

Integrating Soft Skills into Online EFL Classrooms Using Problem-Based Learning with Challenge Questions

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Abstract: This study proposed a soft skill integration activity for online EFL classrooms and investigated student responses. Toward this end, this study recruited 54 college students taking an English Presentation and Discussion class in South Korea. Participants were assigned into high and low-proficiency groups based on the Test of English for International Communication. This study employed questionnaire, class video recordings, and interview to obtain responses. Moreover, problem-based learning with challenge questions was applied to develop soft skills in online synchronous classes. Responses were examined in terms of whether a difference existed according to English proficiency. Major findings of this study were as follows. Regardless of proficiency levels, participants reported improvements in their IT and problem-solving skills and exhibited positive attitudes toward live online presentations via Zoom. However, this study observed significant differences in communication and teamwork skills, perceived learning, and confidence. Interviews with students with low English proficiency levels revealed that they were negatively affected by the lack of non-verbal cues, mechanical skills, and socialization time provided by online classes. Based on these results, pedagogical implications and directions for future studies are discussed.

Keywords: Soft skill; Online synchronous classes; Problem-based learning; Challenge questions; English presentation

1. Introduction

Soft skills refer to non-technical and intangible skills, such as interpersonal skills, attitude, and self-management in contrast to hard skills, which are visible, such as content-area knowledge, expertise, and technical skills [1, 2]. As documented by [3] stated that critical thinking and leadership skills should be included, whereas [4] included creativity and organizational skills. Soft skills are unique to humans and cannot be replaced by AI, so their importance and necessity should increase in the future. Korean universities are focused on nurturing students who will lead the Fourth Industrial Revolution and emphasize that competence is necessary for a changing environment instead of specific knowledge or hard skills, which may change or disappear rapidly [5]. In addition, when hiring, employers prefer potential employees who possess hard and soft skills. Many companies equate soft skills with hard skills or consider soft skills more important [6, 7]. [5] explored differences in the importance of soft skills and found that human resources managers consider soft skills more important than graduating. Undeniably, soft skills are important qualities that all graduates should possess regardless of their majors [8].

Notably, however, preparing for the complexities of the workplace culture through only hard skills is insufficient for graduates [9]. Therefore, soft skill education should be learned systematically at the university level before graduates enter society. However, the opposite is true [10]. [11] observed a difference between the competencies required by companies and those acquired through universities. Soft skills are acquired over prolonged periods [3] and require interpersonal relationships [12]. Therefore, introducing soft skills into liberal arts English classes, where interaction occurs actively, is reasonable.

However, presenting the subject matter and soft skills simultaneously is burdensome for teachers [3]. In addition, [8] pointed out that the constraints of large classroom sizes and time are barriers to the integration of

soft skills. For example, [12] and [2] mentioned the teachers' lack of awareness of various teaching methods. Moreover, with the sudden transition to online classes due to the COVID-19 pandemic, universities in Korea implemented online classes with less preparation. As a result, teachers overlooked interaction, whereas soft skill instruction was not properly implemented as the delivery of content online was a challenge by itself. According to [8], teachers should be creative and innovative in integrating soft skills in the class. However, studies on specific teaching methods or on their effectiveness are few. Therefore, the current study applies problem-based learning with challenge questions to college students to develop soft skills in online EFL classrooms. Moreover, the study examined differences in the students' responses according to the level of proficiency in English. The students focused on identifying the problem and recommending solutions [13]. Students shared the results by presenting them in English online as higher education should focus on understanding how to use knowledge and the relationship with other facts [14]. They used several soft skills during the activity, such as critical thinking, communication, IT, and problem-solving skills.

The soft skills to be considered in this paper fall into the following four categories that are common to the literature reviews: communication skills, IT skills, problem-solving skills, and teamwork skills. This study is intended to examine learners' responses to problem-based learning with challenge questions for developing soft skills in online synchronous classes.

2. Literature Review

Previous studies demonstrated that graduates lack soft skills, whereas professors find teaching soft skills with hard skills difficult. [3] pointed out that "the development of soft skills among undergraduates remains a difficult task as it involves less measurable elements" (p. 310). The author further depicted the lack of critical thinking skills due to rote learning. However, [15] pointed out that even pre-service teachers did not undergo education on soft skills. The authors researched developing an integrated soft skills training module for teacher education programs in public universities in Malaysia. The results indicated that novice teachers lacked soft skills, which were overlooked during the four-year training in universities. Therefore, [15] asserted that equipping novice teachers with soft skills lies with teacher educators. Furthermore, the authors posited that "a very effective and efficient way to inculcate soft skills is to integrate training of soft skills into the teaching of hard skills" (p. 840). Moreover, [16] suggested that teacher educators should actively practice soft skills among pre-service teachers to enhance awareness of the soft skills they are required to develop.

