the improvement in Defining skills was primarily due to their ability to complete tasks at their own convenience, and they attributed their success to their capacity to search the internet. Many students emphasized that their presentations, as well as those of their peers, would have been challenging to complete without the assistance provided by the internet. Some mentioned that they followed the steps for defining as taught in class and as demonstrated in certain online videos during the preparatory stages.

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4.4. Results for categorising and describing skills

The results obtained for Describing and Categorising skills demonstrate noticeable improvement in students' presentations, as well as in their post-test outcomes, attributable to instructional strategies and practice.

The data presented in the analysis of the second set of sub-skills, namely Categorising and Describing, reveals significant observations. The mean score for the pre-test is 12.58, while the post-test mean score is 15.85. Notably, the p-value is less than .00001, indicating a highly significant result at p < .01. This finding underscores a considerable difference in students' performance between the pre-test sub-score and post-test sub-score.

Additionally, it's worth noting that the mean increase, calculated at -2.15, with a 95% confidence interval ranging from -2.98 to -1.32, provides further evidence of a noteworthy impact stemming from the treatment. This impact is consistent with what we observe in the pre- and post-test results of the English Course Module, where the Categorising and Describing skills test scores are 13.69 and 15.95, respectively. This data confirms a significant enhancement in post-test sub-score.

In summary, these findings bear testament to the positive influence of presentation skills on students' achievements. Furthermore, the reported standard deviation figures are also substantial (Eta squared = .28), indicating a substantial effect and significant differentiation in the categorising and describing skills evaluation sub-scores following the project-based instruction. However, it is important to note that the dispersion of the results does not provide insight into whether any of these skills are easier to learn through the adopted approach compared to the others.

In response to the query of RQ3, the qualitative results suggest that presentation preparation and delivery promotes students' Categorising and Describing skills. According to the students' reports, preparing presentations enabled them to visualise several models of descriptions in YouTube, which raised their understanding and metacognition awareness of these processes. The qualitative data also revealed that task completion was not easy for most of the students involved in the study.

However, many cases of utter plagiarism were reported. Out of 46 presentations 14 were full of 'cut and paste' materials. The students who resorted to this practice have been found to be low achievers at both the pre- and the post-test, suggesting that students with poor language ability cannot effectively follow this type of instruction. When asked why they displayed others' works without mentioning the sources or making any changes to their content, they replied that preparing and giving presentations in English is too hard for them and that they had neither the language nor the skills required for this type of task.

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One of the most important deficiencies reported in the interviews relates to students' lack of vocabulary knowledge, as evidenced in the recurring grammar, spelling and punctuation mistakes. This finding suggests that potential changes related to English language empowerment need to be introduced in the curriculum to assist students overcome these deficiencies. In the absence of a curriculum that gradually trains students improve their language skills and abilities, throughout their five-year training and education, such deficiencies would always persist.

4.5. Results for comparing and analysing skills

The analysis pertaining to the sub-skills of Comparing and Analysing demands a substantial foundation of background knowledge and higher-order thinking abilities. As evidenced by the probability value (p=.0005), there exists a noteworthy and positive distinction in the impact of presentation skills as a learning tool on students' language proficiency levels. While these figures are lower than those observed for the Categorising and Describing skills, the standard deviation data suggests a statistically significant improvement in the sub-score of the Comparing and Analysing skills test from the pre-test phase (M1=13.95; M2=14.37) and (SD1=3.37, SD2=2.53).

Furthermore, it is important to highlight that the mean increase is -1.67, with a 95% confidence interval ranging from -2.18 to -1.05. This demonstrates a discernible difference in student performance levels within the specific sub-categories under investigation between the two tests.

These results are also backed by the qualitative data. As evidenced in the students' judgments of their peers' PowerPoint and Prezi presentations, the ability to achieve the comparing and analysing skills has been improved. Admittedly, comparing and analysing have been reported to be easy for some students, but difficult for some others. It should be noted that students with good knowledge of English outperform students with language deficiencies. This suggests that before completing a presentation, students need to be familiarised with the language required for the tasks and skills to be performed. In short, these findings suggest that learning outcomes need the support of the required tools.

5. CONCLUSION

Study findings highlight the efficacy of incorporating presentations within the EFL context for enhancing students' communication skills and language proficiency. These improvements are reflected in language test scores and underscored in qualitative analyses. The development of presentation skills investigated in this study has yielded significant outcomes, leading to enhanced student performance in end-of-term language assessments. These enhancements can be attributed to students' engagement in the compilation, organisation, and analysis of diverse knowledge sets, along with the associated vocabulary and language structures.

However, it is crucial to acknowledge that certain limitations have surfaced in this instructional approach, and its success hinges on various considerations. Among these factors, two critical issues warrant attention – the need for deliberate curricular decisions that empower students to effectively utilise the English language in communication scenarios, and the progression of skills across the curriculum to ensure that every student receives tailored learning opportunities, thereby preventing any students from being left behind.

