

RESEARCH ARTICLE

THE ROLE OF CRITICAL THINKING AND PROBLEM-SOLVING STRATEGIES IN DEVELOPING THE SPEAKING SKILL OF THE SECOND-YEAR EFL STUDENTS AT THE DEPARTMENT OF ENGLISH, SABER FACULTY OF APPLIED SCIENCES AND HUMANITIES, LAHEJ UNIVERSITY

Ruwaida Saleh Abdullah Bawahab^{1,*}, and Abdulmalik Mohammed Alawdi¹

¹ Dept. of English, Saber Faculty of Applied Sciences and Humanities, University of Lahej, Yemen

* Corresponding author: Ruwaida Saleh Abdullah Bawahab; E-mail: ruwaidabawahab@gmail.com

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Abstract

This study investigated the role of critical thinking and problem-solving strategies in developing the speaking skills among 30 second-year university students at the Department of English and Translation, Saber Faculty of Applied Sciences and Humanities, University of Lahej. The study adopted a quantitative quasi-experimental one-group pre-test and post-test design. The data were collected through a speaking test administered before and after the treatment to 30 second-year university students at the Department of English, Saber Faculty of Applied Sciences and Humanities University of Lahej. The findings revealed that the students' speaking performance improved after using critical thinking and problem-solving strategies in speaking classes. The findings revealed statistically significant improvements across all speaking criteria ($p < .001$), demonstrating that activities such as storytelling, TED Talks discussions, and problem-solving tasks significantly enhanced students' oral expression, logical reasoning, and interactive participation. Based on these findings, the study seeks to integrate critical thinking and problem-solving strategies into EFL speaking classes to enhance students' speaking performance and promote meaningful communication.

Keywords: Critical thinking; Problem-solving; EFL speaking skills; Storytelling; TED Talks; Quasi-experimental design.

Introduction

Speaking is one of the most important skills in learning English as a Foreign Language (EFL) because it helps learners to communicate effectively in academic and real-life contexts (Ur, 2012, p. 117). In recent years, university teaching has shifted from teacher-centered to learner-centered approaches to meet the needs of the 21st century (Hafni, 2018, p. 3., Fahim and Masouleh, 2012, p. 1730, Ali, 2015, p.25). Bezanilla, Fernandez-Nogueira, Poblete, and Galindo-Dominguez (2019,p.1) stated that critical thinking has a core competency that universities should integrate into their curricula and teaching practices to prepare students for academic and personal life. In this context, critical thinking and problem-solving have become important skills that help learners to analyze information, evaluate information, support their opinions, and solve problems (Paul & Elder, 2014, pp. 7–8). Therefore, EFL teachers have increasingly incorporated practical critical thinking activities into speaking lessons to help students express their ideas more effectively and improve their speaking performance ((Muhammadiyah, Mahkamova, Valiyeva, & Tojiboyev, 2020, p. 63)). Although previous studies have shown the effectiveness of these strategies in developing speaking skills, limited attention has been given to their use in the Yemeni EFL context. Therefore, the present study investigates the role of critical thinking and problem-solving strategies in developing the speaking skills of the second-year EFL students at

the Department of English and Translation at Saber Faculty of Applied Sciences and Humanities, University of Lahej.

Statement of the problem

In the Department of English and translation at Saber Faculty of Applied Sciences and Humanities, several studies have been conducted on EFL speaking instruction, particularly on teachers' beliefs about speaking classes and the challenges faced by the speaking course instructors. However, none of these studies have addressed students' voices in the speaking classroom. This research gap has motivated the researcher's curiosity to investigate this area for this study.

As an instructor in the Department of English and translation, Saber Faculty of Applied Sciences and Humanities, University of Lahej, the researcher has observed that second-year B.A. students of English need further development in their speaking skills, particularly in expressing their opinions, providing logical explanations, and engaging in meaningful communication. This may be attributed to the lack of instructional strategies that encourage active participation and promote higher-order thinking skills in speaking classes. Consequently, students may face difficulties when using English in authentic situations and responding to spontaneous questions.

For the researcher, it is crucial that the second language learners not only memorize dialogues or acquire linguistic knowledge, but also develop the ability to think critically and use the language effectively in real-life contexts. Therefore, students need to be engaged in activities that encourage analysis, problem-solving, and meaningful interaction. In this regard, critical thinking may help learners articulate their ideas effectively and perform better in speaking tasks (Ramezani, Larsari, & Kiasi, 2016, p. 197). Accordingly, this study investigates the impact of using critical thinking and problem-solving strategies on the speaking performance of Yemeni EFL university students at the Department of English and translation, Saber Faculty of Applied Sciences and Humanities, University of Lahej,

Objectives of the Study

The objectives of the study intend to:

1. Investigate the differences between the students' speaking performance before and after the experiment (Pre-test) and (post-test).
2. Determine the effectiveness of the integrated activities of critical thinking and problem-solving skills in developing second-year English students' speaking performance

Questions of the Study

The present study aims to answer the following questions:

1. What are the statistical differences between students' speaking performance before and after the experiment?
2. To what extent are the integrated activities of critical thinking and problem-solving effective in developing the second-year English students' speaking performance?