Several studies on soft skill integration in the curriculum were conducted. For example, [12] stressed the importance of soft skills in the foreign language classroom and proposed models that included teaching procedures and activities in the EFL classroom of southeast European University. The author suggested (1) task-based and problem-solving activities to promote creative and critical thinking and team-building skills, (2) group tasks that involved discussions and debates, such as strength, weakness, opportunities, and threat analysis for prompt critical thinking, (3) oral presentations to practice effective and concise communication, and (4) role-plays and dialogs about ethical issues and dilemmas to build interpersonal skills. In addition [17] emphasized soft skills development and noted that technical skills and knowledge account for approximately 15% of the factors for job employment, retention, and advancement. The remaining 85% percent of job success is based on soft skills. The authors listed the soft skills required by leaders. They developed a training program that suggests that learning soft skills is time-intensive. The program's success depends on expert facilitation, formal and informal support, and real-world application.

[18] incorporated group debate as a stand-alone pedagogical tool for developing soft skills for beginner-level students in South East Asia. The authors suggested a description of a three-stage debate pedagogy that includes tasks and the targeted soft skills for each stage. The study concluded that the pre-debate stage is crucial because, at this point, students set the team's position in gathering information through research and use the acquired critical thinking and problem-solving skills.

3. Method

3.1 Participants

The study recruited 54 students enrolled in the English Presentation and Discussion course at a university in Seoul. The course was elective and held once a week for 100 min across 15 weeks. The participants were

told about group discussion and presentation assignments in advance. Out of 54 students, 31 (57.4%) were male. Half of the students were freshmen ($n= 25$; 46.3%), whereas the other half was composed of 14 (26%) sophomores, 8 (14.7%) juniors, and 7 (13%) seniors. Their scores for the Test of English for International Communication ranged from 300 points to 990 points with an average score of 760, which classifies them at the upper-intermediate level. Scores above 800 were considered high proficiency, whereas scores below 800 were at the low-proficiency level. Students were divided into only two groups because there were extreme differences in English proficiency. The majors of the students varied and were classified into three groups based on the academic divisions of the university, namely, Humanities and Social Sciences ($n = 31$; 57.4%), Engineering and Sciences ($n = 18$; 33.3%), and Arts and Sports ($n = 7$; 13%). Table 1 provides a summary of the information of the participants.

Table 1. Participants

Categories	Items	<i>N</i>	%
Gender	Male	31	57.4%
	Female	23	42.6%
Year	1	25	46.3%
	2	14	26.0%
	3	8	14.7%
	4	7	13%
TOEIC Score	High (800–990)	27	50%
	Low (800 below)	27	50%
College	Humanities and Social Sciences	31	57.4%
	Engineering and Sciences	18	33.3%
	Arts and Sports	7	13.0%

3.2 Data Collection instrument and method of analysis

Quantitative and qualitative data were collected through a questionnaire, class video recordings, and interviews. For quantitative data, the questionnaire was provided to measure soft skills, perceived learning, confidence, and preference in activities via Zoom and self-report by week 15. The researcher translated and employed the questionnaire for an easy understanding of the statements. Items were rated using a five-point Likert-type scale ranging from 1 = strongly disagree to 5 = strongly agree.

Table 2 presents the seven categories of the questionnaire based on [19]'s Assessment Indicator (pp. 1894-1898), which was modified by the researcher and the levels of reliability for each category.

Table 2. Instruments for the soft skills survey and analysis of reliability scores

Category	Description	Number of items	Reliability
Soft skills: Communication skills	Able to communicate or present ideas clearly and effectively	3	.787
Soft skills: IT skills	Able to search for and select the appropriate information through IT	3	.889
Soft skills: Problem-solving skills	Able to identify problems and use different methods and sources to analyze problems	3	.913
Soft skills: Teamwork skills	Able to work together and have a serious conversation with the team	3	.801
Perceived learning	My presentation skills improved.	3	.900
Confidence	I am confident in delivering presentations.	3	.751
Zoom preference	I enjoyed my online real-time class via Zoom.	1	

Qualitative data included class video recordings and interviews. The students were instructed to record each session of a discussion in breakout sessions in Zoom, a video conferencing platform. A video file of the recording was then sent to the researcher. This method observed the behavior of students and discouraged free riders. For the interviews, 15 volunteers from each group were selected and interviewed about their opinions on using problem-based learning with challenge questions to integrate soft skills. For the semi-structured interview, the questions asked were 1) how did you like it? 2) What are the pros and cons? 3) What can be improved?

The collected data were analyzed using SPSS 25 for frequency, whereas the study conducted an independent sample *t*-test to confirm a significant difference between student groups with high and low levels of proficiency in English. Moreover, data from the short-response questions and interviews were translated.

