

YEDITEPE UNIVERSITY
GRADUATE SCHOOL OF EDUCATIONAL SCIENCES

**THE EFFECT OF TECHNOLOGY-ENHANCED PROBLEM-
CENTERED CURRICULUM ON LANGUAGE LEARNERS' ORAL
COMMUNICATION SKILLS IN HIGHER EDUCATION**

GÖRKEM SATAK

ISTANBUL, 2023



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CURRICULUM ON LANGUAGE LEARNERS' ORAL COMMUNICATION
SKILLS IN HIGHER EDUCATION**

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BY
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ABSTRACT

The Effect of Technology Enhanced Problem-Centered Curriculum on Language Learners' Oral Communication Skills in Higher Education

The purpose of this research is to examine the effects of technology-enhanced problem-based curriculum on English language learners' oral communication skills in higher education.

This quasi-experimental research was conducted on 60 English Preparatory Program students at Sabancı University in the Fall 2021-22 academic year. The study was carried out across four classes, with two designated as the experimental group and the remaining two as the control group. Both the experimental group (N=30) and control group (N=30) were formed randomly among the existing A2+ level learners. Treatments, provided by the three instructors, lasted for eight consecutive weeks (24 hours of instruction in total), six weeks face-to-face and two weeks online. The control group received traditional instruction while the experimental group was given PBL instruction.

The dependent variables of the study were learners' idea development, interaction, fluency, and coherence as well as the use of language skills, and overall oral assessment performance which was the total of the four components. The research is based on a quasi-experimental, pre-post-test design. Both quantitative data and qualitative data were gathered and analyzed. Qualitative data was collected through semi-structured interviews and feedback sheets. The results showed that students found the PBL instruction challenging yet beneficial. Quantitative data was gathered via pretest and posttest. The collected statistical data were analyzed through Independent Sample T-tests. The results indicated that there is a statistically significant mean difference between groups on the scores of idea development, fluency and coherence, use of language skills, and overall oral assessment performance. However, there is no statistically significant difference in the interaction component.

Keywords: English Language Teaching, Oral Communication Competencies, Problem-Centered Curriculum

ÖZET

Teknoloji Destekli Sorun Merkezli Program Tasarımının Yükseköğretimde Okuyan Yabancı Dil Öğrencilerinin Sözlü İletişim Becerilerine Etkisi

Bu çalışmanın amacı teknoloji destekli probleme dayalı öğrenme (PBL) programını yüksek öğretimde okuyan dil öğrencilerinin konuşma becerilerine olan etkisini incelemektir. Çalışma 2021-2022 Güz döneminde Sabancı Üniversitesi İngilizce Hazırlık Bölümünde toplam 60 öğrencinin katılımıyla gerçekleştirilmiştir. Çalışma iki sınıf deney grubu ve iki sınıf kontrol grubu olmak üzere dört sınıftan oluşmuştur. Deney grubu (N=30) ve kontrol grubu (N=30) A2+ seviyesinde olan öğrenciler arasından rastgele atanmıştır. Üç öğretmen tarafından verilen uygulamalar ilk altı haftası yüz yüze son iki haftası eş zamanlı uzaktan eğitim olarak art arda sekiz hafta boyunca (toplam 24 ders saati) sürmüştür. Deney grubuna probleme dayalı öğrenme çalışması yapılırken kontrol grubuna geleneksel eğitim uygulaması yapılmıştır.

Çalışmanın bağımlı değişkeni öğrencilerin fikir geliştirme, etkileşim, akıcılık ve tutarlılık, dil kullanımı becerileri ve bu dört bileşenin oluşturduğu genel sözlü değerlendirme performansıdır. Çalışma yarı-deneysel öntest-sontest tasarım kullanılarak yapılmıştır. Hem nicel hem de nitel veriler toplanmış ve analiz edilmiştir. Nitel veriler yarı-yapılandırılmış görüşmeler ve geribildirim formları kullanılarak toplanmıştır. Bu verilerin analizi öğrencilerin probleme dayalı öğrenmeyi zorlayıcı ama faydalı bulduğunu göstermiştir. Nicel veriler ise öntest ve sontest kullanılarak elde edilmiştir. Toplanan istatistik veri Bağımsız T-Test kullanılarak analiz edilmiştir. Gruplar arasında istatistiksel olarak fikir geliştirme, akıcılık ve tutarlılık, dil kullanımı becerileri ve bu dört bileşenin oluşturduğu genel sözlü değerlendirme performansında anlamlı ortalama fark bulunmuştur. Etkileşim bileşeninde anlamlı bir ortalama farkı bulunmamıştır.

Anahtar Kelimeler: İngilizce Dil Öğretimi, Probleme Dayalı Öğrenme, Sözel İletişim Becerileri

DEDICATION

I dedicate this dissertation to my cherished grandmother, Kamile Tanrıöver. Her indomitable spirit has always been a beacon of inspiration in various aspects of my life. Her enduring support and belief in my abilities have fueled my pursuit of knowledge. This work is a tribute to her, a remarkable woman whose influence continues to shape my life. With heartfelt gratitude for the love and strength, she has bestowed upon me.



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LIST OF ABBREVIATIONS

CLE	Cognitive Learning Environments
PBL	Problem-Based Learning
Q-PBL	Question-driven PBL
ELT	English Language Teaching
EAP	English for Academic Purposes
CEFR	Common European Framework
HE	Higher Education
SDG	United Nations' Sustainable Development Goals
R2	Route 2
OA1	Oral Assessment 1
OA2	Oral Assessment 2

1. INTRODUCTION

Effective oral communication competencies are at the core of English language learning. It stands as the paramount skill sought by students and the ultimate goal of educational institutions. However, its attainment proves intricate and demanding due to its contingent nature and the diverse array of communication skills it encompasses. However, teaching and learning in traditional ways such as focusing on grammar as well as vocabulary help neither learners nor institutions achieve their goals. A variety of research results have indicated that speaking is much more than knowing grammar and vocabulary and that it includes a wide range of certain competencies and different kinds of knowledge. (Thornbury, 2006, p.1).

Communicative competence, which is one of the main concepts of the communicative approach, is the ability to comprehend and use the target language effectively to communicate in real social and academic contexts. Communicative competence which is a requirement for successful communication, includes four components: Linguistic Competence, Strategic Competence, Discourse Competence, and Socio-linguistic Competence. Thus, although grammar is a prominent dimension of language learning, solely teaching it or focusing on it more is not effective in teaching and learning a second language since a learner can learn the grammatical rules in a language and still cannot use the language effectively for meaningful communication (Brown, 2007; Thornbury, 2006).

The approach that guarantees achievement in effective oral communication competencies in language learning is to provide language learners abundant opportunities where they engage in meaningful and purposeful interaction in the target language (Belcher, 1999). In recent years, there has been a major transformation from considering language learners as “independent information-processing machines” to treating them as “social beings” (Zhao 1997; p.45).

It is crucial to encourage language learners to communicate in the target language; thus, ample opportunities need to be provided for them to practice and improve their oral communication competencies. However, although the importance of speaking practice has been acknowledged, some speaking activities do not go beyond the exercises and drills,

where learners repeat chunks or sentences with particular language patterns and read aloud dialogues based on selected scenarios (Goh & Burns, 2012, p. 218). These types of activities may benefit learners to some extent; yet, they do not provide the opportunity to prepare them for the real-world communication. In other words, they do not offer learners authentic learning contexts where the cognitive demand is coherent with the cognitive demand of the real world for which students are educated (Honebein, et.al., 1993).

Although accuracy is an important aspect of speaking, merely focusing on it does not sufficiently prepare them for the real-life context which they need to perform. To assist learners develop their oral communication competencies, speaking tasks which are presented to learners need to be based on “authentic communicative contexts” (Goh & Burns, 2012, p.218). Learners need to engage with contexts that align with their real-world requirements, including using English for academic purposes.

In real-life, language learners speak with a purpose in mind. Tasks offered to them in class need to align with the purpose learners have in mind. Information-gap activities such as finding out factual information as well as opinion-gap activities including asking others’ opinions about a topic or problem require genuine communication among peers. “An example of such as task is when we present learners with a specific problem for which a solution is required” (Goh & Burns, 2012, p. 219). In opinion-gap activities which are more challenging than information-gap fill activities as they may require more “advanced oral communication skills such as negotiating agreement, listening skills such as making inferences and predictions” (Goh & Burns, 2012, p. 219). To enable learners engage in such activities, instructors need to find out topics that are relevant to learners’ background and interests. Thus, when learners encounter challenges appropriate to their level, they can better express the message they want to convey.

To be able to express thoughts in a meaningful and organized way and develop ideas with supporting explanations, examples and evidence, it is important to nurture critical thinking skills. Because critical thinking skills include skillfully posing important questions and challenges by expressing them with clarity, gathering and evaluating pertinent information by employing abstract concepts to interpret it, arriving at reasoned, sound judgements, conclusions and remedies by assessing them against appropriate principles, engaging in open-minded thinking across different thought frameworks, and communicating effectively

with others to collaboratively solve intricate problems (Paul & Elder, 2003). Critical thinking can significantly influence how students develop their ideas and communicate them.

To foster the development of students' critical thinking skills, it's essential that there is a multifaceted approach. In the core process of critical thinking, students address a problem or question and then they evaluate it by using the components of reasoning which are clarity, accuracy, precision, relevance, depth, breadth, logic, significance and fairness (Nosich, 2005; Paul & Elder, 2003). Problem-solving exercises, coupled with opportunities for creative thinking, help students apply these skills in real-world contexts. In addition, students must become adept at evaluating the quality and reliability of information and arguments, honing their information literacy. As Duch (2001) mentions, open-mindedness, self-reflection, and the ability to communicate ideas effectively are also vital components. Moreover, social negotiation is necessary to allow students to practice these skills and check their understanding.

Critical thinking skill is self-directed, self-monitored, self-disciplined and self-corrective thinking; however, it worth noting that it could also be developed through social negotiation as learners have the opportunity to evaluate a problem from various perspectives and find the causes that support these different perspectives so that the optimal solution could be chosen (Bacon & Thayer-Bacon, 1993). According to Bacon and Thayer-Bacon (1993), students need to engage in exercises to enhance their language abilities. Practicing it in class develops both learners' communication and thinking abilities. However, they also highlight that learners need to be given practicing "real-talk" opportunities where talking flows naturally but prompts reflection rather than passive traditional classroom talk such as teacher-led discussions (Bacon & Thayer-Bacon, 1993, p. 182).

Collaborative real-talk opportunities could be provided by integrating real-life problems into speaking classes which challenge learners to think critically, analyze information, make informed decisions and communicate effectively. Because using authentic problems in speaking classes which is valuable in academic settings offer learners meaningful and complex scenarios that require analysis, evaluation, synthesis and effective communication. Thus, critical thinking could also develop through "sustained interchange around collective perspectives" and problems that are open-ended, keep learners motivated, and encourage them in using different types of knowledge and abilities (Savin-Baden & Major, 2004, pp. 59-60).

As stated by Jonassen (2011), curriculum designs based on problem-solving, grounded in educational philosophies such as pragmatism, progressivism, and reconstructionism, represent a significant change in educational curriculum history. In higher education (HE), as Savin-Baden states (2000), problem-based learning is worth being excited about because its implementation can open up a variety of creative and valuable opportunities which ultimately enhance learners' learning experiences. It is an approach that focuses on unaddressed social problems and intend to raise knowledgeable as well as critical thinkers who can provide solutions to the major problems of the society.

It is essential to provide learners with ample comprehensible input which is acquired from exposure to real texts and genuine instances of language use in communication, rather than depending solely on materials designed specifically for teaching purposes. (Belcher, 1999). Larsson criticizes language teaching for being superficial since a language does not consist of merely language knowledge which learners receive by being passive receptors, yet it is a tool which is actively used to communicate. In such context, as Larsson points out rather than acquiring how and when to use appropriate vocabulary, learners learn all vocabulary they need to pass in the upcoming exam and then promptly forget them after taking it (Larsson, 2001). In addition, a university language course should not only be teaching languages but also integrating the enhancement of the crucial 21st century skills – problem-solving, higher-order thinking, self-directed learning, communication and collaboration with the ability to use these skills in a foreign language. Therefore, acquiring a language in a problem-based learning context and working on materials that derive from global issues such as climate change, reduced inequalities and irresponsible consumption, rather than studying materials given for the sake of working on language learning can highly engage learners in the learning process.

Such problems mentioned above confirm Barrows and Tamblyn's thought that (cited in West, 1992), the process of learning occurs as individuals' efforts to address the numerous challenges they encounter in their daily lives. Given this characteristic of problems, it is important to integrate such challenges into educational practices. This concept was underscored by John Dewey in 1916 in his book "Democracy and Education," as cited in Şenocak (2006). Dewey advocated for classrooms to function as laboratories for both exploring real-life situations and resolving problems. As a result, educational institutions align with societal realities. The utilization of problem-solving in education dates back to

ancient times, exemplified by institutions like Plato's Academy. In the Academy, the focus was not on the transmission of textbook knowledge but on fostering a dynamic community of scholars dedicated to formulating and addressing challenging questions (Voegelin, 2000).

PBL can help language learners develop their oral communication skills in higher education (HE) as it has the potential to foster meaningful and genuine communication that plays a crucial role in language learning where language acquisition is intertwined with acquiring skills to solve global problems. As a result, with the intention of having learners shift from reproductive to meaningful, purposeful and genuine language use, which fosters meaningful learning, the researcher aims to find out the effect of technology-enhanced problem-centered curriculum on language learners' oral communication skills in HE (Savin-Baden, 2001).

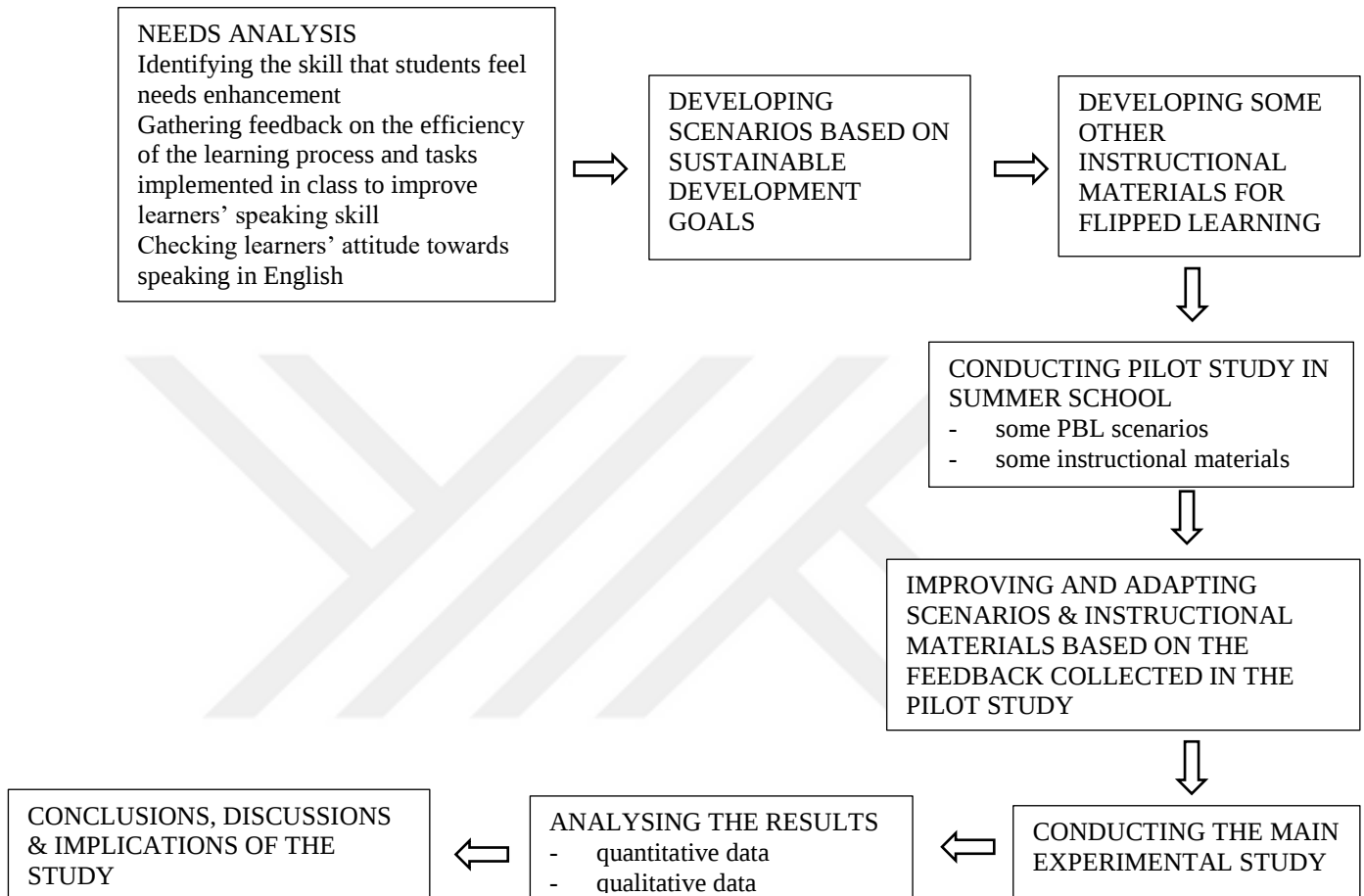
Learners, particularly the ones studying in an English for Academic Purposes (EAP) context, may encounter difficulties in communication for various reasons such as poor speaking and/or listening abilities, affective factors as well as inability to generate ideas. When learners communicate in an academic environment, they need to participate in academic discussions on real-world issues, identify a problem, analyze and offer possible solutions to them, express their thoughts, develop cogent explanations when they agree or disagree with others' opinions and make presentations. Learners as being social beings need to be active participants in language learning. Therefore, learning a language in a PBL context and working on materials that derive from real-world problems rather than studying materials given for the sake of working on language learning can highly engage learners in the learning process (Jaleniauskien, 2016). As Boothe and Vaughan (2011) point out learners in PBL settings where intellectual curiosity is the motivating factor for them to discuss, debate, and deal with controversial issues.