As indicated by research findings, the teaching of presentation skills within EFL courses for Engineering students requires alignment between learning objectives and methodological adjustments to cultivate effective communication skills. These findings point to the necessity of placing language proficiency at the core of the curriculum, considering factors such as students' English proficiency levels, cognitive load related to their vocational studies, aspirations, and future career paths.

In pursuit of these objectives, several measures can be implemented, including introducing learners to contemporary topics and issues that stimulate their critical thinking skills; exposing learners to functional vocabulary and grammar relevant to their vocational education and training; and fostering learning communities among students from various departments who share common interests.

The study results strongly suggest that the success of the English course depends on its alignment with educational goals and meeting students' expectations. Furthermore, the teaching of presentation skills as a pedagogical approach should be tailored to students' language backgrounds and the specific skills needed in their vocational fields. It is also essential to address communication skills that students may not have fully developed, such as illustration, analysis, and comparison skills, potentially due to a lack of prior practice in these areas.

Finally, the findings of the present study emphasise the need for further research in the realm of information technology and its impact on communication skills within English language education and EFL instruction.

Appendix 1

Dear student,

Please read the criteria included in the following list before the presentation. Keep in mind the point included while watching your peer. Then try to provide your evaluation of the work ac-cordingly. If you think a criterion is missing, you may add it to the end of the list and indicate its level of importance. In addition, if there is a term that would be hard for evaluators to understand, please ask for assistance from your friend or from the teacher. If you have any further comments about each crite-rion, you may mention it in the *Comment* column. Thank you for your cooperation.

EVALUATIVE CRITERIA						COMMENT
I. GENERAL ATTRIBUTES						
A. The presentation in relation to syllabus and curriculum						
1. It matches to the specifications of the syllabus.	⓪	①	②	③	④	
2. It matches the exigencies of a professional presentation.	⓪	①	②	③	④	
B. Methodology						
3. The presentation is well-structured.	⓪	①	②	③	④	
4. The activities are well-presented.	⓪	①	②	③	④	
C. Suitability to learners						
5. The topic is compatible with the concerns of the students.	⓪	①	②	③	④	
6. The points raised are interesting.	⓪	①	②	③	④	
7. The presentation is compatible to the needs of the learners.	⓪	①	②	③	④	
8. It is compatible to the interests of the learners.	⓪	①	②	③	④	
II. TECHNOLOGICAL ATTRIBUTES						
9. The slides are good looking.	⓪	①	②	③	④	
10. The presenters make efficient use of text and visuals.	⓪	①	②	③	④	
11. The use of the technology is adequate.	⓪	①	②	③	④	
12. The use of the technology is helpful.	⓪	①	②	③	④	
13. The visual materials presented are well understood.	⓪	①	②	③	④	
14. The presentation is sufficiently supported by clear and attractive audio-materials.	⓪	①	②	③	④	

EVALUATIVE CRITERIA						COMMENT
III. LEARNING-TEACHING CONTENT						
15. Most of the tasks in the presentation are interesting.	⓪	①	②	③	④	
16. Tasks move from simple to complex.	⓪	①	②	③	④	
17. Task objectives are achieved.	⓪	①	②	③	④	
18. Cultural sensitivities have been considered.	⓪	①	②	③	④	
IV. THE LANGUAGE						
A. General						
19. The language in the presentation is simple and easy.	⓪	①	②	③	④	
20. The situations created in the presentation are well explained.	⓪	①	②	③	④	
B. Speaking						
21. The pronunciation of the presenters is appropriate.	⓪	①	②	③	④	
22. The presenters' intonation and rhythm are up to high standards.	⓪	①	②	③	④	
23. The presenters' English is easily understood.	⓪	①	②	③	④	
C. Communication skills						
24. The points raised in the presentation are clear.	⓪	①	②	③	④	
25. The speakers gave clear definition to the topic presented.	⓪	①	②	③	④	
26. The issue debated is well defined and explained by the presenters.	⓪	①	②	③	④	
27. The points presented are illustrated sufficiently.	⓪	①	②	③	④	
28. Examples are interesting and clear.	⓪	①	②	③	④	
29. The number of ideas in each slide is appropriate.	⓪	①	②	③	④	
30. There is a good distribution (simple to complex) of ideas.	⓪	①	②	③	④	
31. The slides are well-organised.	⓪	①	②	③	④	
32. The presenters' work is analytical and efficient.	⓪	①	②	③	④	

Appendix 2. Language proficiency test

Task I. When referring to automated systems, four properties are of importance: measurement, flow, control, sensor. Match each of the following definitions to one of the above properties (2 pts). Give an example for each definition in a meaningful sentence (4 pts).

1. A device which detects or measures a physical property.	a. measurement
2. A device by which a machine is regulated.	b. flow
3. Movement of a substance, usually a liquid or gas.	c. control
4. An amount, size, or extent as established by measuring.	d. sensor

1. ....
2. ....
3. ....
4. ....