Limitations of the Study

The limitation of this study was the use of a one-group pre-test and post-test design without a control or comparison group. This study is limited to investigating the impact of using critical thinking and problem-solving strategies in developing the speaking skills among the second-year students at the Department of English and translation, Saber Faculty of Applied Sciences and Humanities, University of Lahej, during the first Semester of the academic year (2024–202. Consequently, while the findings showed an improvement in

students' speaking performance after the treatment, it is difficult to attribute this improvement only to the use of critical-thinking and problem-solving strategies. Other factors, such as the effect of taking the same test twice, students' natural development, or their general learning during the semester, may have contributed to the observed improvement. Therefore, the findings should be interpreted with caution and future studies could include a control or comparison group to provide stronger evidence of the effectiveness of critical-thinking and problem-solving strategies in developing students' speaking skills.

Literature Review

The concept of the speaking skill

According to Ur (2012, p.117), the concept of speaking is regarded as a central skill in language learning because it enables learners to use the language actively for real-life communication. At the same time, Ur also stated that students commonly value speaking more than the other skills of reading, writing and listening, because this skill is associated with knowing the language. Nafa (2023, P. 2) defined speaking skills as one of the four fundamental language skills that enable language users to communicate orally, exchange information, and express their ideas effectively. This definition includes using proper pronunciation, correct use of the grammar and vocabulary aspects as well as adopting the social interaction. Malmir and Shoorcheh (2012, p. 610) supported Nafa's view by confirming that speaking skills are one of the most important parts of learning English. As the world becomes more connected through technology, more learners want to learn how to speak English well. Learners who speak English better usually do well in school and in life.

The concept of critical thinking

Critical thinking has become an important focus in education over the past few years, as educators around the world recognized the need to develop students' thinking with the subject knowledge (Fisher, 2001, p. 1). Dewey (1910, p.6) defined critical thinking, as he outlined in his book "How We Think," "as the active, persistent, and careful consideration of any belief". This type of thinking arises when individuals face a problem that requires investigation. This means it emphasizes the importance of sound judgment by using appropriate evaluating standards to determine the value of something. In essence, Dewey's concept of reflective thinking begins with identifying a problem, raising questions, proposing possible solutions, and analyzing the results to draw tentative conclusions. Another definition belongs to Edward Glaser, the co-author of Dewey's ideas, who shared some similarities with Dewey's original definition. Glaser (as cited in Fisher, 2012, p. 3) described critical thinking as an active process that encompasses three essential elements. Firstly, it emphasized the importance of having an attitude that promotes thoughtful consideration of problems based on personal experiences. Secondly, it highlighted the necessity of possessing knowledge about logical inquiry and reasoning methods. Lastly, it emphasized the development of skills to effectively apply those methods. Glaser also recognized critical thinking as an ongoing effort involving the examination of beliefs and knowledge in light of supporting evidence and potential conclusion. According to Paul and Elder (2014) critical thinking "is the art of thinking about your thinking while you are thinking in order to make your thinking better. Critical thinking involves three interrelated phases: it analyzes thinking, it evaluates thinking, and it improves thinking" (p.1). These skills are considered important for improving students' academic achievements and communication abilities.

The concept of problem-solving

Problem- solving is closely related to critical thinking because it encourages learners to identify and solve problem. Thus, problem-solving is considered an important cognitive skill that enables individuals to identify problems, analyze information, generate possible solutions, and evaluate the effectiveness of these solutions. It involves applying knowledge in meaningful contexts and making logical decisions to overcome different challenges. Jonassen (2011, p. 3) defined problem-solving skills as the cognitive abilities that enable individuals to identify and represent problems, generate and evaluate possible solution strategies, implement

appropriate solutions, and assess their effectiveness. Similarly, Foshay and Kirkley (1998, p. 5) explained that problem-solving developed from a mechanical process into a complex cognitive activity involving higher-order thinking skills. They emphasized that effective problem-solving requires learners to identify and analyze problems, explore alternative solutions, apply appropriate strategies, and evaluate the outcomes. Therefore, problem-solving is not limited to finding correct answers but involves active reasoning, analysis, and decision-making.

The relationship between critical thinking and problem-solving skills

In the past, some writers used the terms of critical thinking and problem-solving interchangeably. According to Kemp (1963, p. 1), critical thinking includes five skills that support problem-solving: defining the problem, selecting relevant information, recognizing assumptions, developing hypotheses, and drawing valid conclusions. This shows the close relationship between critical thinking and problem-solving. This perspective demonstrates that critical thinking provides the cognitive skills which are required for effective problem-solving. Similarly, Allen and Rott, (1969, pp. 10–11) used the same abilities to define critical thinking as involving intellectual skills, such as, defining a problem, reasoning and analyzing. Moreover, Sarigoz (2012, p. 5315) defined critical thinking as the use of intellectual skills such as reasoning, analyzing, problem-solving, reading comprehension, scientific thinking, creative thinking, and making accurate judgments and decisions. This definition suggests that problem-solving is an integral component of critical thinking because it requires individuals to use these cognitive skills to make logical and informed decisions. According to Walsh and Paul (1986., p. 13), problem-solving involves a sequence of steps that go from recognizing a problem to reaching a solution, whereas critical thinking encompasses these steps as well.