Based on the preceding discussions, the aim of this study was determined as:

Based on the researcher's investigations, there has been no study conducted on the impact of problem-based learning on each individual component of communicative competencies (Linguistic Competence, Discourse Competence, Socio-linguistic Competence, and Strategic Competence) identified by Bachman. Thus, in this study, the researcher aims to find out the effect of implementing a problem-centered curriculum in a speaking course on A2+ level language learners' oral communication competencies when compared to traditional instruction.

Figure 1.1

An overview of the stages of the current study



1.1. Defining the Main Concepts

1. It represents a learner-centered approach to education where learners actively engage and take accountability for their individual learning. The teacher assumes the role of a facilitator or guide in the teaching-learning process and refrains from simply transferring knowledge to the students. The instruction starts with the introduction of a complex, open-ended problem, and students embark on solving it either individually or collaboratively. They achieve this by seeking information from various sources beyond the course materials and conducting experiments with the guidance of the teacher. In this research, Problem-Based Learning (PBL) instruction, which includes group and individual tasks, is implemented. Greenwald summarizes the key steps in the PBL instruction process (2000):

1. Encounter an ill-structured problem
 2. Encourage learners to inquire about what's intriguing, perplexing or significant to investigate
 3. Emphasize the exploration of problem identification
 4. Create a map of problem identification and establish priority
 5. Engage in problem research
 6. Examine findings
 7. Reiterate learning
 8. Develop solutions and provide recommendations
 9. Share the outcomes
 10. Do self-assessment
2. Ill-structured Problems: Such kind of a problem presents a situation in which there are a variety of possible solutions, various approaches, and a limited number of factors that can be easily controlled or altered. It lacks clarity regarding the essential concepts, rules, and principles needed to solve the problem, how they should be structured, and what defines the best solution. These problems often mirror real-world scenarios encountered in everyday practice (adapted from Jonassen, 1997).
3. Traditional Instruction: Traditional instruction in the current research is presenting key vocabulary and useful phrases on the topics of the lesson to students and having them practice these target words through various vocabulary activities such as gap-fill, and word formation activities. After studying the keywords on the content, students read texts or listen recordings while answering comprehension questions on them to acquire some background knowledge about the content. The final stage involves teacher-led discussions. Teacher provides questions on the topic of the lesson and students have a discussion by answering the questions in a limited timeframe where they are expected to use the newly learned vocabulary and content.

1.2. Significance of the Study

This current research is crucial as one of the biggest desires of learners in language learning is to be able to use the language to communicate effectively. How much this goal is achieved depends greatly on how curriculum developers and instructors understand what the desired outcome is and design the curriculum and lessons accordingly. The aim of the current study is to design and implement a course that fosters an active and focused yet safe learning environment to improve oral communication competencies of language learners in higher education.

The lesson plans and instructional materials including problem-based learning task sheets and the scenarios used both in class and as assignments could be used by English language teachers teaching in high schools and universities. In addition, an 8-week course plan and each lesson plan could guide curriculum developers in ELT who are planning to design a PBL curriculum. Finally, English language coursebook authors who are seeking strategies to integrate PBL into their coursebooks could benefit from the current study.

1.3. The Research Questions

1.3.1. The main research question

Is there a significant effect of the technology-enhanced problem-based curriculum on the oral communication skills in higher education?

1.3.2. Sub-questions

There are four sub-questions, which are stated below:

1. Is there a significant effect of the technology-enhanced problem-based curriculum on idea development?
2. Is there a significant effect of the technology-enhanced problem-based curriculum on coherence?
3. Is there a significant effect of the technology-enhanced problem-based curriculum on fluency?
4. Is there a significant effect of the technology-enhanced problem-based curriculum on the use of language (grammar and vocabulary)?

1.3.3. Null Hypotheses

The aforementioned questions were tested with the following hypotheses, presented in null form.

1. There is no significant overall effect of the technology-enhanced problem-based curriculum on oral communication skills in higher education.
2. There is no significant effect of the technology-enhanced problem-based curriculum on idea development.
3. There is no significant effect of the technology-enhanced problem-based curriculum on coherence.
4. There is no significant effect of the technology-enhanced problem-based curriculum on fluency.
5. There is no significant effect of the technology-enhanced problem-based curriculum on the use of language (grammar and vocabulary).

2. LITERATURE REVIEW

2.1. Learning Theories

2.1.1. Behaviorism

According to behaviorist learning theory, learning occurs when there are changes in the structure or frequency of observable behavior (Ertmer & Newby, 2018). Learning is acquiring new behaviors or altering existing ones through conditioning. The essential components include the stimulus, the response, and the association between them. It views and examines learning as a mechanical process. According to this theory, whose main aim is to establish, strengthen, and maintain the association between the stimulus and response, students learn by doing. Repetition is crucial as it encourages improvements in learning. This process involves repeating a behavior or information until it becomes automatic for an individual. Rewards are more effective than punishments. Positive behaviors are reinforced and habits are formed. In addition, it is crucial to facilitate the transfer of newly learned knowledge to a wider area by using different example situations. Also, motivational conditions play an important role in learning (Altındağ & Senemoğlu, 2013; Ertmer & Newby, 2018; Winn, 1990). In this theory, to understand whether learning has occurred or not, it is necessary to observe behavioral changes. It does not deal with processes such as thinking, understanding, questioning, and mental structuring (Türker, 2014; White, 1977). Thus, behavioral principles are not sufficient for explaining the acquisition of high-level skills or the ones which require a deeper level of processing such as problem-solving, inferencing, critical thinking and language development (Schunk, 2012).

2.1.2. Cognitivism

Cognitive learning theory views knowledge acquisition as a mental activity that involves the learner's internal coding and structuring which makes learners active participants in the learning process. It examines learning within the framework of understanding mental processes and comprehension. It highlights the active involvement of the learner, encompassing mental planning, goal-setting, and organizational strategies. Learning involves changes in an individual's mental structures. This change allows for alterations in the individual's behaviors or the acquisition of new behaviors (Altındağ & Senemoğlu, 2013;

Ertmer & Newby, 2018; Shuell, 1986). For cognitive learning theory, rewards are not necessary for learning to occur. During the learning process, students use various mental processes to store and retrieve information. They hold acquired knowledge in both short-term and long-term memory, allowing them to access and apply this information when required. This process involves strategies like paying attention, encoding information, transforming it, rehearsing, as well as retrieving the stored information (Jonassen, 1991b; Schunk, 2012; Winne, 1985).

2.1.3. **Constructivism**

The behavioral and cognitive theories share a common belief that the world exists objectively and independently of the learner; therefore, the aim of instruction is to help the learner understand and give meaning to the structure of the world (Jonassen, 1991). However, some modern cognitive theorists have questioned this objectivist perspective and embraced a more constructivist perception to learning as well as comprehension where reality is achieved “by the experiences of the knower” (Cooper, 1993, p.16). According to this approach, individuals construct knowledge when they create meaning from their experiences, rather than merely acquiring information from the external world (Jonassen, 1991b, p.10). Thus, reality is the outcome of a constructive process rather than an ultimate and shared reality (Duffy & Jonassen, 1991, p.9).

Constructivism has various origins in the disciplines of philosophy and psychology of the past century, including Jean Piaget's developmental perspective, the rise of cognitive psychology guided by figures like Jerome Bruner and Ulrick Neisser, and the constructivist viewpoints of philosophers such as Nelson Goodman. At the core of constructivism, there is the idea that organisms are "active," not simply reacting to stimuli as behaviorism suggests, but actively engaging, wrestling with, and striving to comprehend their surroundings (Perkins, 1991, p.20).

According to constructivism, learning is associated with constructing meaning out of experiences (Bednar as cited in Ertmer & Newby, 2018). Despite being a branch of cognitivism, constructivism varies from conventional cognitive theories in several ways. While cognitive psychologists consider the mind as a “tool” that aims to perceive the world accurately, for constructivists, the mind creates its own reality based on individual understanding and interpretations of experiences. (Jonassen, 1991, p.29). Similar to Plato's

rationalists, all meaning is created in the mind, but like empiricists, personal and direct interactions with the environment are crucial. Constructivism combines the concepts that the mind is the origin of all meaning and that social interactions are crucial, emphasizing their interconnectedness.

Constructive theorists have a different perspective compared to cognitivists and behaviorists in regard to knowledge. Unlike cognitivists and behaviorists, constructivists do not believe that knowledge is stable, that it is independent of the mind and can be easily understood by learners. Constructivists acknowledge that the real world exists, but they argue that knowledge is unstable and individual's interpretations of their experiences shape their understanding of the world (Jonassen, 1991a, p.29). This means that humans create meaning rather than acquire it. Since any experience can yield numerous potential interpretations, there is no predetermined, specific and "correct" meaning. Learners do not merely acquire knowledge from the outside world; instead, they create their own unique understanding of the world, which is shaped by their individual experiences and interactions (Ertmer & Newby, 2013, p.19). Therefore, the inner representation of knowledge is constantly evolving and there is no existing absolute reality which learners aim to understand. In order to comprehend an individual's learning, it is crucial to assess the actual learning context in which the experience occurs (Jonassen, 1991a, p.29).

The constructivist theory emphasizes the significance of both learner and environmental influences for the construction of knowledge. According to constructivists, behavior is influenced by the situation in which it occurs (Jonassen, 1991a). As a case in point, learning new vocabulary is more effective when learners are exposed to and interact with the words in context, rather than just memorizing their definitions or their translation in their native language. Similarly, it is crucial for knowledge of subject matter to be embedded in the context where it is applied. Brown et al. (1989) claim that knowledge is created through activities within specific contexts; that is, individuals produce their knowledge through actions and interactions which occur in particular situations. Every action represents an interpretation of the present context, based on previous interactions. Therefore, it is essential for learning to occur in realistic settings and for educational tasks to be connected to the learners' experiences (Clancey as cited in Ertmer and Newby, 2013, p.20).

The primary objective of instruction is not simply to make learners remember specific information, but rather to encourage them to elaborate on and interpret that information. The

process of understanding is constantly evolving and is shaped by continued use and interaction with different situations, negotiations, and activities (Brown et al., 1989, p.33). Thus, memory is not a fixed entity, but rather an evolving record of interactions. The focus lies not on recalling the fixed knowledge structures in the mind, but rather on offering learners the resources and opportunities to apply that knowledge in creative and adaptable ways to construct new understandings that are relevant to the specific situation at hand.

The constructivist perspective claims that involving learners in real-life tasks that are tied to meaningful contexts can help learners in facilitating the process of transfer. Since understanding is dependent on experience, real-world experiences become crucial for the individual's ability to use ideas effectively. Learning always happens in a particular context, and this context is closely linked to the knowledge embedded in it. Thus, the aim of instruction is to effectively introduce tasks, instead of specifying the structure of learning necessary to complete them. If the learning process is decontextualized and merely follows a list of rules, it is unlikely that the transfer occurs (Ertmer & Newby, 2013).

The constructivist perspective claims that it is impossible to break down knowledge domains into isolated sections of information or to divide them based on a hierarchical analysis of relationships. While acquiring basic skills in structured knowledge domains by emphasizing performance and instruction could be possible, much of the advanced knowledge in ill-structured domains cannot be learned in this way. Jonassen's three-stage model of knowledge acquisition (introductory, advanced, and expert) suggests that the stage of advanced knowledge acquisition is achieved most effectively in constructive learning environments (1991, p.30). This means that knowledge construction requires higher-order thinking skills which can be found at the “find” performance level of Merrill’s taxonomy, the “cognitive strategy” level of Gagne’s taxonomy, as well as the “synthesis” level of Bloom’s taxonomy (Jonassen, 1991, p.30). He also highlights that the introductory knowledge acquisition level is facilitated by objectivist learning theories (behavioral and cognitivist), yet emphasizes a shift to constructivist approaches since learners gain greater knowledge to tackle ill-structured and complex problems (Jonassen, 1991, p.31).

The aim of a constructivist instructional design is to provide learners with methods as well as strategies that allow them to actively explore complex topics and environments, and to think at the expert level in that domain. Since knowledge is related to the context being studied and to the learners' experiences, learners should be provided with opportunities

where they construct their own knowledge and then check their understanding of these new perspectives through social negotiations. Throughout this process, constructivists prioritize the use of a variety of techniques including situating tasks in authentic settings, using cognitive apprenticeships to scaffold learners towards expert-level performance, presenting different perspectives to encourage collaborative learning and sharing of ideas, facilitating social negotiation through debate and discussion, using authentic examples to illustrate concepts, encouraging self-awareness, and offering significant guidance on the utilization of constructive processes (Ertmer & Newby, 2013, p.23). As Cunningham points out, in constructivism, instruction plays a role in teaching learners to construct their own comprehension of the world, encouraging collaborative learning to help learners gain diverse perspectives on a particular problem, and enabling them to develop their own ideas and commit to them as well as respecting and acknowledging other perspectives which they may disagree (1991, p.14).

The following are some of the constructivist principles that should be included in the instructional design:

- The context where skills are learned and used should be identified and emphasized.
- Learners should have control over their learning and be able to manipulate information.
- Information should be presented in various ways.
- Problem-solving skills that are beyond the given information should be supported.
- Assessment should focus on the transfer of newly acquired knowledge and skills to authentic situations.

When the odyssey of the behaviorist-cognitivist-constructivist continuum is analyzed, a focus shift from teaching to learning, from learners being passive recipients to active participants, and from following a list of rules and guidelines to providing authentic experiences in real-life settings is highlighted. In this situation, learners can create meaning, construct their own knowledge and perform at the advanced level.

In a constructive view, education plays a role in teaching students how to build their own understanding of the world, encouraging collaboration with others to gain diverse

perspectives on a problem, and enabling them to form self-determined positions while recognizing and understanding opposing viewpoints.

This statement suggests that from a constructive viewpoint, the role of education is to provide students with the knowledge and skills necessary to construct their understanding of the world, instead of merely memorizing information or following a set of rules. This involves promoting collaboration with others, in order to understand different perspectives and work towards a more complete understanding of complex issues. By doing so, students can develop their own ideas and beliefs, and commit to them, while at the same time respecting and acknowledging the validity of other points of view, even if they may disagree with them. Overall, the statement highlights the importance of critical thinking, active learning, and the ability to cooperate with others to gain a more profound insight into the world.

2.2. The Field of Curriculum

The meaning of curriculum, what content it involves, how it is organized, what purpose it intends to accomplish, and how it impacts students and teachers as well as society have been questioned for many decades. Yet, there have been no precise answers to these fundamental questions as the field of curriculum studies has been described as “elusive, fragmented, and confusing.” (Ornstein & Hunkins, 2014, p.1). For some, a curriculum is the objectives that are planned to be taught to students. For others, a curriculum is a previously sequenced instructional plan that teachers follow. The difference between these two perspectives is based on the distinction between “a curriculum as the expected ends of education, e.g., the intended learning outcomes, and curriculum as the expected means of education, i.e. instructional plans.” (Eisner, 2003, p.5). However, there is another group that claims that students’ actual experiences and learnings are more significant when compared to the previously prepared plans, whether for ends or means. Since there are fundamental disparities among people’s perceptions of curriculum, it is a large field with a diverse body of literature.

There have been attempts to define curriculum as prescriptive, descriptive, or both (Ellis, 2004).

2.2.1. Prescriptive Curriculum

A curriculum can be defined as a prescriptive entity as it provides “what ought to happen” in the teaching process (Ellis, 2003, p.4). In other words, it can be a map, an intended program, “a plan for achieving goals” and a plan that “involves a sequence of steps” (Ornstein & Hunkins, 2014, p.8). While defining prescriptive curriculum, Ellis draws comparisons between a pharmacist who dispenses prescribed medication which the patient may not follow accurately and the teacher, like the patient, may not follow the prescribed plan proposed by the curriculum developers.

The prescriptive definitions, which are arranged in chronological order below, define curriculum as a plan, a map, an intention, a program, and a prescription to be followed.

Table 2.2.2

Prescriptive Curriculum Definitions

Year	Author	Definition of Prescriptive Curriculum
1962	Hilda Taba	A plan for learning.
1972	Selahattin Ertürk	A curriculum is all of the planned learning experiences to educate specific students in specified time period.
1989	Peter Olivia	A curriculum is a plan or program for all the experiences that the learner encounters under the direction of the school.

In a prescriptive curriculum, as can be seen from the definitions, all the steps in the plan are sequenced in advance. The plan has three stages: the beginning, the process, and the end. It is aimed to reach the end from the beginning by following the step-by-step systematic methods in the process of learning (Ornstein & Hunkins, p.10). According to Ellis, prescriptive curriculum is a pre-existent artifact which is completed and the only missing aspect is implementation (2004, p.5). Such curriculum can be found in curriculum guides, textbooks as well as teachers’ daily lesson plans.

2.2.2. Descriptive Curriculum

Curriculum can be defined broadly by focusing on the experiences of the students. The descriptive perspective considers “almost anything planned in school or outside of school is part of the curriculum” (Ornstein & Hunkins, 2014, p.8). Prescriptive perspective focuses on “what ought to happen” according to curriculum developers whereas descriptive perspective deals with “how things are in real classrooms” (Ellis, 2004, p.5). Descriptive definitions focus on the process of implementation of the planned curriculum. These definitions give an idea of what the curriculum in action is even though those ideas are gathered merely through “systematic observations and empirical evidence from classrooms” (Ellis, 2004, p.5). Whatever occurs in classrooms is the curriculum. Since experience is at the heart of the curriculum, it can also be called the “experienced curriculum” (Ellis, 2004, p.5).

In a prescriptive curriculum, different subject matters are taught in the form of some scope and sequence, whereas in descriptive curriculum individuals’ perceptions, feelings, and attitudes which develop are taken into account. Rather than delivering the same curriculum many times, the curriculum is situated as well as idiosyncratic; therefore, it is not independent of how it is experienced in a particular situation. (Ellis, 2004, 11-13).