3.3. Procedures of the study

In the first week, students were given the presentation topic (challenge questions) and guided in making a video and using Zoom through class orientation. For the next five weeks (weeks 2 to 6), students deliberated on the challenge questions step by step (Table 3). For weeks 7 to 14, the students give presentations four times in real-time at Zoom breakout sessions. After classes, a peer-grade report was submitted by referring to the rubrics in Table 4. For week 15, the students were requested to submit a video presentation as a final assignment.

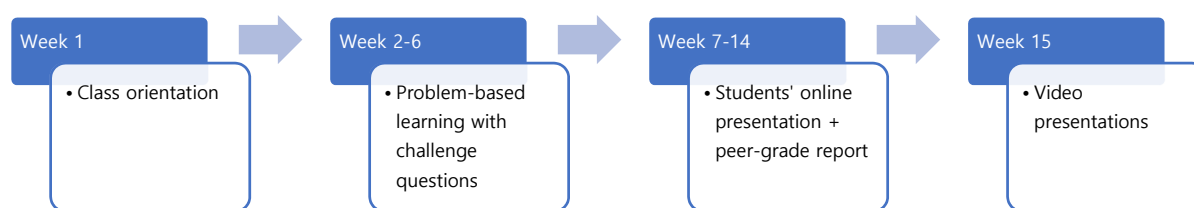


Figure 1. Class Procedures

In problem-based learning, students begin with a problem that determines what they study, and they have to present a solution to a clearly defined authentic problem. Referring to the grading rubric of [20], the researcher modified and supplemented the problem-based learning with challenge questions and used the following specific methods, as shown in Table 3.

Table 3. Challenge questions according to the grading rubric of [20]

Week	Criterion	Grading criteria	Soft skills assessed
2	Introduction and statement of objectives	-Student clearly demonstrates understanding of the problem -Informing the audience why the presentation is valuable -Provide a takeaway to maximize the message	Writing with clarity
3	Data and symptoms	-Data are complete and presented in a logical order -Use of visual aids and relatable and clear statistics	Presenting a critical observation
4	Solution	Solutions are plausible and complete.	Analyzing and summarizing
5	Recommendations, next steps, questions, and conclusions	The student has new questions and ideas generated from the major findings.	Explaining and supporting conclusions; making decisions
6	Quality of presentation	-Strong evidence of preparation and organization -Appropriate citation of works and avoidance of plagiarism	Citing valid sources; following instructions

The study adopted a scholar ignite grading rubric by [20] for the peer-grade report. Students assigned one to five points for each of the five categories as shown in Table 4 and evaluated other students' presentations for a total of 25 points. In addition to scoring, they were required to write fewer comments on their good points and

points for improvement in the presentation. The results of the anonymous peer-grade report were given to the presenters. In this manner, the students were encouraged to improve the next presentation further.

Table 4. Peer-Grade Rubric [20]

Category	Grading criterion	Soft skills assessed
Communication style	The presenter communicated the topic or information clearly and precisely; the presentation was easy to follow	Communication; listening
Comprehension	The presentation was clear and organized; the flow of ideas was clear	Strategic planning and thinking
Inspiration	The presentation was inspiring and creative	Creativity; presentation skills
Impact	The presentation improved (increased) knowledge and/or perception on the topic	Self-confidence; professionalism
Content	The information presented was pertinent and accurate	Planning and organization

4. Results and Discussion

Table 5 presents the results of the questionnaire based on the level of proficiency in English.

Table 5. Questionnaire Result

Category	Proficiency	Mean	SD	SE	t	p
Soft skills: Communication skills	High	3.89	.751	.145	3.261	.002**
	Low	3.22	.751	.145		
Soft skills: IT Skills	High	4.11	.892	.172	1.113	.271
	Low	3.85	.818	.157		
Soft skills: Problem-solving skills	High	3.67	1.209	.233	1.087	.282
	Low	3.33	1.038	.200		
Soft skills: Teamwork skills	High	3.70	1.137	.219	2.031	.047*
	Low	3.07	1.141	.220		
Perceived learning	High	4.41	.501	.096	2.668	.010*
	Low	3.96	.706	.136		
Confidence	High	4.26	.526	.101	3.129	.003**
	Low	3.67	.832	.160		
Zoom preference	High	3.96	.706	.164	.000	1.000
	Low	3.96	.854	.136		

The categories high-proficiency students and low-proficiency students each numbered 27.