The Role of Critical Thinking and Problem-Solving Skills in Developing Speaking Skills

Critical thinking plays an essential role in developing students' speaking skills because speaking requires more than using correct grammar and vocabulary. It requires learners to analyze information, organize their ideas, evaluate different perspectives, and express their opinions clearly. According to Ramezani, Larsari, and Kiasi (2016, p.197), critical thinkers are more successful in presentation activities because they can articulate their ideas effectively and answer questions confidently. They explained that critical thinkers approach speaking tasks systematically by collecting information, analyzing ideas, and making logical decisions. As a result, they can express their ideas more clearly and effectively during speaking activities.

Similarly, Osman (2021, p.2) stated that critical thinking involves analyzing and assessing information to improve the quality of thinking. Through practicing critical thinking, students become able to express themselves, consider different points of view, and communicate their ideas effectively. Therefore, integrating critical thinking activities into English language classrooms can make language learning more meaningful and improve students' oral communication skills.

Problem-solving is also considered an important skill that supports the development of speaking abilities. It enables learners to identify problems, think of possible solutions, and make appropriate decisions in different situations. In speaking activities, problem-solving helps students organize their thoughts, respond to unexpected questions, and participate in discussions more effectively. Dung Le (2024, p.377) emphasized that problem-solving skills are crucial for enhancing speaking abilities because speakers with strong problem-solving abilities can handle and adjust to spontaneous questions during speeches or presentations.

Moreover, Bakhshizadeh and Alaie (2017, pp.181–182) demonstrated that problem-solving activities improve speaking proficiency by providing meaningful contexts for language use. These activities encourage students to discuss issues, explain their opinions, and find solutions to different problems. Consequently, integrating critical thinking and problem-solving strategies into speaking classes helps students develop their ability to think logically, express their ideas clearly, and communicate effectively.

TED talks activity

TED (Technology, Entertainment, and Design) Talks are authentic educational resources that provide learners with opportunities to observe effective public speaking in real-life contexts. According to Lestary (2022, p. 26), TED Talks are valuable resources for learning public speaking skills because they go beyond traditional educational methods by covering essential aspects such as movement and gestures, eye contact, pronunciation, and body language. These features help learners understand both verbal and non-verbal aspects of communication.

Furthermore, Karimah, Setiawan, and Munir (2022, pp. 300–301) argued that TED Talks allow students to learn public speaking through authentic speeches in which speakers share their experiences, ideas, and motivations. They also explained that such exposure enables students to observe effective speaking techniques, enhances their motivation and confidence, and provides meaningful models for improving their speaking performance. Therefore, TED Talks can be considered an effective instructional resource for developing students' speaking skills through authentic language use.

Storytelling activity

Storytelling is considered an effective teaching strategy that encourages learners to express ideas through oral narration. Davies (2007, p. 5) defined storytelling is a way of bringing words to life through oral narration, making stories more vivid, engaging, and meaningful for the audience. Similarly, Anggryadi (2014, pp. 1-2) defined storytelling is an interactive activity in which a storyteller uses words and actions to present a story while encouraging the listeners' imagination through a two-way interaction. In addition to improving communication, storytelling promotes critical thinking by encouraging learners to analyze, interpret, evaluate, infer, and discuss ideas. Krieger (2006, pp. 701–702) argued that storytelling provides opportunities for students to engage in meaningful listening and speaking activities that develop critical thinking skills. The author further explained that storytelling discussions encourage learners to think deeply, express their opinions, and communicate their ideas effectively. Setyarini, Muslim, Rukmini, Yuliasri, and Mujianto (2018, p. 191) stated that integrating higher-order thinking skills into storytelling activities is important for improving EFL learners' oral competence. Therefore, storytelling can be regarded as an effective strategy for developing students' critical thinking and speaking skills.

Problem-solving activity

One effective strategy for developing both cognition and language is problem-solving. This activity presents the lesson material by using a specific problem as the starting point for analysis, synthesis and find answers or solutions by the students. It involves students identifying and addressing real-world issues within their local environments. Researchers highlight the positive impact of this strategy on language performance. For instance, Dung Le (2024, p.377) stated that problem-solving skills are crucial for enhancing speaking abilities. Speakers with strong problem-solving abilities can handle and adjust spontaneous questions during the speeches or presentations. This view aligns with (Bakhshizsdeh & Alaie, 2017, pp. 181–182) who demonstrated through their empirical work that such activities significantly improve speaking proficiency by providing meaningful context for language use to cope with different situations in real life.

Research Ethics

Informed consent was formally obtained from all the 30 participating students before the data collection. The participants were informed about the purpose of the study and the use of their audio recordings. They were assured that their responses would be kept confidential and used only for academic research.

Research Methodology

This study adopted a quantitative quasi-experimental research design using a one-group pre-test and post-test design. The oral speaking test was utilized as the only instrument to collect the required data. The collected data were analyzed using the SPSS program. The sample of the study consisted of 30 second-year students from the Department of English and Translation at Saber Faculty of Applied Sciences and Humanities, University of Lahej. The same group of students was administered the oral speaking test before and after the treatment to examine the differences in their speaking performance following the use of critical-thinking and problem-solving strategies. The pre-test and post-test results were compared to determine whether students' speaking performance improved after the treatment.