The descriptive curriculum definitions, which are arranged in chronological order below, have been chosen for their representativeness.

Table 2.2.3

Descriptive Curriculum Definitions

1935	Hollis Caswell & Doak Campbell	All the experiences children have under the guidance of teachers.
1960	W. B. Ragan	All experiences of the child for which the school accepts responsibility.
2009	E. Silva	An emphasis on what students can do with knowledge, rather than what units of knowledge they have, is the essence of 21st-century skills.

There have been debates on whether curriculum as prescriptive or curriculum as descriptive is optimal. However, purposeful schools need to build their curriculum based on a balance between “freedom and opportunity” on one side and “responsibility and limitations” on the other.” (Ellis, 2004, p.13). As Ellis points out it is not possible for a curriculum to achieve its potential unless the two perceptions create a harmonious balance. According to social systems theory, the society is a complex arrangement of various aspects and supports the idea that a complex system including a school functions best only “when it is anchored firmly at its base and is open at the top” (Ellis, 2004, p.13). A plan provides a secure, predictable, stable, and consistent base for learning while openness and flexibility included in the system create a learning environment that provides the experiences of individual differences, diversity, creative efforts, and risk-taking, as well as opportunities in self-realization (Ellis, 2004, p.13). Bringing together the complementary aims of responsibility and restraint with freedom and opportunity creates a secure yet open system. At its core are intentions, assumptions, and regulations, while at the top level, there should be an environment that fosters initiative, exploration, individual and collaborative efforts, creativity, diverse interests, and various learning methods (Ellis, 2004). Balancing these two interdependent objectives leads to a curriculum that encompasses both the narrow function (course of study) and the broad function (overall school experience). This curriculum involves both structured planning by educators and student participation in shaping their educational experiences (Ellis, 2004).

2.3. Curriculum Designs

Curriculum design can be defined as the process of arranging the components or elements of curriculum (1. aims, goals, and objectives; 2. Content or subject matter; 3. learning-teaching experiences; 4. Evaluation approaches) in a substantive way. The features of these elements and how they are addressed and arranged in a curriculum plan determine the curriculum design to be used. It is the process of “thinking about the shape or gestalt of a curriculum plan or the actual arrangement of the parts of the curriculum plan” (Ornstein & Hunkins, 2014, p.153). Although curriculum designs are structured by including all the components, the amount of emphasis given to each one differs. While most schools or institutions form their curriculum by giving primary emphasis on the content or subject matter, some prefer to create designs which focus on objectives and evaluation. Others stress

the learning experiences or activities. Thus, each curriculum design has its own unique structure (Demirel, 2021, p.25).

Although the components do not receive the same equal weight in each curriculum design, they are dynamic entities and interact with one another. In other words, the decisions regarding one component rely on the decisions that have been made about the other components. The paradigm indicates the ongoing interaction among one another.

There are specific questions for each component that need to be considered when designing a new curriculum (Ornstein & Hutchins, 1988; Demirel, 2021).

1. What is to be done for curriculum objectives?
2. What subject matter should be included in the content?
3. What instructional strategies, methods, techniques, resources, and activities are planned to be used in the learning-teaching process?
4. What kind of assessment methods and instruments are planned to be used to evaluate the curriculum objectives and achievements?

It is possible to arrange curriculum components in numerous ways. Yet, most curriculum designs are the interpretations and implementations of three basic curriculum designs: Subject-Centered, Learner-Centered, and Problem-Centered Curriculum Designs (Ornstein & Hunkins, 2014). Each design consists of several sub-designs.

2.3.1. Subject-Centered Curriculum Design

Subject-centered curriculum design, which revolves around a specific content or subject matter, is the most commonly used curriculum type which is implemented in K-12 schools and higher education. A subject-centered curriculum tends to put the content rather than the individual at the heart of the curriculum. This kind of design describes what needs to be studied and how it should be studied (Varış, 1977).

The major disadvantage of the subject-centered curriculum design is that it does not prioritize student-centered learning. This curriculum design is developed without considering the diverse learning styles of the students, which may lead to challenges

concerning student involvement, and motivation (Demirel, 2021). The subject-centered curriculum designs are as follows:

- a. Discipline Designs
- b. Broad Field Designs
- c. Correlation Designs
- d. Process Designs

2.3.2. Learner-Centered Curriculum Design

Unlike subject-centered curriculum design, learner-centered curriculum design is constructed by considering each individual's needs, interests, and goals. It acknowledges that each student is an individual; therefore, one way of teaching is not suitable for all students. The purpose of learner-centered curriculum design is to empower learners and enable them to take responsibility of their own learning by making choices. In this form of curriculum, instructional plans are tailored to allow learners to choose their learning experiences, activities which offers learners a chance to differentiate (Varış, 1977). This can motivate learners and maintains their interest in the subject matter they are studying.

The disadvantage of learner-centered curriculum design is that developing differentiated instruction may be demanding for teachers while planning instruction and/or finding materials that address individual student's learning needs. Teachers may not possess the experience or abilities to create such a plan or they may be constrained by time. In addition, this form of curriculum design necessitates that teachers create a balance between students' expectations and interests and the necessary educational outcome, which is a challenging equilibrium to achieve (Ornstein & Hunkins, 2014; Demirel, 2021). The categories of learner-centered designs encompass a total of four distinct types, which are articulated as follows:

- a. Child-centered Designs
- b. Experience-centered Designs
- c. Romantic/radical Designs
- d. Humanistic Designs

2.3.3. Problem-Centered Curriculum Design

Problem-based learning curriculum design, which is also a form of student-centered design, focuses instructing students how to approach a problem as well as generate possible solutions to it. Thus, students engage in real-life problem scenarios, which helps them acquire skills that are transferable to various situation in the real world (Pushor & Murphy, 2010; Varış, 1977; Demirel, 2021). The categories of problem-centered designs encompass a total of three types, which are articulated as follows:

- a. Life situations
- b. Core designs
- c. Social problem/reconstructionist designs

2.4. Problem-Centered Curriculum

2.4.1. Theoretical Background of Problem-Based Learning

The emergence and development of problem-based learning (PBL) have a wealthy, historical background. PBL is the product of a combination of a broad range of theories to find out the optimal way for individuals to learn and transfer knowledge. There has been a shift from a classroom environment where teachers who are the primary source of information responsible for transmitting their knowledge to students to a learning setting where learners are actively involved in their learning, deal with complex questions, conduct inquiries, and evaluate information through authentic experiences in real-life contexts. Thus, problem-based learning with its rich background, which has become an innovative approach to education, has roots in various learning theories such as behaviorist theories such as Thorndike's motivation theory as well as Hull's Drive Reduction Theory, cognitive theories, Gestalt theories, Piaget's cognitive development theory, Vygotsky's social development theory, Enwistle's theory of learning, Ausubel's assimilation theory, constructivism, humanist theories, information processing theory, Dewey's experiential learning theory, learning contexts theory, learning identity theory, learning style theory as well as transformational learning theory (Savin-Baden & Howells, 2004, p. 23-34).

Among all the theories stated above, constructivism is the most prominent theoretical approach which underlies in PBL (Uden & Beaumont, 2006). Thus, the following section aims to explain the interwoven relationship between constructivism and PBL in detail.

2.4.2. **Problem-based Learning: A Constructivist Approach**

Problem-based learning is a constructivist learning model since its underlying premises are based on the main principles of constructivism (Savory & Duffy, 1995; Uden & Beaumont, 2006). Thus, it is crucial to highlight the principles that Lebow (1993) proposed as a framework for the constructivist instructional system design (CISD).

1. Maintain a buffer between the learner and the potentially damaging effects of instructional practices in use. PBL is intertwined with the CISD principles that Lebow proposed. First of all, Lebow discusses the possible negative effects of traditional teaching and adds that educational objectives should include both cognitive and affective outcomes. PBL which offers real-life problems in class creates a learning context where students are engaged and active participants. Knowledge is constructed through experience and learning is an outcome of a construction process. Meaning is constructed by individuals and understanding that meaning is rooted in experience (Brown, Collins, and Duguid, 1989). “Each experience with an idea – and the environment of which that idea is a part – becomes part of the meaning of that idea” (Duffy and Jonassen, 1991, p.8). The experience where an idea is integrated is crucial for a learner’s comprehension of and ability to use that idea. Thus, that experience in which learners are active both cognitively and affectively needs to lead to the acquisition and transmission of knowledge.

2. Provide a context for learning where support for both autonomy and relatedness is provided. As Lebow states that, for constructivists, responding to the needs of students is more important than following the sequence of Gagne’s nine events of instruction. In PBL, the learning environment promotes creating interpersonal relations between a student and their teachers as well as their peers, and focusing attention on improving engagement, interest, and learner autonomy during the learning process. In order to increase personal autonomy, the teacher provides scaffolding to keep the student in their “zone of proximal development (ZPD)” (Vygotsky, 1978). The teacher’s role is to help the student to become autonomous by modeling how to identify, research and solve a problem, guiding them in self-questioning as well as developing other metacognitive skills. Lebow points out that the

use of methods that require personal autonomy, belongingness, collaboration as well as positive interdependence is essential.

3. Embed the reasons for learning something into the learning activity itself. In constructivism, since knowledge is context-dependent, learning should be in contexts. Brown points out the importance of building contextualized cognitive experiences in authentic activities. Duffy and Jonassen draw attention to the distinction between learning in school and learning out of school which leads to the creation of two different environments in which learners have difficulty transferring their learning from in-school to out-of-school reality. If learning is decontextualized, learners lack the ability to apply their knowledge and skills in different real contexts. (Duffy & Jonassen, 1989). Duffy and Cunningham (1996) think that knowledge is the ability to act effectively in a situation. If an individual can act effectively in a situation in an authentic context, it means that he knows the context within which he acts. In other words, the educational setting in which learning occurs and the learning activities that students engage in should be replete with authentic, appropriate, relevant, and realistic contexts so that learners can transfer their knowledge into reality. Students' motivation and enthusiasm for meaningful interaction should be accommodated by providing real-world problems and helping students acquire and transfer new knowledge and skills rather than following a structure planned by instructional designers. Helping students practice and acquire new knowledge as well as skills in an authentic learning environment in PBL is in tune with the requirements of constructivist instructional design.

4. Support self-regulated learning by promoting skills and attitudes that enable the learner to assume increasing responsibility for the developmental restructuring process. For constructivists, self-directed learning is crucial and students with or without scaffolding take responsibility for their learning processes. In PBL, by diagnosing the divide between their current knowledge and the canonical knowledge, setting long and short-term goals, cooperating with their peers successfully, finding the appropriate resources for learning, selecting and using appropriate learning strategies, as well as evaluating the effectiveness of the outcomes, they reconstruct their mental models and understanding (Knowles, 1975).

5. Strengthen the learner's tendency to engage in intentional learning processes, especially by encouraging the strategic exploration of errors. Intentional learning, which is seeing every learning experience as an opportunity to develop, is one of the prominent

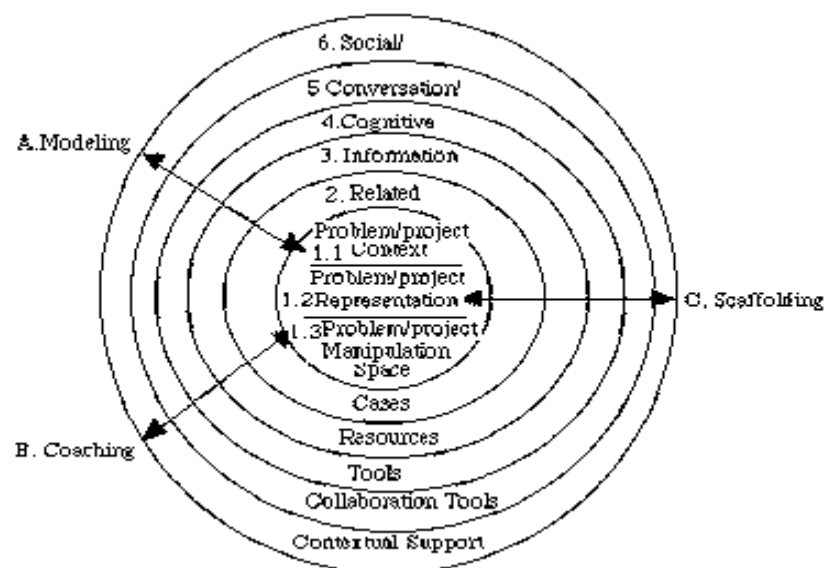
characteristics of constructivism. PBL creates challenging situations where students may make mistakes during the process as they work on ill-structured problems.

PBL has been represented in several *instructional modals* including Jonassen's Cognitive Constructivist Learning Environments (1999); Savery and Duffy's Problem-Based Learning (1995); Chin and Chan's The procedure of constructing knowledge in question-driven problem-based learning (2004); David Merrill's First Principles of Instruction (2002); Brown, Collins and Newman's Cognitive Apprenticeship (1989); Hmelo's PBL tutorial process (2012).

Jonassen, in his model for constructivist learning environments (CLEs), aims to illustrate how knowledge is constructed individually as well as socially by students who understand and interpret the real-world based on their personal experiences. As knowledge transmission does not constitute learning, instruction should offer experiences relevant to domain content so that knowledge construction (meaning-making) is facilitated. In the model for CLEs (Figure 2.4.1), which coincides with the objectives and stages of PBL, Jonassen presents a design of constructivist learning environments which enhance engagement in knowledge construction (1999).

Figure 2.4.1

Model for Designing Cognitive Learning Environments (CLEs)



At the core of the model, there is a problem / question / case / project which is encircled by various intellectual support structures. The goal of students is to offer possible solutions to the problem with controversial answers by using support systems where teachers provide behavioral and cognitive modeling, and coach and scaffold students throughout the process.

The model suggests that learning is propelled by a problem rather than being presented merely as a reiteration of previously studied content. In other words, unlike objectivist instruction where a problem is used to exemplify and clarify what has been taught previously, in the constructivist learning environment, students learn the domain content to solve a problem. To understand a given problem, it is important for students to experience it and construct mental models of it. However, as most of them may lack the required cognitive mental models, presenting relevant cases and beneficial information resources to scaffold and support students' in interpreting and understanding the underlying issue of the problem is important. In addition, cognitive tools that help visualize, organize, and supplant thinking skills should be provided to assist learners to interpret the aspects of the problem. Since learning occurs when groups of individuals work collaboratively, it is essential for learners to work in teams to negotiate and co-construct meaning throughout the entire process. The last circle of the model emphasizes the contextual support system for the successful implementation of the CLEs (Jonassen, 1999). The problem is placed at the center of learning in the model, providing guidelines to design constructive learning environments. The key components, including meaning negotiation, collaboration, identifying suitable resources for problem-solving, fostering conceptual and strategic thinking, linking new ideas to existing cognitive models, and promoting the individual and social construction of knowledge, are all essential.

Savory and Duffy (1995) also state that PBL is “one of the best exemplars of a constructivist learning environment” and identify eight constructivist instructional principles which form the basis of PBL (p.31).

1. All learning activities should be related to broader tasks or problems and their objectives should be clear to the students. The goal of education is to assist learners become active global citizens of the next generation; thus, the objectives of all learning activities should be clear to the students and cater for the larger task.