Task II. Write two meaningful sentences for each of the following prompts, using all of the following cause and effect expressions (*consequently, owing to, result in, as a result of,* etc.) and the given key words. Example of a possible cause: A high speed train has derailed *because of* excessive speed (4pts).

1. A high speed train has derailed (tension of the catenary, camber of the track, damaged coaches, burnt motor):

a. Possible cause: ....
b. Possible effect: ....

2. A chicken cannon test results in unexpected damages (frozen chicken, canon malfunction, shattered windshield, a hole in the driver's seat):

a. Possible cause: ....
b. Possible effect: ....

Task III. Write a five-paragraph essay about the most suitable environmentally friendly source of energy for Morocco being wind farms or solar towers. Justify your choice according to each source's advantages and drawbacks (10 pts).

1. Introduction (state your point of view): ....
2. Advantages of the chosen source: ....
3. Drawbacks of the other source: ....
4. Illustrate your choice, giving supportive examples: ....
5. Conclusion: ....

Task IV. Describe some of the main functions and applications of the devices below, using the following words adequately: *ensure, used, prevent, useful* (4pts).

a. Two main applications of a drill:

1. ....
2. ....

b. Two main functions of a water jet cutter:

1. ....
2. ....

Task V. Write four meaningful sentences for the following prompt, using all of the following cause and effect expressions (*consequently, owing to, result in, as a result of*) and the given key words (4pts). Prompt: A chicken cannon test's damages are unexpected. Key words: frozen chicken, canon malfunction, shattered windshield, a hole in the driver's seat. Get inspired by the following example of a possible cause: A chicken cannon is ineffective *because of* a temperature issue.

a. Possible causes:

1. ....
2. ....

b. Possible effects:

1. ....
2. ....

Task VI. Complete the conversation using the following words: *cost-effective, efficient, inefficient, reliable, uneconomical, unreliable* (6pts).

An engineer at a power station is talking to a manager.

Engineer: Given the age of these gas turbines, you'd think they would be breaking down all the time – starting to get (1) .... But that's not the case at all. They're performing perfectly well. The problem is, in terms of energy consumption, compared with modern equivalents they're just very (2) .... So financially speaking, it's just not (3) .... to keep running such (4) .... equipment.

Manager: So, we need to look at replacing them with a more economical solution before they reach the end of their planned lifespan? That's basically what you're saying?

Engineer: I think we have to, yes. If we wait until they break down, we'll still be using them in 50 years' time. In a sense, you could say they're too (5) ....

Manager: OK. And in terms of energy consumption, how (6) .... would a new installation be, comparatively?

Task VII. Consider the statements below. Compare traditional light bulbs and energy-saving light bulbs for each of the three stages (pre-use, in-use, and post-use) (4pts). According to you, which light bulb is more environmentally friendly? Justify your answer (2pts).

Traditional light bulbs are cheaper to manufacture.
Traditional light bulbs convert 95 % of the electricity they use to heat, not light.
Traditional light bulbs last 1000 hours.
Traditional light bulbs are not poisonous.
Traditional light bulbs can be thrown away with rubbish after use.
Energy-saving light bulbs take much more energy to manufacture.
Energy-saving light bulbs use up to 80% less electricity when turning energy into light.
Energy-saving light bulbs last 10000 hours.
Energy-saving light bulbs emit harmful magnetic fields.
Energy-saving light contain mercury and need to be recycled carefully.

Pre-use: ....
In-use: ....
Post-use: ....

Which light bulb is more environmentally friendly? ....

Task VIII. For each heading in the table below, choose 3 of the following items: *aluminium glass, stainless steel, copper, bricks, titanium, porcelain, plastic*. Add 1 more item of your own to each category (4pts).

NON-FERROUS METALS	CERAMICS

Task IX. Explain the difference between the following physical forces (4pts).

1. Compression and contraction: ....
2. Expansion and tension: ....

Task X. What are mechanical and non-mechanical fixings? What are their main advantages and disadvantages? Illustrate your answers using the following words: *adhesive, bolt, clip, rivet, screw, weld* (6pts).

....
....
....

Task XI. Compare the given cutting options using the phrases *ideal/perfect/especially good for + -ing, the ideal/perfect solution for, not particularly suitable/not so good if you need..., not the best solution if you don't want..., totally unsuitable/useless*. For example: Grinding / Flame-cutting (heat affected zone). *Both grinding and flame-cutting are not the best solution if you don't want a heat-affected zone* (6pts).

Here are some definitions to help you:

Sawing: abrasive cutting, removing a kerf of material. Includes cutting with toothed blades and abrasive wheels.
Milling: removal of surface layers with multiple cutting wheel passes.
Guillotining: Making straight cuts by applying pressure to shear the material.

1. Milling / Drilling with a hole-saw (for cutting timber): ....
2. Sawing / Waterjet-cutting (for cutting curved edges): ....
3. Punching/ Guillotining (for cutting thin materials): ....

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