Validity and Reliability of the Oral Speaking Test

Validity

The speaking and critical thinking assessment rubric was adapted from the Intellectual Standards of Critical Thinking proposed by Paul and Elder (2014, p. 10) and further developed by Dung (2024, pp. 382–383). The rubric assessed four components: clarity, relevance, depth of analysis, and logical reasoning. Each component was rated on a five-point scale, ranging from 1 (low performance) to 5 (high performance).

To establish content validity, the oral speaking test and its rubric were reviewed by two PhD specialists in TEFL from the Department of English and translation, Saber Faculty of Science and Education, University of Lahej, and the Department of English, University of Aden. The experts evaluated the clarity, appropriateness, and relevance of the test tasks and assessment criteria to the objectives of the study. Based on their comments and suggestions, the necessary modifications were made before the test was administered. Face validity was also considered by ensuring that the test instructions and language were clear and appropriate for the students' level (Cohen, Manion, & Morrison, 2007, pp. 133, 136).

Inter-Rater Reliability

To ensure the reliability of the oral speaking and critical thinking test, inter-rater reliability was established. Inter-rater reliability refers to the degree of consistency between two or more raters who independently assess the same performance using the same scoring criteria (McKay, 2006, p. 12; Gass & Mackey, 2007, p. 292). Accordingly, the researcher and a second experienced teacher of speaking independently evaluated the students' recorded performances in both the pre-test and post-test using the same analytical scoring rubric. The two raters' scores were entered into SPSS, and Pearson's correlation coefficient was calculated to examine the consistency between their ratings. The results showed a strong positive correlation between the two raters' scores, with $r = .88$ for the pre-test and $r = .95$ for the post-test, indicating a high level of consistency in the scoring process and supporting the reliability of the oral speaking assessment.

The Oral Speaking Test as pre-test and post-test

The oral speaking test was the only instrument used to collect the required data. It was administered as a pre-test and a post-test to assess students' speaking performance before and after the implementation of critical thinking and problem-solving strategies. According to Luoma (2004, p. 9), speaking assessment measures learners' ability to use the spoken language effectively for communication in different contexts. Therefore, the oral speaking test was employed to measure students' speaking performance and to determine the effectiveness of the treatment. The test assessed four aspects of speaking performance: clarity of communication, relevance of content, logical reasoning, and depth of analysis.

General Speaking Questions Activity

Students were asked to complete a speaking task by answering four general questions. The task asked them to explain the meaning of critical thinking in their own words, talk about a time when they used critical thinking

to solve a problem, explain why critical thinking is important, and express their opinions on different topics by giving reasons and examples. Their responses were assessed using the speaking rubric, which included clarity of communication, relevance of content, logical reasoning, and depth of analysis.

Table 1: Comparison of Students' Speaking and Critical Thinking Scores on the General Questions in the Pre-test and Post-test.

Criteria	Test	N	Mean	SD	Mean Difference	T	df	P
Clarity of Speaking	Pre	30	1.81	0.79	1.80	8.57	29	0.000
	Post	30	3.61	0.99				
Relevance of Content	Pre	30	1.70	0.76	1.96	11.27	29	0.000
	Post	30	3.66	0.94				
Critical thinking in speech (Evaluation \Depth)	Pre	30	1.41	0.68	1.95	9.43	29	0.000
	Post	30	3.36	1.20				
Organization and Logical of ideas	Pre	30	1.58	0.79	1.95	9.18	29	0.000
	Post	30	3.53	1.12				
Total	Pre	30	6.51	2.85	7.67	10.07	29	0.000
	Post	30	14.18	4.11				

Findings of the General Speaking Questions Activity

For clarity of speaking criterion, the data in table above, showed that the mean score in the pre-test was (1.81), whereas it was (3.61) in the post-test. The mean difference was (1.80 [t (29) =8.57, $p < .001$], which means that there was a highly statistically significant difference between the scores of the pre-test and the post-test because the p-value was less than the (0.05) level.

These findings indicated that the students became more capable of expressing their ideas clearly and confidently when answering general questions after participating in the critical thinking and problem-solving activities. Since the general questions required spontaneous production of language, students showed a better ability to organize their thoughts and present them clearly in the post-test compared to the pre-test. This conclusion was drawn from the analysis of the students' audio recordings and their post-test scores. The recordings indicated that students used complete sentences and they expressed their ideas with more clarity.

Regarding the relevance of content criterion, the data in table, revealed that the mean score of the students in the pre-test was (1.70), whereas it increased to (3.66) in the post-test. The mean difference was (1.96) [t (29) =11.27, $p < .001$] which means there was a highly statistically significant difference between the pre-test and post-test scores because the p-value was less than the significance level of (0.05).

Accordingly, these findings indicated that the students' responses in the post-test were more closely than those in the pre-test. This conclusion was drawn from the analysis of the students' audio recordings, which showed that most of the students remained focused on the topic and provided answers that were directly connected to the questions, with fewer irrelevant ideas than in the pre-test.

With regard to evaluation and depth, the data in table above demonstrated that the students achieved a mean score of (1.41) in the pre-test, whereas they achieved (3.36) in the post-test. The mean difference was (1.95) [t (29) =9.43, $p < .001$], which means that there was a highly significant difference between the students' performance in the pre-test and the post-test because the p-value was less than the significant level (0.05).

Thus, the finding revealed that the students achieved higher scores in the post-test rather than in the pre-test regarding evaluation and depth. These results also indicated that the students became more able to provide explanation, justification, and evaluation rather than giving superficial responses to the questions as it has shown from the students' recordings performances.