2. Teachers should support their students in developing ownership of the tasks or problems because it is crucial that the students' goals should be coherent with the instructional goals. Otherwise, students are prone to work on the given tasks merely to pass the exam. Demonstrating the process of problem-solving to students initially will help them in recognizing the significance of each specific skill as it is taught. This will provide them with a structure in which they can integrate the newly acquired skill. As a result, the probability of effective retrieval as well as application has the potential to increase. (Merrill, 2018, p.21).
3. Teachers should create an authentic learning environment where the cognitive demand is coherent with the cognitive demand of the real world for which students are educated (Honebein, et.al. 1993). Students should be able to apply the information they have acquired in the real world rather than merely memorizing it. Besides, while working on a problem which is genuine in its cognitive demands, students discuss and negotiate meaning; thus, they take the ownership of the task.
4. Teachers should provide complex learning environments and support the students to have a better comprehension of the situation rather than tending to simplify the environment.
5. Besides giving the ownership of the task, teachers should also give the ownership of the learning process to their students. Rather than dictating a particular problem-solving method and / or telling them what to study and what to learn related to the task, teachers should allow their students to work on the process on their own so that they are engaged in authentic thinking and problem-solving processes. Thus, responsibility of teachers is to stimulate the learner's thinking rather than impose or standardize that thinking through dictation or procedural methods (Savory & Duffy, 199).
6. Teachers' role is to scaffold learners and challenge their thinking skills. It is not the teachers' responsibility to tell students how to think and what to do and to dictate particular methods. Yet, teachers should be responsible for scaffolding such as providing a simulation of problems and challenging the students' thinking skills in order to keep them in the ZPD (Vygotsky, 1978).
7. "Knowledge is socially negotiated" (Savory & Duffy, 1995, p.36). Learners can check the quality and depth of their understanding only by interacting with others to see if the knowledge and skills they have acquired accommodate with their peers' point of view and if there are other beneficial perceptions that he can incorporate into his understanding. Thus,

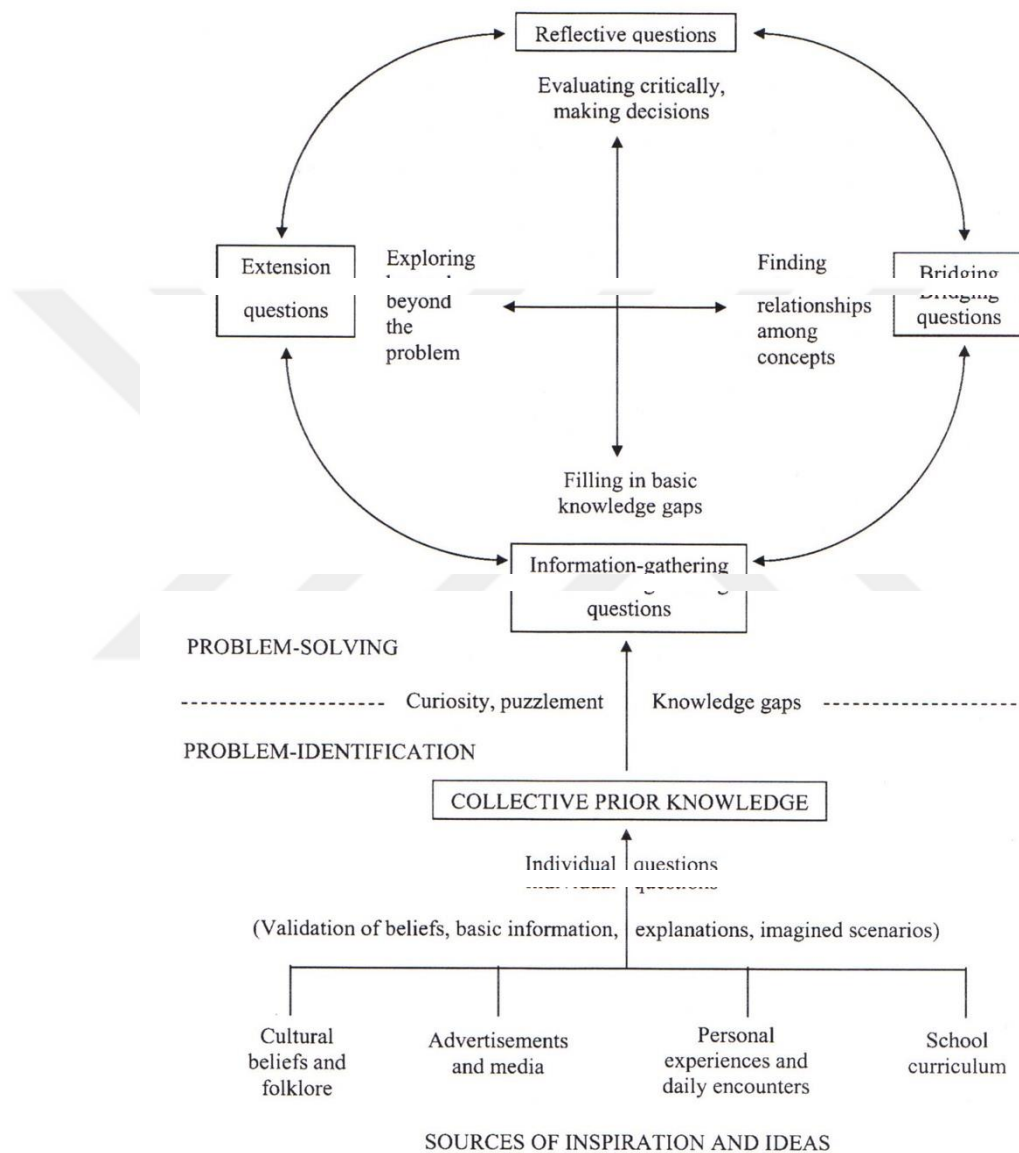
teachers should create a learning environment where meaning is negotiated and ideas are discussed and always encourage testing their understanding against alternative views and contexts.

8. Developing skills of self-regulation is a prominent goal of instruction. Therefore, learners should be provided support and the opportunity to reflect on the subject matter learned and their learning process. As emphasized in the other instructional principles of constructivism, scaffolding has an important role to help the student become an independent learner. Throughout the learning process, teachers should model reflective thinking strategies.

Another PBL model designed and implemented by Chin and Chia is the model of *the procedure of constructing knowledge in question-driven problem-based learning (Q-PBL)* which is also rooted in constructivism. They point out that students put forward more responses to discovery problems (where they themselves identify a problem and provide a solution to it) than to teacher-created problems (where the problem is already defined by the teacher and students merely work towards and arrive at possible solutions.) Therefore, they strongly suggest that students should be given autonomy to generate their own problems and offer solutions to them rather than solely working on the teacher-prepared problem scenarios. The model opens up with the sources of inspiration and ideas which students already have. It illustrates that when students define a problem, they first check their prior knowledge which Chin and Chia call “knowledge storehouse” which is constructed by “cultural beliefs and folklore”, “advertisements and media”, “personal experiences and daily encounters” and “school curriculum” (2004, p.707). After identifying the problem, directed by their curiosity, motivation and the knowledge disparity between what they already know and what they need to learn, students start asking information-gathering, bridging, extension and reflective questions in the need of seeking equilibrium in their cognitive structures through assimilation and accommodation.

Figure 2.4.2

The procedure of constructing knowledge in question-driven PBL (Q-PBL)



Each type of question serves a different purpose: information-gathering questions are asked to fill in the knowledge gaps; bridging questions are used to determine the relationship among concepts; extension questions are used to grasp what is beyond the problem and reflective questions are asked to make decisions and evaluate their own and peers' progress critically. Asking these types of questions help students expand their thinking, come up with answers to their questions, and generate new questions as well as new ideas. This is a dynamic, non-linear, and iterative process; therefore, as can be seen from Figure 2.4.2, the

process is presented as being cyclic. The back-and-forth movement across the question types assist students find answers to their questions.

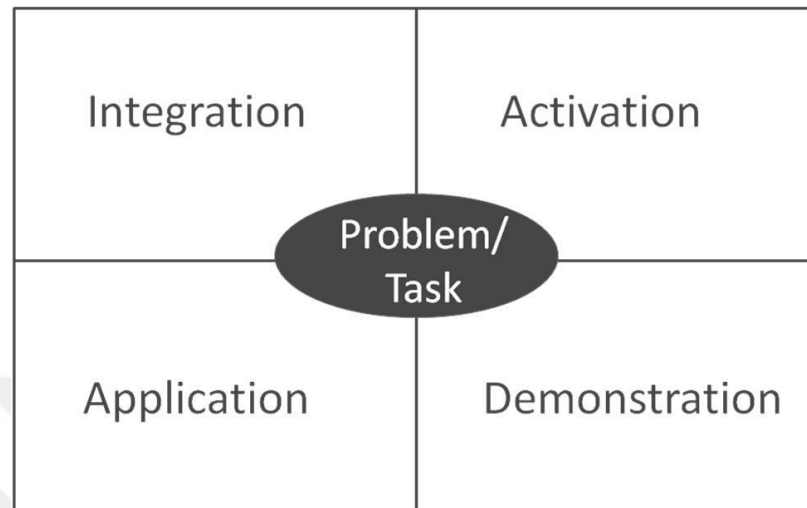
Although the presence of a teacher is not clearly indicated in the model, Chin and Chia, in their article state that the teacher's role is to scaffold learners' thinking and guide them to identify the problem and relevant questions, and to find solutions to their problems by assisting them to consider all the question types. If students experience difficulty in defining a problem to inquire, the teacher should guide them on identifying a problem by using examples that include common sources of inspiration and ideas and then help them produce their own problems. In addition, teachers should also provide cognitive modeling in generating questions by using sample questions and demonstrating how to ask meaningful questions throughout the process.

Chin and Chia state that learning is integrated in the activities revolving around the resolutions of problems created by students using their prior knowledge. As students identify problems, and generate ideas, questions, and solutions together, there is continuous discussion among students. Thus, the interaction among students can be perceived as linguistic tools that facilitate critical thinking during collaborative learning. Since students' cognitive abilities are socially constructed, Chin and Chia's model aligns with Vygotsky's (1978) socio-cognitive point of view.

Another model which presents the relationship between constructivism and PBL is David Merrill's First Principles of Instruction Model (Figure 2.4.3). Merrill in his article titled *First Principles of Instruction* (2002) states that the most effective learning environments and products are problem-centered and that students should experience four distinct stages of learning which are: activation of background knowledge, demonstration of skills, application of skills and integration of the skills into authentic problem scenarios. Merrill designed a model to present a conceptual framework to initiate and relate the five phases for effective instruction.

Figure 2.4.3

Phases for Effective Instruction



The prescriptive first five principles that Merrill suggested are as follows:

1. Learning is promoted when learners are engaged in solving real-world problems. For According to Merrill, a problem consists of various tasks, with the most essential attributes being that the task encompasses a whole task rather than just its individual components, and that the task closely resembles those encountered by the learner in real-world situations after the instruction (2002). He emphasizes that a problem should include a variety of activities which should be a whole task representing the real world. According to him, although learning objectives is a common practice, they are usually abstract which makes them complicated for students to understand; therefore, there should be a demonstration of a whole task akin to the ones that the students are expected to complete. Finally, some problems can be quite complex for students to complete; thus, he suggests that students must start by working on a less complicated problem before they start working on a complex one.

2. Learning is promoted when relevant experience is activated. It is crucial to activate students' appropriate background knowledge relevant to the objective of the lesson to be able to use it as a basis for the new knowledge. If students lack prior mental models related to relevant learning experiences, then three-dimensional experience which can be used as a basis for the new knowledge should be provided in the first stage of learning. Besides, Merrill states that if the inappropriate previous mental model is activated by referring to themes irrelevant to the objective of the lesson just to create an interesting and motivating

learning environment, then it may increase the cognitive load needed to learn the intended knowledge and skills as well as interfere with the instruction rather than fostering its effectiveness.

3. Learning is promoted when the instruction demonstrates what is to be learned rather than merely telling information about what is to be learned. Merrill highlights that new knowledge exists at two levels which are information and portrayal. Although presenting information is a commonly used way of instruction, it is not very effective since it is a tell-and-ask instruction which is followed by questions which require lower-order thinking skills. However, instruction is more efficient if it involves the portrayal stage where the information is presented through certain contexts. He adds that since there are different problem classes which are problems of categorization, problems of design, and problems of interpretation, demonstrations should be compatible with the intended learning outcomes (Merrill, 2002; Dijkstra & van Merriënboer, 1997). Merrill also draws attention to the importance of explicitly mapping features related to the problem, providing multiple representations of the concepts to learners, and presenting combinations of multimedia such as graphic, and audio. (Merrill, 2002; Clark & Blake, 1997). He claims that such guidance gets students' attention and leads to knowledge acquisition.

4. Learning is promoted when learners are required to use their new knowledge and skill to solve problems. Merrill emphasized that applying newly learned knowledge and skills on real-world problems is necessary for students to acquire the intended learning outcomes and that all the problem-based models involve students in doing real-world problems. Merrill emphasized the importance of scaffolding and feedback both of which are crucial forms of learner guidance during the application process. However, he also stated that to promote learning, the application needs to be consistent with the learning goal. Otherwise, practice will not be effective even if appropriate feedback and/or scaffolding is provided. He also points out that students' errors are the natural consequence of problem-solving and that they are important as students learn from the errors they make, particularly when they re-examine their performance, realize the error, think of ways to correct the error, and avoid making it again.

5. Learning is promoted when learners are encouraged to integrate (transfer) the new knowledge or skill into their everyday life. Following the instruction, students need to be given opportunities in order to integrate their newly acquired knowledge and skills into the

real world. Learners transfer instruction into their lives. Once they include it into their available repertoire, they can show their newly acquired knowledge and skills, reflect on, talk about, and defend their knowledge and make necessary changes in their knowledge and skills.

Another method where constructivism and PBL overlap is the apprenticeship methods proposed by Collins, Brown and Newman (1987). In their approach, the primary emphasis is placed on instructing and acquiring cognitive techniques, forming the cornerstone of PBL, all with the overarching goal of fostering students' development of thinking and problem-solving skills.

In Collins, Brown and Newman's model, there are six teaching methods which can be divided into three categories. The initial three techniques (monitoring, coaching, and scaffolding), which constitute the fundamental elements of the apprenticeship approach, are designed to support students in developing a comprehensive set of cognitive and metacognitive skills through the practices of "observation and guided and supported practice (Collins et al., 1987, p.16). The second category of the method (articulation and reflection) helps students focus their attention on observing the tutor's problem-solving and get access to as well as control of their problem-solving strategies. The third category (exploration) aims to enhance learner autonomy while performing advanced level problem-solving processes during a lesson as well as "defining or formulating the problems to be solved" in the real world that they may encounter in the future (Collins et al., 1987, p.16).

1. Modeling is showing learners the steps required to accomplish a task, allowing them to observe and construct a conceptual model of the necessary processes to attain the task objectives. It is the demonstration of the desired performance. The tutor externalizes the cognitive/internal processes such as articulating decision-making processes as well as shows how to perform the steps specified in the structure of the activity. This includes "the heuristics and control processes" in which the tutor uses both basic conceptual as well as procedural knowledge (Collins et al., 1987, p.16).

2. Coaching specifically focuses on students' individual task performance. It is the process of observing students, analyzing their performance, offering hint modeling, scaffolding, feedback, and suggestions on the performances, and encouraging reflection while carrying

out a task. The coaching interaction is directly linked to particular situations and challenges that come up when the learner wants to complete the designated task. (Collins et al., 1987).

3. Scaffolding is the support in which tutors provide help to students carry out a task which is beyond their capacities. It is the cooperative problem-solving process carried out by students and tutors; however, the aim is to have students complete the task on their own as soon as possible. When students start carrying out the task alone, the tutor's support gradually fades away.

There is scaffolding in three of the models described above in a variety of ways.

4. Articulation is using any method to have students articulate their knowledge, decision-making, reasoning, and/or problem-solving processes in a subject. Collins, Brown, and Newman identified several articulation methods. First of all, as in inquiry teaching, the tutor can question students in order to have them articulate their knowledge on a domain (Collins & Stevens, 1983). Secondly, the tutor can encourage students to articulate their understanding and reasoning such as “forming hypothesis, testing hypothesis, making predictions, selecting optimal cases to test a theory, generating counterexamples and hypothetical cases, distinguishing between necessary and sufficient conditions, considering alternative hypothesis” as they carry out the task (Collins & Stevens, 1983, p.276). Third, assigning the role of a critic to students in cooperative activities in which they articulate their knowledge about “problem-solving and control processes” (Collins et al., 1987, p.17).

5. Reflection is a method where learners compare their problem-solving processes to that of the tutor, peers, and their internal conceptual model of the processes. For comparison, various techniques can be used to reproduce or replay the performances of both tutor and student. One way of doing reflective comparison is by comparing the student's process to problem-solving with that of the tutor which serves as the intended outcome (Collins et al., 1987).

6. Exploration refers to assigning a mode of a problem which students solve on their own. The goal is to assign engaging, broad tasks to students and allow them to work on these tasks once they have acquired foundational exploration skills. It is crucial to force students to do exploration so that they learn how to analyze problem scenarios which are appealing and that they are able to solve. Exploration stage is the peak in which support starts fading. It includes fading in the problem-solving and fading in the problem setting. Since students are

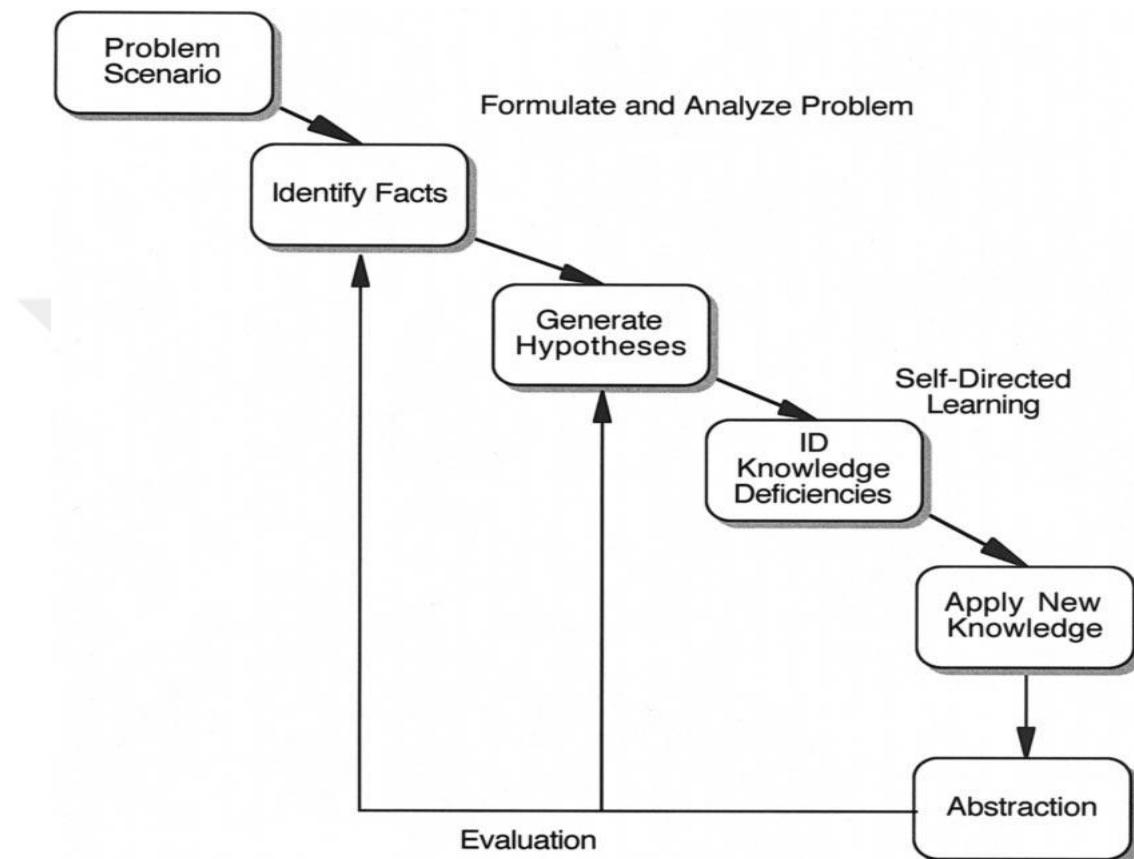
not familiar with the exploration process, exploration strategies are taught as part of learning strategies (Collins et al., 1987).