Items indicating students' improvement in presentation, IT, and problem-solving skills, and Zoom preference displayed no significant difference between high and low-proficiency levels in English. However, the challenge question presentation activity was considered a suitable method for students with high levels of proficiency in English because they obtained higher scores than students with low levels of proficiency. One of the unexpected results was that both groups had the same Zoom preference score. Although the low-proficiency students had difficulty in responding in real time in English and showed low-confidence results ($p = 0.003^*$), their preference was equal to that of the high-proficiency students. The reason underlying this finding may be because all students perceived conducting the presentation class in real-time as more appropriate than using recorded videos. In addition, students enjoyed communicating with other students in small virtual meeting rooms called the Breakout Room, especially in a situation where conducting face-to-face meetings is difficult due to COVID-19. Seemingly, these environmental factors were reflected.

Items that demonstrated a significant difference between the two groups were communication skills, teamwork skills, perceived learning, and confidence. For in-depth analysis, excerpts on communication skills from the interviews with students with low English proficiency levels are presented.

Student A: Some classmates attended the Zoom class in a noisy environment like a cafe or participated in the class without preparation. It made communication difficult.

Student B: Speaking in front of a lot of people is a lot different from presenting alone in front of a computer. It was pity that I couldn't see the audience's reaction.

Since the online presentations were made in real-time, each student participated in the class in a different environment. Apart from the content of the presentation and the ability to deliver, the study observed cases where the surrounding environment was noisy, which caused a disturbance. In addition, the lack of non-verbal clues from students who opted to keep the camera off made communication difficult. Considering these comments, teachers should set up clear guidelines for online classroom management, such as avoiding distractions and using physical signals before presentations. As such, norms and routines applied to virtual classes will enable students to focus on communication.

Students with low teamwork scores generally answered that they did not give and receive feedback properly due to time constraints in the Breakout Room session. However, two students gave five-minute presentations per week and allocated 25 min for small-group meetings. Time was delayed due to students with mechanical problems, such as screen sharing, sound, or the Internet. Teachers should demonstrate Zoom's basic functions and designate a time-keeper for controlling time to solve these problems.

The students were asked if they noted improvements in their English presentation skills in terms of perceived learning. All freshmen students (7 out of 54) responded with "neither agree nor disagree," which reflected that they did not adapt well to online classes during the pandemic and felt depressed and disconnected from peers and the teacher.

Student C: As a freshman, it was difficult for me to have no one to ask because I didn't have any friends, as all classes were conducted online as soon as I entered the university.

Given that the first year of college constitutes a period with most students dropping out of school [21], extra effort and care are seemingly required to enable freshmen to adapt. Thus, helping students socialize and getting to know one another before group work can be a feasible solution.

In terms of improvement in confidence, 12 out of 54 students answered, "neither agree nor disagree" or "disagree." Moreover, 12 students were noted to possess low-proficiency levels, out of which seven were aged over 25 years. This group reported that their pronunciation and intonation quality were lower than students who lived abroad. Notably, the majority of the students who signed up for English presentation classes as an elective in liberal arts are students who are relatively fluent in spoken English. Therefore, assigning students who lived abroad or with high English proficiency levels into the same group is a more favorable option than forming heterogeneous groups.

5. Conclusions

learning intended to teach soft skills in an online English presentation class during the pandemic. Based on the results of the survey and interviews, the participants reported improvements in IT and problem-solving skills regardless of their levels of proficiency in English and provided positive feedback about live online presentations via Zoom. However, the study observed significant differences in terms of communication skills, teamwork skills, perceived learning, and confidence. According to the interviews with students with low English proficiency levels, these differences were mainly due to the online learning environment and grouping. Moreover, the lack of non-verbal cues, mechanical skills, and socialization time rendered adapting difficult. In addition, they experienced depression and loss of confidence in heterogeneous groups when communicating with students with high levels of proficiency in English.

Based on these findings, the study presents the followings suggestions. Online synchronous classes require careful planning by the teachers in terms of activities and classroom management, including the online physical environment for learning. In this manner, students can fully focus on developing language and soft skills. For instance, by setting ground rules or codes of conduct, teachers will enable participants to check the class environment independently. If they cannot turn on the video, teachers should ensure that they display active verbal responses and address technical problems. In other words, soft skills are better learned during online classes when supported by digital literacy. Thus, teachers should frequently monitor if students are struggling to learn new digital tools. For online classes, tech-savvy instructors promote a positive environment where students find learning enjoyable. In addition, homogeneous grouping can be suitable for lessening the affective filter instead of prioritizing diversity. When assigning groups online, teachers should bear in mind that assigning students to groups with similar levels of proficiency in the language, overseas backgrounds, and learning styles is beneficial and could lead to lively discussions. Teachers may also adjust their pedagogical styles according to different groups.

The current study has several limitations that future studies should acknowledge and address. For instance, this study is not generalizable to other educational settings due to the small sample size and limited period. In addition, the tool used is a self-report questionnaire; thus, results could be subjective and biased. Therefore, additional in-depth studies on diverse methods for integrating soft skills into the curriculum are recommended.

Conflicts of Interest: The authors declare no conflict of interest.

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