As has been shown in table above, for the organization and logical sequence of ideas criterion, the statistical data showed an increase in the mean score from (1.58) in the pre-test to (3.53) in the post-test, and the mean difference was $[t(29)=9.18, p < .001]$, which means that there was a highly significant difference between the students' scores in the pre-test and the post-test because the p-value was less than the (0.05) level.

Accordingly, the findings revealed that the students achieved higher scores in the post-test than in the pre-test. These results showed that the students became more capable of arranging their ideas in a logical sequence when answering general questions. It appeared clearly with the development of the previous criteria because students who expressed their ideas clearly, remained focused on the topic, and provided deeper explanations were able to organize their answers logically.

Storytelling Activity (The Hare and the Tortoise)

Students were asked to complete a storytelling task based on The Hare and the Tortoise story. The task asked them to retell the story, express their opinions about the characters' actions, justify whether they agreed or disagreed with the characters' decisions, and predict how the story might change if the characters made different choices. Their responses were evaluated using the speaking rubric, which included clarity of communication, relevance of content, logical reasoning, and depth of analysis.

Table 2: Comparing the Students' Speaking Skill and Critical Thinking Skill Results in the Storytelling Questions the Pre-test and the Post-test

Criteria	Test	N	Mean	SD	Mean Difference	T	df	P
Clarity of Speaking	Pre	30	2.18	0.82	1.68	11.31	29	0.000
	Post	30	3.86	0.96				
Relevance of Content	Pre	30	2.23	0.86	1.85	10.12	29	0.000
	Post	30	4.08	0.85				
Critical thinking in speech (Evaluation \Depth).	Pre	30	1.55	0.68	1.88	11.62	29	0.000
	Post	30	3.43	1.04				
Organization and Logical of ideas	Pre	30	1.91	0.77	1.89	12.79	29	0.000
	Post	30	3.80	0.99				
Total	Pre	30	7.88	2.83	7.30	14.20	29	0.000
	Post	30	15.18	3.51				

Findings of the storytelling activity

As shown in table (2), the statistical data for the clarity criterion in the storytelling activity reached (2.18) in the pre-test and (3.86) in the post-test. The average difference was $[t(29) = 11.31, p < .001]$ which indicated that there was a significant difference between the students' scores in the pre-test and the post-test in favor of the post-test because the p-value was less than (0.05). Thus, the data showed that students obtained higher scores in the post-test compared to the pre-test in the clarity of speaking in storytelling activities.

These findings indicated that storytelling activities significantly improved students' ability to express ideas clearly and confidently while telling stories. Because storytelling provided opportunities for learners to retell events, describe characters, and explain situations using their own words. Such practices encouraged students to communicate more fluently and effectively. The researcher reached to this conclusion from the students' performance in the oral speaking test and their interaction in the speaking classes.

Concerning the relevance of content criterion, the data in the table (2) above showed that there was an improvement in the students' ability to provide responses that were relevant to the storytelling tasks. The mean score increased from (2.23) in the pre-test to (4.08) in the post-test, with a mean difference of (1.85) $[t(29)$

=10.12, $p < .001$]. In addition, the data in the table above showed that there was a significant difference between the pre-test and the post-test in favor of the post-test.

Based on these statistical findings and the analysis of the students' audio recordings, the researcher concluded that the students became more capable of providing responses that were directly related to the story and supporting their ideas with appropriate details. The audio recordings showed that most of the students remained focused on the events of the story. They included fewer irrelevant ideas, and they provided responses that were more closely connected to the storytelling tasks than those in the pre-test.

The data of evaluation and analysis in table (2) above showed that the students achieved a mean score of (1.55) in the pre-test, whereas it was (3.43) in the post-test. The mean difference was (1.88) [$t(29) = 11.62$, $p < .001$]. There was a highly significant difference between the students' performance in the pre-test and the post-test in favor of the post-test.

The significant improvement indicated that the students became more capable of evaluating characters' actions, expressing personal viewpoints, predicting alternative events, and justifying their opinions logically. This outcome can be directly linked to the critical thinking questions which were included in the storytelling activity. In addition, this activity encouraged students to move beyond simple retelling and engage in analysis, evaluation, and interpretation.

The data in table (2) above indicated that the mean score for the students' organization and logical presentation of ideas was (1.91) in the pre-test, whereas it was (3.80) in the post-test. The mean difference was (1.89) [$t(29) = 12.79$, $p < .001$]. These results mean that there was an improvement between the students' performance in the pre-test and the post-test in favor of the post-test. As a result of the high scores in the organization and logical presentation of ideas during storytelling activities, students became more capable of arranging events and ideas in a coherent and logical sequence.

TED Talk Activity

Students were asked to complete a speaking task based on a TED Talk they had watched. The task asked them to explain the main idea of the TED Talk, state whether they agreed or disagreed with the speaker's opinion and explain why, and describe the speaker's presentation by commenting on the body language, voice, eye contact, and the order of the ideas. Their responses were assessed using the speaking rubric, which included clarity of communication, relevance of content, logical reasoning, and depth of analysis.