In 2004, Hmelo-Silver proposed a new model which is rooted in the principles of constructivism for implementing PBL in the classroom that highlights the differences between PBL and other inquiry-based learning approaches including anchored-based instruction as well as project-based learning. The model that Hmelo-Silver created centers on the idea that learners acquire knowledge through collaboration with their peers in small groups. As Savery and Duffy (1995) propose, Hmelo-Silver also suggests that teachers act as facilitators, guiding students in their investigation for knowledge during the PBL tutorial process.

PBL belongs to a group of methodologies that consist of anchored instruction as well as project-based learning. Yet, Hmelo-Silver's model (2004) for implementing PBL in classrooms highlights the distinctions between PBL and other inquiry-based learning techniques. All three approaches share two main characteristics. Firstly, learners actively collaborate with their peers to construct knowledge. Secondly, the teacher and students' roles are redefined. Rather than being the ultimate source of knowledge, the teacher takes on the role of a facilitator to guide learners in their collaborative pursuit of information and knowledge construction. The teacher guides the learning process by asking open-ended questions to encourage learners to share their thoughts and keep them involved in the group process. While anchored instruction and project-based learning involve some direct instruction from the teacher, self-directed learning is a distinct feature of PBL, particularly when students require information to solve problems. PBL necessitates that students take responsibility for their own learning, fostering critical thinking and prompting reflection on the subject matter being acquired (Bereiter and Scardamalia, 1989). PBL also requires students to put their knowledge into practice and develop into thoughtful, self-guided learners (Hmelo-Silver, 2004, p. 239).

Figure 2.4.4

PBL tutorial process (Hmelo-Silver, 2004, p. 237)



The initial stage of the process starts with the formulation of a problem scenario, representing a complicated, real-world situation that is unfamiliar to the learners. In the subsequent stage, learners engage in decoding and reformulating the problem to enhance their comprehension. They may attempt to transform vague, complex problems into clearer ones to grasp the expectations and generate hypotheses. The concepts generated result in identifying the gaps in knowledge, where students discern what they already know and what they still need to acquire. They utilize the self-directed learning (SDL) approach to pinpoint the pertinent learning concerns. This procedure then results in the creation of feasible solutions and action plans which allows students to apply their newly acquired knowledge. The final phase of this process is abstraction, during which students reflect on the problem scenario, self-directed learning methods, and collaborative learning processes. Problem-based learning

serves both as an approach for acquiring knowledge and as a means to foster students' problem-solving skills.

2.4.3. Historical Background of PBL

Compared to many pedagogical approaches, PBL has been a newly emerged approach. It has been popular since Barrows and Tamblyn (1980) were doing research to develop reasoning abilities of medical students at McMaster Medical School in Canada. With their study, there was a change from *problem-solving learning* where students were expected to answer questions from information provided by the teacher. In this new method which they called problem-based learning, Barrows and Tamblyn proposed involved learning where students work on problem scenarios which encourage them to take responsibility for learning and engage themselves in the learning process.

There were key essential characteristics in this early version of PBL. Small groups of students were presented with a problem scenario and tasked with identifying the gaps in their knowledge and skills. They were expected to assess what additional information they needed to propose potential solutions to the given problem. Therefore, the following characteristics form the early definition of problem-based learning (Barrows and Tamblyn, 1980):

- Complex and real-world scenarios devoid of a single definitive solution.
- Students collaborate in teams to address the issue, identify knowledge gaps, and offer practical solutions.
- Students acquire new knowledge through self-directed learning.
- Teachers take on the role of facilitators.
- Problems contribute to the cultivation of clinical problem-solving skills.

However, since the global expansion of PBL which started in the 1960s, the characteristics related to it have changed and become more flexible. There has been an attempt to go beyond the narrow and prescriptive definitions to broader and descriptive definitions. Boud (1985) and Barrows (1986), two proponents of PBL, have introduced broader characteristics of PBL, focused on what happens during the process, and emphasized that PBL is not to be considered as a specific way of learning method. Rather it is to be considered as learning

which had several different forms depending on the nature of the discipline and the objectives of the curriculum.

Also, Boud (1985) points out that the developments in PBL have carried the process beyond being merely problem-centered and that learner-centeredness is the most important characteristic among the eight that he came up with. The following eight characteristics have made a significant transition from the earlier, narrower, and more rigid definitions of PBL where the focus is on the process. The characteristics identified by Boud elaborate the pedagogical premises underlying problem-based learning.

1. an acknowledgment of learners' prior experiences as a basis.
2. an emphasis on students taking ownership their learning
3. bridging the gaps between different disciplines
4. an integration of theory and practical application
5. an emphasis on the methods used to acquire knowledge rather than only on the end results
6. a shift in the teacher's role from being an instructor to becoming a facilitator
7. a shift from teacher's evaluating learning outcomes to students engaging in self-assessment and peer assessment
8. a focus on communication and interpersonal skills, emphasizing that students need to possess the ability to convey their knowledge effectively to others, extending beyond their technical expertise.

2.4.4. **Problem-based Learning**

Problem-based learning is a curriculum design or instructional learner-centered strategy (Conway and Little, 2000). As an instructional approach, PBL is a teaching strategy that can be integrated with other strategies. Therefore, there is a tendency to implement it within a subject or as a part of a program in which other subjects might be presented via lectures. However, in the PBL curriculum, problem-centered learning is the *philosophy* of curriculum design where students address one problem at a time which drives the learning process (Savin-Baden, 2007, p.9). It can be utilized in two ways: *the pure PBL* model where learners

work in teams and do not receive any lectures or *the hybrid model* where fixed sessions including lectured and tutorials are included in the teamwork to provide the support that learners need along the learning process. Considering the most commonly used types, it may be difficult to offer a definition for PBL. Thus, Savin-Baden (2007, p.10) offers the following definition and explanation:

“Problem-based learning is ... an approach to learning that is characterized by flexibility and diversity in the sense that it can be implemented in a variety of ways in and across different subjects and disciplines in diverse contexts. As such it can therefore look very different to different people at different moments in time depending on the staff and students involved in the programs utilizing it. However, what will be similar will be the focus of learning around problem scenarios rather than discrete subjects.”

There have been several proponents of PBL who have defined it as an approach to instruction. Boud and Fetti presented a list of practices including the features of the philosophy, strategies and methods of PBL (1997). Duch, Groh, and Allen put forward methods to be implemented in PBL and the specific skills that are intended to be developed such as the ability to think critically, analyze ill-structured problems; to find, evaluate and use appropriate resources as self-directed learners; to work with their peers in collaboration; to have good communication skills; to apply their knowledge and skills in the upcoming problems and to become lifelong learners (2001). Savery points out that in the PBL curriculum, each problem encourages students to work in teams, do research, combine theory with practice, and employ knowledge and skills to offer possible solutions to an ill-structured problem (2006). According to Torp and Sage, PBL entails structured, hands-on learning centered on exploring and solving complex, authentic real-world issues. (2002). They perceive students as active problem-solvers who try to identify the underlying issues and the prerequisites to reach an optimal, feasible solution. This approach encourages the pursuit of comprehension and meaning, fostering self-directed learning throughout the process.

2.4.5. Principles of the Problem-Based Multidisciplinary or Interdisciplinary Curriculum

The following principles build the structure of a problem-based curriculum. (Barrows, 1995; Barrows & Tamblyn, 1980; Hmelo-Silver, 2004; Glasgow, 1997). These structural

principles, which should be considered as guidelines rather than rules (Glasgow, 1997), define a specific curricular problem-based integrated and interdisciplinary learning paradigm.

1. PBL provides a motivating and exciting learning experience. PBL curriculum aims to help students become intrinsically motivated which is crucial for students to produce intellectual cognitive products rather than consuming information and forgetting what has been learned after assessment and evaluation and to complete a task. Intrinsic motivation occurs if students work on tasks which are interesting, motivated, and at appropriate difficulty level. Learners are also engaged when they value what they have been learning and when the task has personal meaningful implications for them (Ferrari and Mahalingham, 1998; Hmelo- Silver, 2004). In addition, knowing that they have the control over the outcome of their learning motivates them (Glasgow, 1997).
2. Learners need to take responsibility of their learning. PBL is a learner-centered approach and learners encounter a complex problem regardless of their background knowledge and prior experience. It is important for students to have motivation so that they can carry out the task and complete it. Learner motivation increases when students have the responsibility to come up with an appropriate solution to the problem and to control the process (Savery & Duffy, 1995). In addition, they become more engaged and motivated when their ownership of their learning increases (Savery, 1998; 1999; 2006).
3. The problem scenarios presented to students in PBL need to be open-ended, ill-structured and encourage free inquiry. First of all, the problems encountered in the real world are complex and ill-structured. Thus, one of the critical skills that PBL aims to provide to students is to identify the problem and define the parameters for the development of an appropriate solution. In addition, learners do not spend much time and effort to solve the problem when the problem is well-structured. It has been observed that if the problem is ill-structured, learners spend more time and effort to find out the whys and hows of the problem and become more motivated. (Savery, 2006).

4. The activities conducted in PBL must be those valued in the real world. In PBL, students work on authentic problems. For some designers, authenticity means tasks that support the performance of specific real-world tasks. However, this restrictive perception of authenticity may place the learning environment in a narrow context. For the majority of educators, authenticity refers to tasks that require the same type of cognitive demand as those in the real world (Savery & Duffy, 1995; Honebein, 1996; Jonassen, 1999). Savory and Duffy claim that problems must address real-world issues for three reasons. First of all, students explore all dimensions of a given task and it would be very difficult to create a problem which has a context as rich as a real-world issue. Secondly, real problems are more engaging for students as they present a larger context and familiarity with the problem. Third, students want to find out about the results of the problem which are usually impossible to attain with artificial problems (Savery & Duffy, 1995). When there is a genuine connection between the problem and life, learners engage in the problem more and will be able to transfer what they learn to their future professional life (Barrows et al., 1980).
5. Learning should incorporate insights and knowledge from diverse fields and subjects. (Glasgow, 1997). Barrows highlights that students come to a strong solution when they reach, study, evaluate and integrate the knowledge they gain from all the disciplines which may have an impact on their understanding as well as resolving a particular problem. The PBL learning environment presents carefully constructed complex problems which integrate information across multiple domains. Such an integration validates and strengthens the curriculum within all areas of the problem. As a result, students who integrate multiple perspectives can arrive at more realistic and effective solutions. In addition, the expansion of information stimulates cross-fertilization of ideas which may lead to the development of new disciplines.
6. Students construct an extensive and flexible knowledge base in deep learning. In a problem-based curriculum, self-directed knowledge acquisition and accumulation of processes, techniques, methods, and information are organized in an authentic and useful context. Learning is associated with cognitive demands which are coherent with the cognitive demands of the real world for which students are educated (Honebein, et.al. 1993). When knowledge is built around deep structures rather than

surface structures in a domain, students can easily recall, retrieve and apply it fluently to varying and appropriate real-world contexts.

7. PBL facilitates opportunities where students integrate their past knowledge and experience with the new learning activities where they acquire, apply, update, and add to their past knowledge (Glasgow, 1997).
8. Collaboration is essential. Collaboration with peers offers practice opportunities for constructive dialogue. By asking questions to each other to understand the problem, they are challenged to establish a common understanding, resolve discrepancies, agreeing on the steps that the group will follow throughout the process. These tasks require several open exchanges of ideas and members' effective participation and engagement. It is important to explain their ideas in order to create a meaningful communication and productive collaboration and to enhance learning (Glasgow, 1997). The learning environment mirrors "the relationship requirements in many real-world settings" (Glasgow, 1997. P.55).
9. The knowledge and skills acquired through self-directed learning should be put into practice by revisiting the problem scenario, re-evaluating it, and finding possible solutions. After understanding and determining the gap between what they know and what needs to be learned, each group member acquires the necessary knowledge individually. It is crucial that each member shares what she/he has learned and how that knowledge may affect the pathway that leads to an optimal solution.
10. PBL encourages reflective, open-minded, critical, and active learning (Margetson, 1991). Students analyze what they have learned and which principles and concepts they have discussed. Students who reflect on all the aspects of the PBL process, better understand what they learned and how they performed during the process.
11. Self and peer evaluation should be conducted upon the conclusion of each problem and at the end of each curricular unit. Throughout the PBL process, students need to evaluate both themselves and their peers. Evaluation activities of PBL are about reflecting on the knowledge students have gained during the problem-solving process. Students who gain the ability to reflect on both their own knowledge and the knowledge of their groupmates also practice and acquire metacognitive processing skills.

12. PBL should be the pedagogical base in the curriculum and not part of a didactic curriculum. Adopting a PBL model requires instructional scaffolding where the aim is to develop students' problem-solving skills, collaboration skills, and self-directed skills to a level of self-sufficiency in which the scaffolding can gradually fade. By probing students to deeper thinking and modeling the thinking processes for their students, there is a kind of cognitive apprenticeship relationship between the tutor and students (Collins et al., 1989). Thus, it is crucial to develop teacher training programs in order to facilitate the PBL learning experiences (Savery, 2015).
13. Assessment in PBL must measure learners' progress aligned with the goals of PBL. The goals of PBL encompass not only knowledge and skills but also the process, with students taking charge of understanding the subject matter and actively participating in problem-solving, critical thinking, and the cultivation of self-directed learning capabilities (Boud & Feletti, 1991). It is crucial to evaluate the application process of the content rather than merely assessing the mastery of the content (Glasgow, 1997). Thus, students need to be assessed on both dimensions regularly in order to ensure that students are acquiring the intended learning outcomes (Savery, 2006).
14. Using Bloom's cognitive levels is beneficial to create challenges for learners. However, there could be too much focus on it, and PBL may become all about thinking about knowledge. In PBL, the problems should engage learners holistically, not just facts. It's essential to acknowledge that in courses where problem-based learning is integrated, students start thinking critically as soon as they begin. If students know they should think critically right from the beginning, they'll understand that solving problems isn't just about finding the right answer. It's also about really understanding the subject.
15. PBL develops effective problem-solving skills. PBL curriculum embeds learning in authentic contexts which requires the use of effective analytical reasoning skills while using the knowledge acquired. Identifying problems in the PBL group activates students' relevant schemata and fosters the processing of new information. Students learn better and develop effective problem-solving skills in the following PBL stages when they relate the new information to what they already know beforehand. In addition, throughout this process, students enhance their metacognitive abilities,

which encompass the executive functions of planning problem-solving, monitoring their learning journey, and assessing the attainment of their predefined objectives (Glasgow, 1997).

16. PBL develops students' metacognitive strategies which are also crucial to improve their self-directed and lifelong learning skills. First of all, students start developing metacognitive awareness of what they understand and what they do not understand related to the problem by discussing it. Secondly, they identify the learning issues which the group needs to know to resolve the problem. Thirdly, they need to plan their learning to reach their goals. Then, students engage in self-directed learning by gathering the information from appropriate, available resources as well as visiting faculty who are designated to be consultants to get information. After the self-directed learning process, students come together to evaluate the resources and start working on the problem by re-examining the problem with their new level of understanding. Finally, while implementing their plan, students monitor and evaluate their and their peers' progress to see whether they have achieved their goals. This cycle, which may repeat if any other learning issues arise, help students develop their metacognitive strategies (Glasgow, 1997; Savery & Duffy, 1995; Barrow, 1988).
17. PBL lowers the competitive level of the class. Since students in each group focus on a different aspect of the problem, each group member has a different role and investigates different questions which have different answers. This kind of learning creates a collaborative environment rather than a competitive one. Glasgow highlights the importance of lowering the competitive level, particularly in classrooms which are composed of heterogenous groups of students so that students can "work within areas of strength and also experiment with other roles" (Glasgow, 1997, p. 55).
18. Learning in PBL is cumulative and that new learning is constructed on what has been learned previously (Schmidt, Rotgans, Yew, 2011). Both collaborative co-construction and individual self-directed learning have a great impact on student learning in PBL. The research done by Yew and Schmidt showed that students' prior knowledge significantly impacts learning and that the sequential nature of learning in PBL (from the problem analysis phase to self-directed learning to the reflection phase) influences student learning outcomes.

2.4.6. Taxonomy of PBL

The form of the approach changes depending on the nature of the discipline as well as the educational objectives. Barrow has emphasized that the combination of PBL design variables is limitless when they are linked to the objectives of a course. Despite the endless combinations, all types of PBL need to be evaluated by considering the factors which are the types of problems, learners' autonomy, the way where learning and teaching take place as well as the assessment and evaluation methods. Thus, Barrows introduced a taxonomy of PBL methods that explains their different meanings and uses of PBL. The taxonomy caters to different educational objectives.

1. Lecture-based cases: Teachers present the information to students in class and provide a case material which demonstrate the introduced information.
2. Case-based lectures: Teachers present case histories before a lecture which later covers related material.
3. Case method: Teachers give a complete case study in which students research in one class and have a discussion in the next class.
4. Modified case-based: Teachers provide some information to the students and ask them what decisions they can make and what actions they can take. Depending on the results, teachers provide more information.
5. Problem-based: Students meet a client in some kind of a simulated structure and inquire about the given situation.
6. Closed-loop problem-based: This is an extended version of the problem-based method in which students evaluate the resources which they used in the problem-solving process to evaluate how they have managed the situation effectively.

Both the PBL characteristics that Boud outlined and the taxonomy that Barrow proposed have indicated the complex nature of the PBL. It has become a popular approach as it focuses on learning rather than teaching and there have been attempts to define it and develop the premises that Boud and Barrow introduced. As a case in point, Walton and Matthews consider that PBL is a general education strategy as well as a philosophy in education instead of being only a teaching approach. They have also highlighted that

given the multifaced spectrum of PBL, there is not one fixed agreement on what includes and doesn't include. Yet, they have agreed that PBL has three fixed parameters which explain how the PBL needs to be considered and implemented.