Table 3: Comparing the Students' Speaking Skill and Critical Thinking Skill Results of the Ted Talks Questions the Pre-test and the Post-test

Criteria	Test	N	Mean	SD	Mean Difference	T	df	P
Clarity of Speaking	Pre	30	1.55	0.83	1.93	10.10	29	0.000
	Post	30	3.48	1.09				
Relevance of Content	Pre	30	1.45	0.73	2.31	12.63	29	0.000
	Post	30	3.76	1.00				
Critical thinking in speech (Evaluation \Depth).	Pre	30	1.26	0.55	1.85	9.56	29	0.000
	Post	30	3.11	1.20				
Organization and Logical of ideas	Pre	30	1.36	0.66	2.00	10.59	29	0.000
	Post	30	3.36	1.14				
Total	Pre	30	5.63	2.70	8.10	11.36	29	0.000
	Post	30	13.73	4.26				

Findings of the TED Talks activity

The data in table (3) revealed an improvement in the students' clarity during the TED Talks activity. The mean score increased from (1.55) in the pre-test to (3.48) in the post-test, with a mean difference of (1.93) [$t(29) = 10.10$, $p < .001$] which indicated that there was a highly significant difference between the students' performance in the pre-test and in the post-test in favor of the post-test because the p-value was less than the significant level (0.05). The researcher concluded from the student's performances before and after the experiment that they became more capable of expressing their ideas clearly after listening and discussing TED Talks.

The data in table (3) also showed a notable improvement in the relevance of students' spoken content. The mean score increased from (1.45) in the pre-test to (3.76) in the post-test, with a mean difference of (2.31) [$t(29) = 12.63$, $p < .001$]. Since the p-value was below the significance level (0.05), the difference was statistically significant in favor of the post-test. It was noticed that this criterion achieved the highest improvement among the other TED Talks criteria. This finding indicated that students became more capable of identifying central ideas and maintaining focus on the discussed topic of the TED Talks activities.

In table (3) above, it can be noticed that students obtained a mean score of (1.26) in critical thinking and problem-solving (Evaluation and Depth) in the pre-test, while they obtained (3.11) in the post-test, with a mean difference of (1.85) [$t(29) = 9.56$, $p < .001$]. Thus, these findings indicated that students became more able of evaluating ideas, interpreting viewpoints, and providing justified opinions. As a result of TED Talks activities encouraged students to go beyond simple comprehension toward analysis and evaluation. This finding supported the findings of Karimah, Setiawan, and Munir (2022), who argued that TED Talks enhance both critical thinking and speaking skills by engaging learners with meaningful content.

As shown in table (3) above, the statistical findings of the organization and logical presentation of ideas criterion showed that the students obtained (1.36) as the mean score in the pre-test, whereas they obtained (3.36) in the post-test. The mean difference was (2.00) [$t(29) = 10.59$, $p < .001$], which indicated that there was a highly significant difference between the students' scores in the pre-test and their scores in the post-test in favor of the post-test regarding the organization and logical presentation of ideas criterion because the p-value was less than the significance level (0.05).

Therefore, the findings showed that the students achieved better scores in the post-test than in the pre-test regarding to the organization and logical presentation of ideas. This improvement suggested that exposing students to authentic spoken and engaging them in analysis, evaluation, and discussion enhance their ability to organize and present their ideas logically. During the experimental period, the researcher also observed that the students became more confidence and coherent in presenting their responses. This finding supported by Pell (2015) emphasized that discussion and critique activities encouraged students to organize and defend their ideas logically.

Problem-Solving Activity

Students were asked to complete a speaking task by talking about a real problem they had faced. The task asked them to describe the problem, explain how they solved it, say whether the solution was effective and give reasons, and explain how they would solve the same problem if it happened again. Their responses were assessed using the speaking rubric, which included clarity of communication, relevance of content, logical reasoning, and depth of analysis.

Table 4: Comparing the Students' Speaking Skill and Critical Thinking Skill Results of the Problem-Solving Questions in the Pre-test and the Post-test

Criteria	Test	N	Mean	SD	Mean Difference	T	Df	P
Clarity of Speaking	Pre	30	1.58	0.69	1.70	7.99	29	0.000
	Post	30	3.28	1.18				
Relevance of Content	Pre	30	1.41	0.64	2.02	8.70	29	0.000
	Post	30	3.43	1.26				
Critical thinking in speech (Evaluation \Depth).	Pre	30	1.21	0.52	1.62	7.28	29	0.000
	Post	30	2.83	1.31				
Organization and Logical of ideas	Pre	30	1.36	0.65	1.80	7.97	29	0.000
	Post	30	3.16	1.26				
Total	Pre	30	5.58	2.30	7.13	8.56	29	0.000
	Post	30	12.71	4.84				

Findings of the Problem-solving activity

The data in table (4) above revealed a significant improvement in students' clarity of speaking. The mean score was (1.58) in the pre-test, whereas the mean score was (3.28) in the post-test. The mean difference was (1.70) [$t(29) = 7.99, p < .001$] because the p-value was less than the significance level (0.05). The data indicated that there was a highly statistically significant difference between the students' scores in the pre-test and the post-test in favor of the post-test.

Therefore, the findings indicated that the students achieved better performance in clarity of speaking during the Problem-Solving Questions activity. As a result of problem-solving tasks required from the students to specify the main reasons for the problem, discuss solutions, and justify their decisions. In addition, the given problems were related to students' lives so they were encouraged to communicate precisely as it was noted by the researcher during the experimental period and the students' scores in the pre-test and the post-test.