1. fundamental characteristics of PBL include curricula structured around problems rather than specific subjects, an integrated curriculum, and a strong focus on cognitive abilities
2. conditions that facilitated PBL such as small teams, scaffolding, and active learning
3. outcomes fostered by PBL encompass the cultivation of skills, motivation, and the capacity to become lifelong learners

Savin-Baden pointed out that both models that Boud and Walton and Matthews are comprehensive enough; however, a new approach called “one-day one-problem approach” was introduced by O’Grady and Alwis (2011). In the classical form of PBL, small groups, typically comprising around nine students, convene two to three times a week, guided by a facilitator. They are presented with an open-ended problem that serves as the catalyst for the learning process. Students identify their knowledge gaps to initiate self-directed learning. Following an independent study phase, they collaborate to exchange their insights regarding the problem, verifying the accuracy and completeness of their newfound understanding to propose potential solutions. If it is, then they present their results to their peers. Once the learning goals are met, students receive a new problem and start a new PBL cycle. (Barrows 1985; Hmelo-Silver 2004; O’Grady and Alwis, 2011). One-day one-problem approach follows the process of traditional PBL outline, except that the PBL cycle is completed in one day with a more structural approach to provide better guidance to students. The day progresses as follows:

1. Each morning, learners are presented with a complex and ill-structured problem scenario.
2. In groups of five, with guidance and assistance from a tutor, students (25 in total per class) analyze the problem, identify areas of knowledge and uncertainty, and generate potential hypotheses.
3. Groups pinpoint learning issues they intend to explore and utilize research techniques to gather relevant information.

4. In the midday, each group of five meet with the tutor to review their progress.
5. The groups offer possible solutions to the problem and present their findings to the remaining four groups of five, along with the facilitator for evaluation.
6. Groups engage in discussions, defend and justify their results, and reflect on the methods they have employed to learn within their groups.
7. Each learner does self-assessment for their learning and record their progress in their journals

O'Grady and Alwis state that this approach is more suitable for students who are "not so mature and independent learners" such as university students. When the classical PBL cycle is used by having students work on one problem a week, students may lose motivation or prognosticate. Due to their maturity level and in sufficient study skills, they more structure and support. Thus, one-day one-problem approach provides the needed structured and guided learning process since

1. students only focus on one topic for the duration of one day, allowing them to work on smaller and more manageable "learning units"
2. the day is divided into three sessions, allowing for guidance and monitoring of students' progress by the facilitator, who can readily intervene if needed.
3. O'Grady and Alwis' approach appears to be a compelling option since students' progress in all PBL stages can be observed more closely compared to classical PBL cycle.

2.4.7. PBL Instruction Design

Duffy and Cunningham specify five critical aspects when designing PBL instruction, including task evaluation, problem creation, the order of learning activities, the facilitator's function, and evaluation (1996, pp. 23-24). Task analysis which is the initial step in PBL design consists of analyzing what needs to be learned. It's crucial to emphasize that this analysis should not only identify key concepts and procedures but also consider how these concepts are used. Two key issues of task analysis that should be identified are: 1. aligning it with real-world problem and 2. integrating metacognitive, collaborative, and other skills necessary for authentic learning alongside content knowledge. In the problem generation

stage, two guiding principles should be followed. First, the problems should relate to the principles and concepts of the content domain. Second, the problems should be based on real situations as students tend to engage more with real-life problems, exploring all aspects and demonstrating curiosity about the outcomes. The order of learning encompasses two types of learning activities which are collaborative problem analysis sessions and self-directed learning. During collaborative problem analysis sessions, facilitated by an instructor, students collaborate in small groups. Additionally, for addressing specific learning issues, students engage in self-directed by doing research. Facilitators have two goals in PBL. Firstly, they aim to stimulate higher-order thinking in students by posing questions such as "Why?" "Why do you think so?" and "What do you mean?" The second aspect involves challenging students' thought processes by posing questions like "What is the significance of this?" and "What are the implications of this?" Finally, assessment in PBL should be context-specific, related to the problems students are study in class. Assessment tools should be derived from the learning objectives of the course. Besides, PBL instruction should incorporate self-evaluation and peer assessment.

The PBL instruction designed for the current research is based on Duffy and Cunningham's key PBL issues. The task analysis stage was not necessary since this was an extra-curricular activity in which problems already identified in United Nations Sustainability Developmental Goals. The problems needed were carefully generated as it was crucial for students in the experimental group to have some previous knowledge and experiences to build on and talk about them, ensuring meaningful integration. In the learning process, problem analysis sessions were conducted collaboratively in two forms: one where the whole class engaged in problem analysis and another where students worked in groups of 3. To assist and guide their collaborative and individual progress, facilitator prepared a PBL task sheet and shared it with the students. Students used online sources independently to find information for solving problems which promoted self-directed learning. The researcher monitored the students and played a facilitator role by addressing thought-provoking questions at various stages of instruction. These specific questions can be found in the lesson plans provided in Appendix I. Lastly, assessment included self-evaluation along with two oral assessments to evaluate student performance. Peer evaluation was not included in the assessment part because students lacked expertise in providing high-quality feedback which might lead to misinterpretations and misunderstandings.

This current study also integrated O’Grady and Alwis’ one-day one-problem approach in the PBL instruction due to students’ limited language skills. It would have been a difficult process for students to work on a problem for two or three weeks since getting into the depths of a problem would require more language. For this level of students presenting an idea and developing it by giving supporting evidence and experiences are the objectives in a speaking course. However, with more input, practice and exposure to the language, they can expand their ability to express their ideas more effectively.

2.4.8. Facilitator’s Role & Responsibilities

Constructivist theories of learning emphasize that students need to be engaged in constructing their own knowledge (Mayer, 2004; Palincsar, 1998). The assumption which leads to a “minimally guided discovery approach” is that students should explore and understand phenomena or problems without getting any support from their teachers. However, this assumption has proved to be flawed (Mayer, 2004). There is little evidence which suggests that learning is fostered through unguided and experientially-based approaches (Hmelo-Silver, Duncan, and Chinn, 2006). Although PBL is a constructivist model, it is not a discovery approach where little or no instances of minimally guided instruction is provided. It is a constructivist model which helps students learn how to think and solve problems. The tutor who is responsible for the process of learning facilitates student learning through guidance at the metacognitive level (Barrows, 1988).

Barrows, one of the first and strong proponents of PBL, emphasized that the tutor’s role is crucial for the success of the PBL process. However, he criticized most new PBL tutors for being unfamiliar with, unaccustomed to their roles, and prone to use the same communication techniques, strategies and actions as traditional objectivist teaching methods whereas students are expected to behave differently compared to the students in traditional learning (Barrow, 1996). Since students are active members in the learning process in PBL, tutor’s role needs to change. The tutorial process, which requires a new teaching character and perspective, is one of the defining features of PBL. Thus, Barrow proposed a model where he explained what characteristics, actions, attitudes, and beliefs an instructor needs to have in order to be an effective tutor (Barrows & Tamblyn, 1980; Barrows, 1988; Hmelo-Silver & Barrows, 2006). In his model, the learning environment is composed of a system of interrelated parts. Effective facilitation requires building on students’ thinking and metacognitive skills since the tutor’s role is to model, guide and scaffold engaging and

collaborative inquiry while bearing the learning objectives in mind (Hmelo-Silver et al. 2007; Collins et al., 1987).

Barrow's principles for the tutor's role, which provides an integrated approach to learning, are based on the educational theories of John Dewey and the constructivist philosophies. In his book titled *The Tutorial Process*, Barrows defines tutor's new roles. According to him, in a small group learning process, a tutor should have the ability to implement facilitatory teaching skills. Tutoring plays a crucial role in identifying the effectiveness and achievement of quality in any educational approach focused on two main goals: 1) fostering students' cognitive abilities such as "problem-solving, metacognition, and critical thinking" during the learning process, and 2) fostering their self-directed learning capabilities, including the skills of learning how to learn and managing their own learning. (Barrows, 1992, p.12).

In PBL, students need to understand the problem by recalling their prior experience and knowledge, identify the gap between what they already know and what they need to know to resolve the problem, ask questions, create hypothesis, make observations, determine appropriate resources, offer solutions, reflect on what has been acquired and decide what needs to be done next. The process that students go through requires thought, deliberation, and reflection (Barrow, 1992). Therefore, tutor's interaction with the students at a metacognitive level leads them to a deeper level of understanding and helps them develop their thinking and reasoning skills. The tutor does not overtly give any information and/or indication that he thinks students are right or wrong in their thinking. The tutor is considered to be the expert in the *process*, not in the content that the students are working on. The students are expected to find the necessary information from the content experts, books, journals, and available appropriate online resources, just as they will have to when they are working in the real world.

The results of several studies have indicated that tutor expertise has an important role on students' learning whereas some other studies have demonstrated that it has no significant effect. The reason why tutor expertise has been a controversial issue is that it has a great impact on students' learning when the resources and/or cues in the problems are inefficient to guide students. Thus, students rely on their tutors more in such situations in which a tutor knowledgeable in the subject area becomes more beneficial (Schmidt, Rotgans & Yew, 2011). However, this situation may have some drawbacks since their expertise in the subject area may dominate the tutorial process. Tutors with expertise in the subject area are prone

to play a “directive role” during the tutorial process. They are inclined to speak more and for longer periods of time, give more direct and clear responses to the students’ questions and suggest more points to discuss. Such behavior might negatively impact the development of students’ skills in self-directed learning as well as collaborative learning (Silver & Wilkerson, 1991). Barrows highlights that although the optimal circumstance in a PBL learning environment is to have a teacher who is expert both as a tutor and in the discipline studied, unless this is possible, the next best tutor is a teacher who is good at being a tutor in terms of developing students’ metacognitive skills.

In PBL, there is a collaborative learning environment where students work on ill-structured problems in small groups. Students benefit the social aspect of learning by discussing and exchanging ideas, solving problems and studying with their peers (Hmelo-Silver & Barrows, 2006). Throughout this socio-constructive process, the tutor’s role is to monitor and guide students, push them to deeper thinking and model higher-order thinking skills by asking the kind of questions that students should be asking. In other words, the tutor provides a *cognitive apprenticeship* in a learning environment where learning is the main aim and a complex problem is the driving force of the learning (Collins et al., 1989; Hmelo-Silver & Barrows, 2006). Tutor’s role is crucial because during the process, tutors should make sure that the key aspects of the content is apparent by asking questions which scaffold students’ learning through modelling, coaching, guiding and gradually decreasing the amount of support and eventually having students become independent learners. Hmelo-Silver and Barrows thinks the tutor as “an expert learner” who is able to model appropriate strategies for thinking and learning as needed rather than sharing information in specific content. Students learn as they collaboratively engage in the constructive processing (2006).

In addition, the tutor carefully guides the students and is certain that each step is covered throughout the process. That is, when the students analyze or evaluate an ill-structured problem, the tutor makes sure that the students cover all the steps of the hypothetico-deductive process. When solutions of a problem are to be undertaken, the tutor makes sure that the students consider alternatives as well as the pros and cons of the solutions they put forward.

The tutor does not express an opinion regarding the correctness or quality of the students’ comments and/or contributions nor remain silent over any superficial thinking and vague ideas. Yet, the tutor constantly models higher-order thinking skills as well as challenges the

student's thinking by asking questions such as "Do you know what it means?" "What are the implications of that?" "Is there anything else?" (Savory & Duffy, 1995). In first PBL sessions, the tutor makes sure that he challenges students' level of understanding of the problem as well as the relevance and completeness of it. Yet, tutor's intervention diminishes as students progressively take on responsibility of their learning and become effective self-directed students.

Scaffolding is crucial for assisting students in making sense of complex and ill-structured tasks, guiding their inquiries and problem-solving approaches, and prompting them to express their thoughts while reflecting on their learning (Quintana et al., 2004). Students often encounter difficulties in various aspects of PBL tasks, and numerous researchers have used various scaffolding techniques to assist learners in overcoming these conceptual and practical obstacles. (e.g., Chinn, 2006; Guzdial, 1994; Jackson et al., 1996; Linn et al., 2004; Reiser et al., 2001).

2.4.9. Scaffolding

There is no doubt about the importance of the role of the tutor as a scaffold to facilitate meaningful learning (Schmidt et al., 2011). The concept of scaffolding serves as a metaphor to illustrate the temporary assistance offered to students during the learning process, aiding them in completing a task that might be beyond their current abilities without this provided support. Scaffolding derives from Vygotsky's (1978) theories of social learning. The premise is that learning occurs within social settings by engaging with peers and individuals possessing greater expertise (Wilson & Devereux, 2014; Gibbons, 2015).

Modeling is based on how the tutor performs, functions. Coaching is based on the student's individual performance on which the tutor gives feedback. However, the nature of scaffolding is different as it offers a systematic approach to support the learner, focus on the task, the tutor, the environment as well as the students. The aim of scaffolding is to assist learning and student performance beyond their abilities (Jonassen, 1999).

Scaffolding is a special kind of assistance which helps students in moving toward and acquiring new concepts, level of understanding and skills. While scaffolding students' performance, the tutor diagnoses students' current level, performs a part of the task which students cannot yet manage, supplants their abilities to perform some part of the task by providing cognitive tools that help the student to perform or adjusting the difficulty of the

task or modifying the nature of the task (Jonassen, 1999; Collins et al., 1987). It is the temporary assistance by which a tutor guides students to learn how to complete a task so that when students feel ready, they can complete a similar task on their own. It is future-oriented, and the main goal is to increase students' autonomy. For Vygotsky (1978), what students can do with help today, they can do it on their own tomorrow (Gibbons, 2015).

Learning occurs only when students need tutor's scaffolding because they are likely to be working within their zone of proximal development at that time (Vygotsky, 1978). Jonassen draws attention to adjusting task difficulty. He suggests starting with the tasks that students are familiar with and gradually adding task difficulty until they cannot perform alone. This area where they experience the inability to perform alone is their zone of proximal development (1999). He states that tasks are to be designed in a way that improves task performance. Similarly, Gibbons emphasizes that while learning experiences should be attainable for students rather than being completely beyond their understanding level, it is largely tutor's responsibility to start each new step of learning, to provide scaffolding throughout the process and to build on what students can do on their own. Although tutors maintain high expectations of all students by challenging them, they provide adequate scaffolding for students to complete tasks successfully (2015). Students are scaffolded unless they cannot perform alone. However, when they perform the intended learning outcome, they start performing without scaffold which supports their learning (Jonassen, 1999).

In PBL, learning is embedded in cognitively complex tasks which require scaffolding to assist students engage in sense making (basic operations of testing hypothesis and interpreting data), managing their inquiries as well as their problem-solving processes (decisions made during the investigation process) and encouraging students to articulate their way of thinking to reflect on their learning process (constructing, evaluating and articulating what has been learned) (Quintana, Duncan, Kyza, Edelson, 2004). Since these types of tasks are challenging for students in many ways, tutors use various scaffolding strategies (Chinn, 2006). Scaffolding provides tutor/expert guidance, helps students reduce their cognitive load by making intellectual activities a routine and automated, and acquire ways of thinking and acting. All these applied strategies can support sense making, process management as well as articulation and reflection (Hmelo-Silver et al., 2006).

2.4.10. Collaborative Learning

Collaborative problem-solving is one of the primary features of PBL (Hmelo-Silver, 2004). Collaborative learning has its roots from sociocultural constructivism. Vygotsky, the founder of sociocultural constructivism agreed on Piaget that learning is a developmental process. Yet, he was against Piaget's theory that development of cognition starts within the individual. For Vygotsky, the developmental processes are predominantly constructed by social interaction (1978). Individuals learn as a result of an interactive process in which they experience and understand mutually. This process which "initially represents an external activity is reconstructed and begins to occur internally" (Vygotsky, 1978, p.57). Therefore, when interpersonal communication is gained, it evolves into personal mental reflection on the information, eventually transforming into individual knowledge. Vygotsky emphasizes that cognitive development doesn't progress from the individual to the social, but rather from the social to the individual (Vygotsky, 1986). The interaction within society and the dialectical process are fundamental mechanisms within an individual's learning environment. (Hung et al., 2019).

In collaborative learning, students jointly take charge of their own learning by engaging with peers, information, and the facilitator to collectively build their understanding of the subject. (Hung et al., 2019). PBL creates a learning environment where students experience, explore and interpret the problem relying on their background knowledge and experiences. During this process, students in small groups share, question, discuss and debate on the issues which help them construct the meaning and comprehension of the problem. Students can explore various perspectives and experience social-intellectual exchanges throughout this social negotiation. Thus, such interaction provides students with the chance to assess their comprehension, which is more advantageous and efficient compared to unverified knowledge constructed individually. It reflects a collective grasp of the subjects rather than solely the student's personal understanding. (Hung et al., 2019).

In addition to bringing in multiple perspectives from each member of the group together, collaborative learning promotes peer teaching to enhance students' zone of proximal development or ZPD which refers to the distance between a person's current level of development achieved through independent problem-solving and their potential development level reached through problem-solving with adult guidance or collaboration with more capable peers (Vygotsky, 1978). Using individual strengths within the group lays

the foundation for an efficient ZPD process. Additionally, the facilitator, acting as the more knowledgeable other, can improve the ZPD process by demonstrating expert questioning and reasoning skills (Hmelo-Silver & Barrows, 2008).

Collaborating in small groups can alleviate the cognitive burden on students since it allows them to distribute complex problems among the group, lessening the individual challenge each student would face when working alone (Hmelo-Silver, 2004). Therefore, the notion of “distributed expertise” is practiced in PBL since distributing the “learning issues” in the group leads each group member to become an “expert” in the field related to the given problem. (Hmelo-Silver, 2004). Moreover, participating in collaborative learning during PBL sessions enhances students' abilities in problem-solving and higher-order thinking. It involves them in collectively forming shared meanings, ultimately contributing to the acquisition of disciplinary knowledge and understanding. (Blumenfeld et al., 1996; Uden & Beaumont, 2006; Brown, 1995).

Students in PBL groups work together to understand the problem, identify what they know and what they need to learn, predict and theorize, determine the learning issues as well as the resources they will need to acquire the information needed, share their research results, summarize results and relate their predictions as well as theories to the data available. It is important to highlight the significance of the tutor's role in the PBL in order to help the groups communicate and collaborate effectively as well as accomplish their tasks (Barrows 1988; Hmelo-Silver, 2004).

In the modern society, most students find themselves in a work environment where they need to share information as well as be willing and ready to engage in effective and productive teamwork. Thus, collaborative learning in a PBL context provides students an opportunity to develop essential skills such as interpersonal and teamwork skills by participating in problem-focused learning groups (Barkley et al., 2005).

The 21st century challenges higher education. Increasingly globalized and diverse society requires citizens who can understand, appreciate, benefit from as well as contribute to different perspectives. Most existing national and global problems require constructive, long-lasting, collective solutions. Therefore, citizens need to learn to listen thoroughly, think critically, participate effectively and collaborate productively in order to find optimal

solutions to common problems. These skills should be the essential components of education (Barkley et al., 2005).

2.4.11. Features of a Good Problem

In PBL, students work on authentic problems. For some designers, authenticity means tasks that supports the performance of specific real-world tasks. However, this restrictive perception of authenticity may place the learning environment in a narrow context. For majority of educators, authenticity refers to tasks that requires the same type of cognitive demand as those in the real world (Savery & Duffy, 1995; Honebein, 1996; Jonassen, 1999). Savory and Duffy claims that problems must address real-world issues for three reasons. First of all, students explore all dimensions of a given task and it would be very difficult to create a problem which has a context as rich as a real-world issue. Secondly, real problems are more engaging for students as they offer a greater sense of familiarity with the context in which the problem exists. Third, students want to find out about the results of the problem which are usually impossible to attain with artificial problems (Savery & Duffy, 1995). When there is a genuine connection between the problem and life, learners engage in the problem more and will be able to transfer what they learn to their future professional life (Barrows et al., 1980).

2.4.12. Studies Conducted on the Impact of PBL on English-Speaking Abilities

While empirical studies on the use of PBL in speaking classes are limited, numerous non-empirical studies have delved into the basic principles and execution of PBL in language instruction (Abdullah, 1998; Larsson, 2001; Mathews-Aydinli, 2007). Abdullah emphasizes that learners construct their comprehension of language when it is used in practical, real-life situations. Additionally, he introduces PBL as an alternative teaching approach that supports learners in acquiring effective listening, speaking, reading, and writing skills. He highlights the changing role of teachers, emphasizing their need to prompt learners' reasoning and demonstrate critical thinking by posing inquiries that revolve around the questions such as "Why? What do you mean?" and "How do you know that is true?" (Savery & Duffy, 1994, p.12). He also presents Savory and Duffy's (1995) model of the PBL process which includes stages which facilitators and learners could follow.

Like Abdullah, Mathews-Aydinli refers to the steps in the process of PBL for students which was previously described by Albion and Gibson (1998), Boud (1985), and Butler (2003).

The process has four stages: 1. receiving an ill-structured problem, 2. exploring what is already known and what needs to be learned, 3. creating solutions to the given problem, and 4. evaluating the consequences of each solution and choosing the optimal solution. However, by pointing out the lack and need of what teachers should do to cater to this process, Mathews-Aydinli introduces and describes 5 roles for teachers: 1. preteach, 2. introduce the problem and the language needed to work on it, 3. group students and provide resources, 4. observe and support, and 5. follow up and assess progress.

Larsson's work is a hypothetical document. Rather than listing the principles and/or steps of the PBL process, Larsson discusses the interaction of language instruction with PBL. She highlights the fact that acquiring a language differs significantly from learning other subjects because "language serves as a tool" during the learning process rather than being the primary objective. However, in language acquisition, the main goal is to learn the use of the tool, and "understanding" is the key. Therefore, language input such as vocabulary and grammar has a more important role than many other subjects. As a result, Larsson poses the question of how it would be possible to provide learners with enough language input without violating the PBL principle of not "teaching" information to the learners. No specific answer has been given to the question; yet she concludes that since PBL has benefits such as fostering comprehension, questioning, and critical thinking skills as it encourages learners to work on tasks that require higher-order skills, having learners acquire knowledge actively, and developing social interaction, it could be worth designing a PBL syllabus for language classes.

Three of the non-empirical studies presented above acknowledge the benefits of PBL on language learners; however, they also point out that there is not enough research on the design and implementation of PBL in the instruction of English language (Abdullah, 1998; Larsson, 2001; Mathews-Aydinli, 2007). Some studies have been conducted to explore the impact of PBL on language instruction. As a case in point, research has been carried out to examine the impacts of PBL on the speaking abilities of learners (Khotima, 2014; Ansarian, 2016; Fahmi et al., 2021; Sutrisna & Artini, 2020). The findings of these studies have shown that implementing PBL positively influences the speaking abilities of learners.

Khotima conducted action research to investigate whether the implication of PBL improved 10th-grade learners' speaking skills. Based on the findings from the pretest, posttest, questionnaire, observation sheets, self and peer assessment and interviews, the researcher

drew the conclusion that learners' grammar, vocabulary, comprehension, fluency, pronunciation, and intonation improved (Khotima, 2016).

Ansarian (2016) conducted a study to find out the impact of PBL through cognition-based tasks (PBL tasks) on Iranian intermediate-level and advanced-level learners' English-speaking skills compared to the effect of objective-based tasks (conventional tasks). PBL was introduced as an alternative approach to traditional lecture-based instruction. To achieve the study's purpose, the cognitive tasks were designed according to Bloom's constructivist model, Norman and Schmidt's (1992) cognitive psychology stages in educational settings, and the PBL model, drawing heavily from Hmelo-Silver's PBL learning cycle (2004). In the study, the conversation models were replaced with the PBL tasks, which encouraged using cognitive skills and teamwork to achieve the targeted conversation. The analysis of the impact revealed that the cognitive-based group ($M=18.35$) had a significantly higher average ($MD=1.89$, $p=.000 < .05$) than the objective-based group ($M=16.46$). Therefore, the research results indicated that implementing PBL through cognitive-based tasks had a more positive effect on learners' speaking skills than objective-based tasks (Ansarian, 2016).

Similarly, the study findings of Fahmi et al. (2021) indicated a significant difference in students' speaking skills when instructed through PBL. The students began with an average pre-test score of 51.64 and concluded with a mean post-test score of 63.64, signifying that PBL significantly improved learners' speaking abilities. They have concluded that PBL could be an appropriate teaching method to develop students' ability in spoken English as it gives them an opportunity to work on real-life problems that require real-life solutions (Fahmi et al., 2021).

Another study which investigated the effect of PBL on language learners' English-speaking skills was conducted by Sutrisna and Artini in 2020. The research used an embedded mixed-method design including a one-group pretest and posttest as well as a descriptive qualitative questionnaire. 41 learners participated in the research. The results of the data analysis indicated that students' mean score after the treatment (77.27) was higher than the mean score before the treatment ($M=57.61$) and the paired sample t-test with a t-value of -25.833 ($p=.000 < .05$) proved that there was a notable statistical difference in the speaking skills of learners prior to and after the integration of PBL. (Sutrisna & Artini in 2020).

2.5. Oral Communication

2.5.1. Communicative Competence

Efforts to formalize and organize the understanding of proficiency frequently revolve around the concept of communicative competence. Communicative competence, which is one of the most significant concepts in languages education, “can be considered to be the target of second language acquisition, a main goal of second or foreign language teaching and learning, or the object language testers seek to measure via performance tests” (Whyte, 2019, p1). The concept of communicative competence has undergone significant changes since its initial introduction five decades ago. Applied linguistics has explored various aspects of communicative competence, leading to different meanings and applications in different areas of study (Whyte, 2019, p.3-4).

Chomsky first introduced the term "competence" or "linguistic competence" in 1965 to refer to one's understanding of language, separate from "performance," which he defines as the practical application and actual use of language. This division between language knowledge and usage was not a novel concept and had already been identified by Ferdinand de Saussure, a Swiss linguist, who distinguishes between “langue” referring to the linguistic competence of the speaker as a member of a speech community and “parole” referring to the actual linguistic data or phenomena (Robins, 1967, p. 200). However, Chomsky is known for interpreting the sociological differentiation made by de Saussure between "langue" and "parole" into a psychological framework (Howatt, 2004, p.270).

In fact, Chomsky's concept of competence deals with an “ideal speaker-listener in a completely uniform speech community who has an impeccable understanding of the language and is not influenced by grammatically irrelevant circumstances such as memory restrictions, diversions, changes of attention and interest and mistakes” (Chomsky, 1965, p.3). In other words, the competence referred to by Chomsky is an abstract concept. With "the ideal speaker-listener," he refers to an artificially created and idealized individual, rather than an authentic language learner (Kumaravadevilu, 2006, p.6).

Chomsky's linguistic theory was adapted for English language teaching by Dell Hymes. Hymes (1972) acknowledges Chomsky's terminology but also notes that a theory of competence that only focuses on mastering fully grammatical sentences is problematic because it overlooks the importance of the sociocultural significance of language use. Hymes

(1972) and Campbell and Wales (1970) proposed a broader understanding of competence called "communicative competence" as a response to Chomsky's (1965) claim that competence is solely connected to knowledge of grammar rules. Campbell & Wales (1970) and Hymes (1972) expanded upon Chomsky's distinction between competence and performance, arguing that this distinction does not account for the appropriateness and cultural significance of language use within specific situations and contexts. In response, they introduced the concept of "communicative competence", encompassing more than just grammatical knowledge, extending to sociolinguistic and contextual proficiency (Canale & Swain, 1980). Hymes claims that rules of use are equally important as rules of grammar by saying that "there are rules of use without which the rules of grammar would be useless" (p.278). In other words, an individual who is linguistically competent in grammar may still be incompetent in certain situations, as the appropriateness of language use depends on context. Apart from understanding grammatical structures, an individual should also possess knowledge of sentences, signifying an understanding of when, where, and how to communicate with different audiences (Hymes, 1972).

For Hymes, the concept of communicative competence involves a matrix of four interrelated circles that a child or language learner learns as they become more acquainted with a language system. These circles correspond to four standards: grammatical correctness, practicality, situational appropriateness, and successful execution. As new sentence structures are incorporated into the language system, the matrix of these standards is altered. This performance theory is akin to communicative competence because it takes into account the rules of language use that are relevant in speech acts and how they are implicitly conveyed by speakers.

Hymes suggested three categories, including knowledge of language rules, the ability to apply these rules in interactions, and actual language use during social interactions. Although this concept applies to both written and spoken language, Hymes focused primarily on oral interactions, which is also the main focus of the reviewed work.

Table 2.5.1 displays these dimensions, with the wording taken from Hymes' original text.

Table 2.5.1

Dimensions of Communicative Competence, Hyme (1972)

COMMUNICATIVE COMPETENCE		PERFORMANCE
Knowledge	Ability for use	Actual use & events
1 <i>What is possible</i> Systemic possibility "Grammaticality" (in terms of syntax but also culture, communication)	• Motivation • Affective & volitive factors • Capacities in interaction (e.g., composure, presence of mind, stage confidence)	• Behavioural record • Imperfect or partial realization of individual competence
2 <i>What is feasible</i> Psycholinguistic reality Constraints on memory, perception		• Interaction between individual competence, competence of others, and properties of events
3 <i>What is appropriate</i> Situational judgement Acceptability in context		
4 <i>What is performed</i> Actual occurrences		

As Tas and Khan (2020) highlight, Canale and Swain (1980) present a model of communicative competence that is possibly the first comprehensive and inclusive one and is able to account for all aspects of communicative competence in language learning and teaching. They drew inspiration from previous research conducted by scholars such as Candlin (1978), Halliday (1978), Hymes (1967, 1972), Morrow (1977), and Munby (1978). The term "communicative competence" is used by Canale and Swain to describe how grammatical competence, or grammar rules, and sociolinguistic competence, or language use rules, interact with each other. It is important to separate "communicative competence" from "communicative performance", which is how these competencies are actually used in producing and understanding speech, taking into account performance limitations.

Canale and Swain, Canadian applied linguistics, proposed a model of communicative competence in 1980 which builds on Hymes' criticism of Chomsky's differentiation between competence and performance. They agree that this distinction does not consider the appropriateness of an utterance in its setting and verbal context, a crucial aspect for effective communication. Additionally, they support Munby's idea that grammatical competence is an integral component of communicative competence rather than an independent entity. They believe that both grammatical and communicative competencies are interdependent and rules of language use are just essential as the rules of grammar for effective communication.

Canale and Swain have proposed *five guiding principles for a communicative approach* after examining various theories related to basic communicative skills, perspectives on sociolinguistic aspects of communicative competence and integrative theories of communicative competence. These principles are:

1. In order to communicate effectively, *one needs to possess three kinds of competencies - grammatical, sociolinguistic, and strategic. These three competencies collectively make up communicative competence.* However, there is no solid theoretical or practical justification to suggest that any one of these competencies is more critical than the others for successful communication. The ultimate aim of a communicative approach to language learning should be to help learners integrate all three types of competencies, rather than focusing too much on a particular aspect of competence over the others within the language program.
2. In order to effectively teach a second language, a communicative approach must take into account the communication needs of the learner. These needs should be identified based on three types of competencies: *grammatical competence (accuracy in both oral and written communication), sociolinguistic competence (context, topic, and functions), and strategic competence (ways to compensate for breakdowns in the other two competencies).* These communication needs can be categorized as fixed/terminal or transitional/interim, with the latter changing based on factors like the age of the learner and their stage in the language learning process. The communicative approach should also be based on the varieties of the second language that the learner is most likely to encounter in genuine communication situations, as well as the minimum levels of grammatical and sociolinguistic competence expected by native speakers in such situations.
3. For a second language learner to acquire communicative competencies, they need to participate in authentic communication with proficient language speakers. This enables them to respond to genuine communicative demands in real-life language contexts. This principle is crucial and can be difficult for teachers and program designers to implement, but it is supported by the theoretical differentiation between communicative competence and communicative performance. It is crucial for both classroom activities and testing purposes. Carroll (1961), and Clark (1972) advocate testing language proficiency in realistic communicative settings, as opposed to

relying solely on indirect tests such as pencil-and-paper exams or recorded tests. They argue that direct tests offer students an opportunity to apply their language skills in authentic situations, which can have a greater psychological value and instructional impact.

4. While initially acquiring a second language, it's optimal to use the communication skills that the learner has honed in their native language, as these skills often overlap with those required for effective communication in the second language. Teaching the less universal and arbitrary components of communication in language learning, such as specific grammatical features, is crucially important. However, they should be taught in the context of more universal and less arbitrary aspects, like the fundamental conditions of appropriateness when suggesting something or the fundamental rules of discourse while greeting.
5. To help learners meet their communicative needs in a second language, the main objective of a language program focused on communication should be to equip them with the essential information, practice, and practical experience. Language-related concepts like grammatical categories, communicative functions, appropriateness conditions, rules of discourse, and registers should be predominantly instructed in the learners' native language program, while socio-cultural knowledge of the second language group should be taught mainly in social studies programs so that they can transfer their prior knowledge to foreign language learning. A comprehensive approach like this may encourage learners to continue studying the language.

According to Canale and Swain (1980), who discussed the principles of communicative language teaching (CLT), it is important to prioritize opportunities for meaningful communicative interaction. By doing so, learners can gain the necessary information, practice, and experience to meet their communicative needs in a second language. Table 2 shows their model, which uses the 1980 text.

Canale and Swain's model of communicative competence encompasses three fundamental competencies: grammatical competence, sociolinguistic competence and strategic competence in line with the five principles presented above. The category of grammatical competence includes understanding of vocabulary and rules related to the structure of language, such as morphology, syntax, sentence grammar, semantics, and phonology.

According to Canale and Swain, it is unclear which theory of grammar should be favored to describe this competence, and it is uncertain how a theory of grammar directly applies to second language teaching, although recent research has explored the relationship between the two, particularly in pedagogical grammar. Nevertheless, they highlighted the importance of mastering grammatical competence as it is essential for any communicative approach that aims to teach learners how to accurately understand and express the literal meaning of utterances (Canale and Swain, 1980, p.29).

The component of sociolinguistic competence in the proposed model includes two sets of rules that are important for interpreting the social meaning of utterances: sociocultural rules of use and rules of discourse. Sociocultural rules of use determine which propositions and communicative functions are appropriate in “a given sociocultural context based on contextual factors such as topic, purpose of interaction, role of participants, setting, and norms of interaction” (Canale and Swain, 1980, p.30). These rules also consider the appropriateness of attitude and register conveyed by particular grammatical forms in a given context. The principles of cohesion and coherence, which are referred to as rules of discourse, aim to improve the communicative effectiveness of a sequence of statements. At the bottom of the model, strategic competence comprises both verbal and nonverbal communication tactics that can be used to compensate for communication breakdowns caused by insufficient competence or performance variables (Canale, 1983, p.9). There are two types of strategies: those related to grammatical competence (“e.g. how to paraphrase grammatical forms that one has not mastered or cannot recall momentarily”) and those related to sociolinguistic competence (“e.g. various role-playing strategies, how to address strangers when unsure of their social status”) (Canale and Swain, 1980, p.30-31). Canale and Swain also note that there is limited research in this area, but such knowledge may be particularly helpful for beginners in second language learning. They highlight the fact that the need for these strategies may change with age and proficiency, and they are best acquired through experience in real-life communication situations rather than in-class practices without meaningful communication (p.31).

Canale and Swain also claim that within each component of communicative competence, there is a subcomponent of probability rules that characterizes the knowledge of the frequency of occurrence of language use in different contexts. The probability rules refer to the knowledge of relative frequencies of occurrence that a native speaker has with respect to

grammatical competence, sociolinguistic competence, and strategic competence. These rules attempt to characterize the redundancy aspect of language, i.e. the probable sequences of words in an utterance, the probable sequences of utterances in a discourse, and commonly used floor-holding strategies. The authors suggest that knowledge of such probability rules is important for achieving communicative competence in a second language, and propose that authentic texts be used in the language classroom from the beginning to help learners develop this knowledge.