From the data in table (4) above, it can be noticed that the importance of the content criteria in the Problem-Solving Questions activity improved significantly. The mean score increased from (1.41) in the pre-test to (3.43) in the post-test. The mean difference was (2.02) [$t(29) = 8.70, p < .001$] because the p-value was less than the significance level (0.05) which means there was a highly statistically significant difference between the students' scores in favor of the post-test.

It was also noted that this criteria achieved the highest average score among the four speaking standards in the post-test. These findings indicated that students became more focus on relevant ideas and provided responses and solutions directly related to the problem under discussion. Because, it required learners to analyze specific situations, identify the causes of problems, and propose appropriate solutions. As a result, students were encouraged to focus on relevant information and avoid irrelevant details. This conclusion was clearly seen from the students' performances in the pre-test and the post-test. This result was consistent with Idris, Ahmed, and Balango (2021), who found that problem-based learning enhanced students' ability to discuss issues meaningfully and provide relevant responses during speaking activities.

The data in Table (4) above, clearly showed that the mean score of the students in the pre-test was (1.41), whereas it was (3.36) in the post-test in the critical thinking (evaluation and depth) criteria. The mean difference was (1.95) [$t(29) = 9.43, p < .001$] which means that there was a highly significant difference between the students' performance in the pre-test and their performance in the post-test in favor of the post-test because the p-value was less than the (0.05) level.

Hence, the findings indicated that the students achieved higher scores in the post-test than their scores in the pre-test in relation to critical thinking in speaking (evaluation and depth) during the problem-solving

questions activity. This improvement demonstrated that students became able to analyze situations, evaluate, justify their opinions, and give deeper responses. Consequently, students moved beyond simple responses and engaged in higher-order thinking while they spoke as it was seen by the researcher in the experimental period. These findings aligned with Paul and Elder (2020), who emphasized that critical thinking involves analysis, evaluation, reasoning, and judgment, as discussed in detail in chapter two.

As can be seen in table (4) above, the data indicated that the mean score of the students in the organization and logical presentation of ideas criterion was (1.58) in the pre-test whereas it was (3.53) in the post-test. The mean difference was (1.95) [$t(29) = 9.18, p < .001$] which means that there was a highly significant difference between the students' performance in the pre-test and their performance in the post-test in favor of the post-test because the p-value was less than the (0.05) level. Hence, the findings indicated that the students got higher scores in the post-test than their scores in the pre-test in relation to the organization and logical presentation of ideas during the problem-solving questions activity.

The findings of the entire table above supported the first objective of the study and answered the first research question by demonstrating the effectiveness of critical thinking and problem-solving strategies in improving students' speaking performance.

To determine the effectiveness of the integrated activities of critical thinking and problem-solving strategies in developing students' speaking skills, the mean scores obtained by students in the General Questions, Storytelling, TED Talks, and Problem-Solving activities were compared before and after the treatment. The comparison between the pre-test and post-test results is presented in Table (5).

Table 5: Comparing the students' Speaking Skill and Critical Thinking Skill Results of the integrated activities in the Pre-test and the Post-test

Type of Activities	Test	N	Mean	SD	Mean Difference	T	df	P
General Questions	Pre	30	6.51	2.85	7.67	10.07	29	0.000
	Post	30	14.18	4.11				
Storytelling Questions	Pre	30	7.88	2.83	7.30	14.20	29	0.000
	Post	30	15.18	3.51				
Ted Talks Questions	Pre	30	5.63	2.70	8.10	11.36	29	0.000
	Post	30	13.73	4.26				
Problem Solving Questions	Pre	30	5.58	2.30	7.13	8.56	29	0.000
	Post	30	12.71	4.84				
Total	Pre	30	25.61	9.14	30.20	13.44	29	0.000
	Post	30	55.81	14.80				

As shown in table (5) above, the results indicated the statistical significant differences were found between the students' pre-test and post-test scores in the integrated activities. It revealed that the Storytelling activity achieved the highest post-test mean score (15.18), followed by the General Questions activity (14.18), then the TED Talks activity (13.73), and the last one the Problem-Solving activity (12.71). Likewise, the largest mean difference was observed in the TED Talks activity (8.10), followed by the General Questions activity (7.67), then the Storytelling activity (7.30), and the last one the Problem-Solving activity (7.13). Since the p-value for all the four activities was less than (0.05), the differences were statistically significant in favor of the post-test.

These findings indicated that these integrated activities were effective in improving students' speaking and critical thinking skills. However, the Storytelling activity appeared to be the most effective in terms of students' final performance, as it obtained the highest post-test mean score. This was achieved by providing students with the opportunity to retell events, express opinions, evaluate characters' actions, and predict alternative outcomes, which encouraged them to integrate speaking skills with critical thinking processes. Therefore, these

findings supported the third objective of the study and provided evidence for answering the third research question concerning the effectiveness of the four integrated activities in developing students' speaking performance.

Conclusion of the Main Findings

The findings of the present study reveal that the integrating critical thinking and problem-solving strategies into EFL speaking instruction significantly improved the speaking performance of the second-year students at the Department of English and translation, Saber Faculty of Applied Sciences and Humanities, University of Lahej. The comparison between the pre-test and post-test results showed significant improvements in all speaking assessment criteria, including the clarity of speaking, relevance of content, depth and analysis, and the organization and logical sequence. These findings reveal that students became more able to express their ideas clearly, organize their responses logically, provide relevant supporting ideas, and evaluate issues critically while speaking.

The findings also indicate that the instructional activities implemented during the treatment, namely storytelling, TED Talks, problem-solving tasks, and critical thinking questions, played an important role in developing students' speaking performance. These activities encourage learners to analyze information, justify their opinions, solve problems collaboratively, and communicate their ideas more confidently and meaningfully. In short, the integration of different activities created an interactive learning environment that promoted both higher-order thinking and oral communication.

Furthermore, the findings are consistent with several previous studies, including Zare and Othman (2015), Ramezani et al. (2016), Zuhriyah (2017), Bakhshizadeh and Alaie (2017), Sailun and Idayani (2018), and Abdelazim and Huda (2023), they all reported positive effects of critical thinking and problem-solving strategies on EFL learners' speaking performance. Finally, the present study contributes to the Yemeni EFL context by showing that the integration of multiple critical thinking activities into speaking instruction was an effective approach for enhancing university students' speaking skills..

Recommendations

According to the results of this study, the researcher provides the following recommendations:

1. It is recommended that educational institutions should consider offering Critical Thinking and Problem-Solving as a standalone course.
2. It is recommended for further studies to extend the treatment over two academic semesters providing students with more practice.
3. It is recommended for further research to examine the effect of critical thinking and problem-solving strategies on other language skills, such as writing, reading, and listening.
4. It is recommended for further studies to use other critical thinking activities, such as picture analysis.
5. It is suggested to investigate the relationship between critical thinking skills and students' motivation, self-confidence, and communication anxiety.
6. It is recommended to redo this study with different samples at other universities.

Conclusion

This study aimed to investigate the impact of using critical thinking and problem-solving strategies on developing the speaking skills of the second-year students at the Department of English and translation, Saber Faculty of Applied Sciences and Humanities, University of Lahej. The findings showed that these strategies improved students' speaking performance, especially in clarity of communication, relevance of content, logical

reasoning, and depth of analysis. The study also found that storytelling, TED Talks, and problem-solving activities supported students' speaking development. Therefore, the study recommends integrating these strategies into EFL speaking classes to improve students' speaking skills.

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مقالة بحثية

دور استراتيجيات التفكير الناقد وحل المشكلات في تنمية مهارات التحدث لدى طلبة اللغة الإنجليزية كلغة أجنبية في المستوى الثاني، كلية صبر للعلوم التطبيقية والإنسانية، جامعة لحج

رويدا صالح عبدالله باوهاب^{1*}، عبد الملك محمد العودي¹¹ قسم اللغة الإنجليزية والتربية، كلية صبر للعلوم التطبيقية والإنسانية، جامعه لحج

* الباحث الممثل: رويدا صالح عبدالله باوهاب، البريد الإلكتروني: ruwaidabawahab@gmail.com

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المُلخَص

تُعد مهارة التحدث من أهم المهارات في تعلم اللغة الإنجليزية كلغة أجنبية، لأنها تساعد الطلبة على التواصل والتعبير عن أفكارهم بوضوح. وقد استخدمت العديد من الاستراتيجيات لتطوير هذه المهارة، ومن أهمها استراتيجيات التفكير الناقد وحل المشكلات. كما هدفت هذه الدراسة إلى التعرف على دور استخدام هذه الاستراتيجيات في تنمية مهارات التحدث لدى طلبة اللغة الإنجليزية كلغة أجنبية، وقياس مدى فاعليتها في تحسين أدائهم في التحدث. واعتمدت هذه الدراسة على المنهج شبه التجريبي، واستخدمت اختباراً للتحدث قبل تنفيذ البرنامج وبعده على عينة مكونة من (30) طالباً وطالبة من طلبة السنة الثانية بقسم اللغة الإنجليزية، كلية العلوم والتربية-صبر، جامعة لحج. أظهرت نتائج الدراسة تحسناً واضحاً في أداء الطلبة في مهارة التحدث بعد استخدام استراتيجيات التفكير الناقد وحل المشكلات. كما تحسنت قدرتهم على التعبير عن أفكارهم بصورة أوضح، وتنظيم إجاباتهم، وتقديم تفسيرات منطقية، والمشاركة بفاعلية أكبر في أنشطة التحدث. وأظهرت النتائج أيضاً أن الأنشطة المستخدمة، مثل نشاط حل المشكلات، ورواية القصص على توفير بيئة تعليمية أكثر تفاعلاً، كما ساعدت على تنمية مهارات التحدث لدى الطلبة. وفي ضوء هذه النتائج، أوصت الدراسة بدمج استراتيجيات التفكير الناقد وحل المشكلات في تدريس مهارة التحدث في اللغة الإنجليزية؛ لما لها من دور في تحسين أداء الطلبة وتنمية قدرتهم على التواصل بصورة أفضل.

الكلمات المفتاحية: التفكير الناقد؛ حل المشكلات؛ مهارات التحدث باللغة الإنجليزية للناطقين بلغات أخرى؛ سرد القصص؛ محادثات (TED Talks)؛ التصميم الشبه التجريبي.

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