Table 2.5.2

Canale and Swain's model (1980)

COMMUNICATIVE COMPETENCE		
Compensatory strategies	Knowledge <i>Grammatical competence</i> Knowledge of • lexical items • rules of ○ morphology ○ syntax ○ sentence-grammar ○ semantics ○ phonology	Use <i>Sociolinguistic competence</i> • sociocultural rules • rules of discourse <i>Sociocultural rules of use</i> will specify the ways in which utterances are produced and understood appropriately with respect to components of communicative events <i>Rules of discourse.</i> The focus is the combination of utterances and communicative functions (not grammatical well-formedness nor sociocultural appropriateness)
Strategic competence • verbal and non-verbal communication strategies • for communication breakdowns (due to performance variables, insufficient competence)	Strategies that relate primarily to <i>grammatical competence</i> (e.g., how to paraphrase grammatical forms that one has not mastered or cannot recall momentarily)	Strategies that relate more to <i>sociolinguistic competence</i> (e.g., various role-playing strategies, how to address strangers when unsure of their social status)

Canale and Swain proposed the communicative competence model, which was later revised by Canale in 1983. Before introducing the new framework, Canale (1983) restates that communication in the communicative competence model refers to the exchange and negotiation of information using verbal and non-verbal symbols, oral and written/visual modes, and production and comprehension processes involving at least two individuals (p.4).

Canale's updated model consists of four components: grammatical competence, sociolinguistic competence, discourse competence, and strategic competence (1983, p.6). Similar to the previous model, grammatical competence in the revised model refers to language features and rules, such as vocabulary, sentence formation, word formation,

pronunciation, spelling, and linguistic semantics. In contrast, the updated model's sociolinguistic competence component, unlike the Canale and Swain model which includes rules of discourse, focuses solely on whether utterances are appropriately produced and understood in different sociolinguistic contexts, taking into account factors like the status of participants, the interaction's purpose, and interactional norms or conventions. Appropriateness, in this context, refers to both form and meaning, including kinesics and proxemics.

The third component of the updated model, discourse competence, refers to the ability to use grammar forms and meanings effectively in spoken or written texts across various genres. This is achieved through cohesion and coherence. Cohesion refers to the structural connections between utterances that make the text easier to understand. Cohesion devices, including anaphoric reference, ellipsis, synonyms, conjunctions, and parallel structures, link individual utterances and provide context for interpreting a group of utterances. Coherence, on the other hand, refers to the connections between various meanings in a text. These meanings may include literal meanings, communicative functions, or attitudes (Canale, 1983).

The fourth component, strategic competence, now includes the mastery of verbal and non-verbal communication strategies, not only to compensate for communication breakdowns but also to improve communication effectiveness. According to Canale, this theoretical framework is not a model of communicative competence because a model suggests a specification of how the components interact and how the different competencies are usually acquired (Canale, 1983, p.10-11).

While the idea of competence in L2 research is based on the understanding that using language is more than just following rules and involves a subconscious system (Whyte, 2019, p.4), the literature presents varying views on two issues: 1) whether "grammatical competence" is a component of "communicative competence" and 2) whether "communicative competence" should be distinguished from "communicative performance."

The question of whether communicative competence includes grammatical competence arises and according to Munby (1978), it is better to consider communicative competence as encompassing grammatical competence to avoid two misleading conclusions: the first conclusion is that grammatical and communicative competence should be taught separately

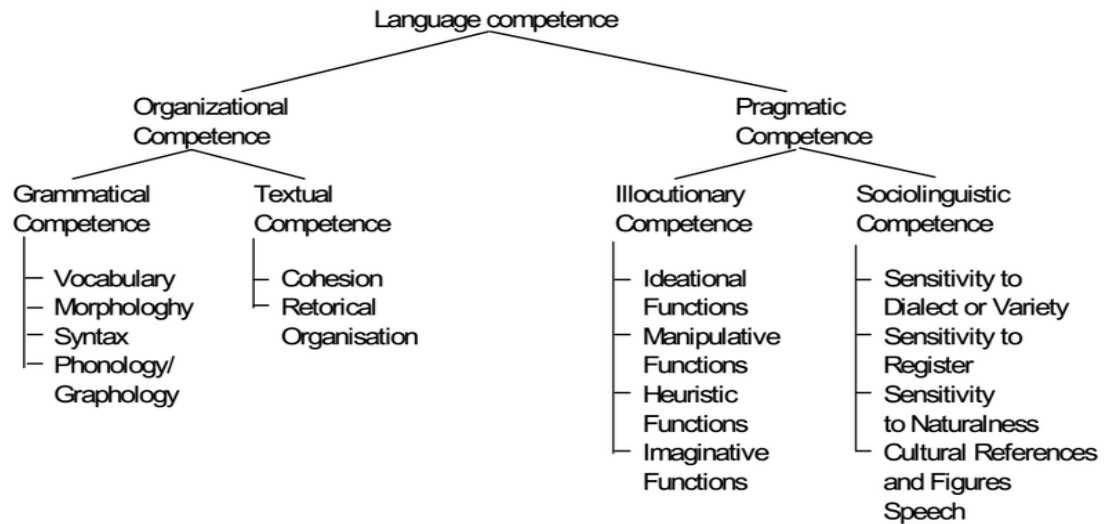
or that grammatical competence should be taught before communicative competence and the second one is grammatical competence is not an important aspect of communicative competence. Canale and Swain disagree with Murphy's view on the first misleading conclusion because even if communicative competence includes grammatical competence, it is still possible to teach grammatical competence separately or prior to sociolinguistic competence. Munby's second reason, however, is convincing and crucial for Canale and Swain. Like Hymes (1972) argued that there are grammar rules that are pointless without language use rules, Canale and Swain believe that there are language use rules that are pointless without grammar rules. As Mart (2017) states "To put the matter at its most basic, rules of grammar and rules of language use" are woven together in Campbell & Wales (1970) and Hymes's (1972) perception of communicative competence (p.1).

The idea of communicative competence gained prominence in the 1980s through the work of Canale and Swain, and Canale's 1983 article, and was further developed by Bachman, a language testing expert. Bachman's model of language competence is composed of two categories: organizational competence (ability to organize morphemes, words, and sentences in a coherent manner) and pragmatic competence (ability to utilize language in a socially acceptable manner).

Bachman (1990) is another linguist who has proposed a model for communicative competence which he calls a "theoretical framework of communicative language ability" and this model has been designed for the purpose of measuring communicative competence. The framework comprises three components which are language competence, strategic competence, and psychophysiological mechanisms. Language competence comprises two competencies, namely organizational competence and pragmatic competence. Organizational competence is made up of grammatical and textual abilities, which are required for producing and understanding language. Textual competence in Bachman's model corresponds to discourse competence in Canale's model. On the other hand, pragmatic competence is concerned with the connection between utterances and the acts or functions that speakers or writers intend to convey through those utterances. Bachman's model of pragmatic competence includes illocutionary competence and sociolinguistic competence.

Figure 2.5.3

Bachman's Language Competence Model (1980)



Illocutionary competence refers to the knowledge and ability to use language functions proposed by Halliday (1970), including ideational, manipulative, heuristic, instrumental, regulatory, and imaginative functions. Bachman's model of pragmatic competence also includes sociolinguistic competence, which refers to the ability to be sensitive to, or control, the conversation and language use determined by the specific context. This enables individuals to perform language functions in a manner that is appropriate for that context. Sociolinguistic competence also involves sensitivity to differences in dialect or variety, register and naturalness as well as the ability to understand and interpret cultural references and figures of speech.

In comparison to the models presented by Canale and Swain, as well as Canale's individual model, where strategic competence is regarded as one of the three primary competencies, Bachman's framework puts strategic competence on the same level as language competence, thereby elevating it to a significant competence in its own right. Additionally, Bachman's model highlights the importance of strategic competence in language learning, as it involves the ability to use language effectively in different situations and to understand different cultural contexts. This highlights the need to focus on developing strategic competence in language education, as it is a crucial skill for achieving communicative competence in real-world settings.

Bachman's model of communicative competence differs from previous ones in that it emphasizes the importance of strategic competence, which he posits is at the same level as language competence. In previous models, communication strategies were considered to be always linguistic or verbal, but Bachman's approach is more comprehensive. This means that strategic competence can involve strategies that are not linguistic, expanding the scope of communicative language use. According to Bachman, strategic competence is essential in all forms of communication, not just when language skills are lacking and must be supplemented through other means. For example, strategic competence can be used to navigate complex social situations or to effectively convey a message in a variety of contexts.

According to this model, language competence is composed of two categories: organizational competence and pragmatic competence. Organizational competence refers to the ability to organize morphemes, words, and sentences in a coherent and meaningful manner, while pragmatic competence refers to the ability to use language in a socially appropriate and contextually relevant way. These two categories are interrelated and essential for effective language use. Organizational competence lays the foundation for clear and effective communication, while pragmatic competence helps us navigate the complex social interactions that are an inherent part of language use. Thus, Bachman's model provides a valuable lens through which we can better understand the role of language in human communication and interaction.

The diagram presented in the document illustrates two main categories of language competencies. The right side of the diagram focuses on system-related aspects and is divided into two sub-categories: grammatical competence and cohesion competence. Grammatical competence encompasses various aspects such as vocabulary, morphology, syntax, and phonology, which are essential for constructing meaningful sentences. Textual competence, on the other hand, includes text cohesion and rhetorical patterns of speech that are used to create coherent and well-organized texts.

On the other hand, the left side of the diagram shows the concepts of illocutionary competence, which pertains to how language is used to generate ideas and influence others. This aspect of language competence is essential for conveying ideas and thoughts effectively, persuading others, and negotiating. Finally, the socio-linguistic aspect deals with how speakers modify their speech register and dialect according to the person or group they

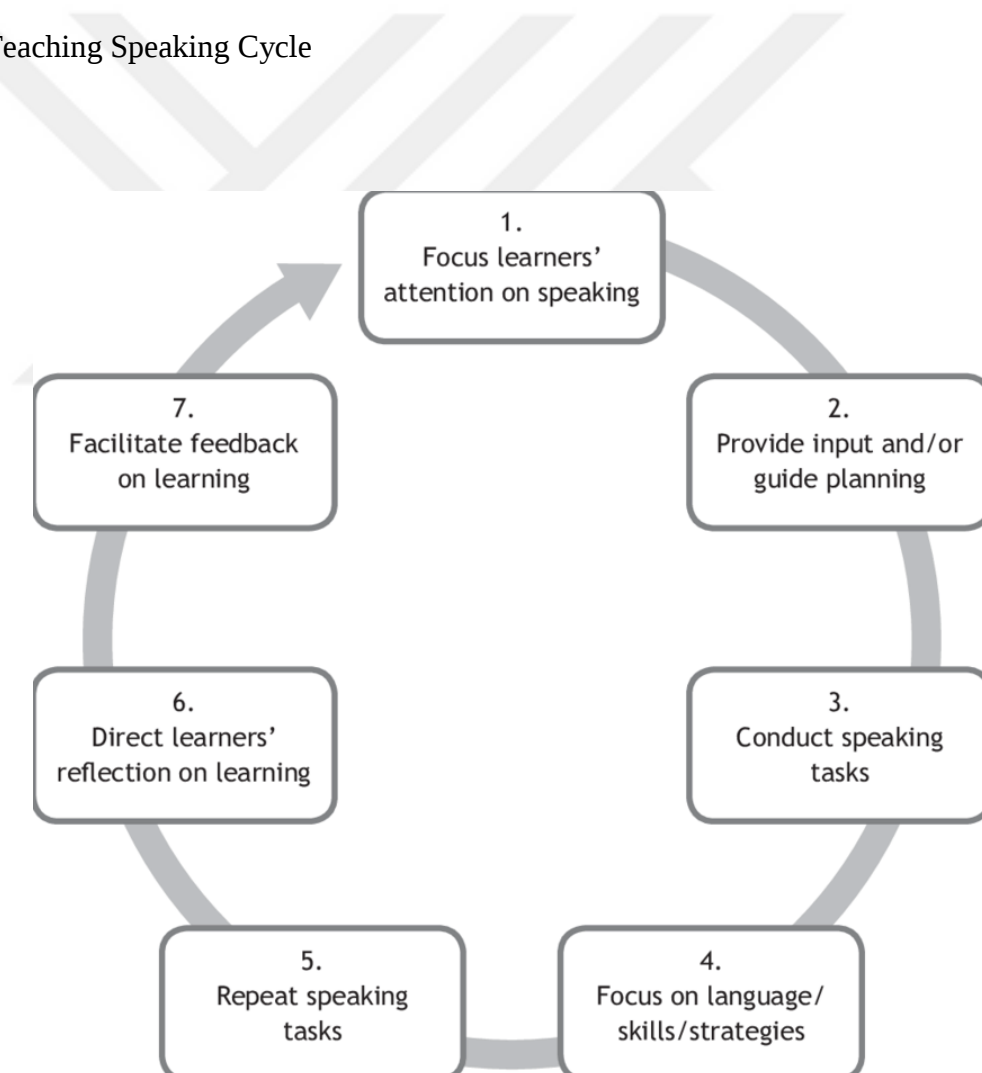
communicate with. This aspect is particularly important in social contexts where speakers adjust their language use to fit in with their audience and establish social rapport.

2.5.2. A Model for Improving Oral Communication Competencies

Goh and Burns (2012) suggested a systematic and structured framework which includes a teaching speaking cycle that consists of seven stages (Figure 2.5.1.). Although the suggested stages are sequenced in a process, teachers can be flexible in using the necessary stages depending on their students' needs.

Figure 2.5.1.

The Teaching Speaking Cycle



In the first stage, the aim is to develop students' metacognitive awareness which can be done either about oral communication skills in second language or about preparing for a specific task. The first task where students think about their experiences is introduced at the

beginning of a unit and in the next task, students activate their prior knowledge about a specific task or text. These tasks could be done in pairs, groups or individually. As the aim is to reflect on learning rather than practice, they could use English or their native language. In the second stage, students work on questions where they plan for content and participation for pair or group discussions. Instructors provide input, guidance and scaffolding to the students to help them carry out the task. In language learning, providing students with sufficient knowledge of the topic, vocabulary knowledge, grammatical and pronunciation patterns are crucial types of scaffolding. It is also important for teachers to model what they would do in a similar task and what kind of language they would use. In the third stage, as students speak in pairs or groups, the teacher take notes of problems and samples of effective interaction patters in order to provide feedback to the whole class. In the fourth stage, teacher gets students' attention to the "language, pronunciation, and discourse management skills and strategies the students used" in the previous stage. This is the stage where the focus is on accuracy rather than fluency. After having focused on the language explicitly, students are better equipped this time in terms of fluency and accuracy to perform a similar task. In stage 5, learners repeat the speaking task of Stage 3. The difference between the third and fifth stages is that studentss have received feedback form the teacher for their performance in Stage 3 and they have analyzed and practiced the language items or skills on which they need to work. In Stage 6, learners reflect on what they have learned from the proceeding stages individually or in pairs or groups. In the last stage of the teaching-learning cycle, the teacher provides feedback on the learners' performance in the previous stages of the cycle.

One of the major challenges of the spoken language is that it "lacks permanence and is unpredictable" (Goh & Burns, 2013, p. 147). Thus, in order to enhance the stability of oral communication, instructors should offer opportunities to reinforce their linguistic knowledge and speaking abilities within each task. When learners work on a task and then revisit it, the initial attempt serves as a practice run for the second one. This practice opportunity aligns with the established "concept of schemata, or prior knowledge, which facilitates learning and memory" (Rummelhart, 1980 as cited in Goh & Burns, 2013, p. 147). As learners repeat a task, they accumulate the necessary knowledge of the relevant language, content and task procedures to complete it. By increasing the frequency of whole-task practice, it is ensured that learners' skills in integrating different aspects of their speaking competence can gradually become automated through each practice opportunity.

When a task is repeated frequently, learners can free up their limited cognitive resources to more demanding aspects of the task. When learners consistently encounter similar or same communication situations, they acquire schemata about the structure of specific types of discourse as well as vocabulary and grammar to complete the tasks (Goh & Burns, 2012, p. 147). Bygate (2001) points out that when learners repeat a task, they can enhance their narrative structures. Repetition of language and content have a positive impact on learners grammatical and lexical accuracy, idiomatic and accurate speech, language complexity, better framing of narratives and fluency in their spoken performance. (Goh & Burns, 2012, 147).

This study included the several stages of the framework in PBL instruction. The first lessons always started with a question where they thought about their experiences in learning to speak English. Such questions encouraged the students “to think about the demands of learning to speak in [English] and how they can prepare themselves for it” (Goh & Burns, 2012, p.155]. At this stage, speaking in English was encouraged but their native language, Turkish was also allowed to answer the question. The first stage continued with the role-play activity with the aim of activating students’ background knowledge about the problem. However, there was no choice of using English or Turkish; students were expected to speak English during the activity. The second stage, where learners received some support for the SDG goal and the problem scenario they were going to work on, was also included. The researcher scaffolded the learners thorough different types of support including vocabulary, grammar and content so that they could meet the demands in the PBL stages. The purposes of this stage are as follows:

1. Presenting or instructing a new language.
2. Enhancing the opportunities for restructuring or rearranging learners' evolving linguistic understanding.
3. Activating learners' new linguistic knowledge.
4. Reactivating particular language components of learners for the task.
5. Reducing the cognitive burden on learners by enabling them to clarify ideas and content for the task.

6. Encouraging learners to approach tasks with more rigorous interpretation and use language to articulate more intricate ideas. (Skehan, 1998, as cited in Goh & Burns, 2012, p.156).

The researcher also implemented Stage 3 as the learner were working on the PBL stages. Additionally, Stage 5 was introduced, requiring learners to revisit the entire PBL process by addressing a similar real-life problem scenario as part of their homework assignments so that by repeating a similar type of task, they could reduce the cognitive demand and builds confidence (Burns, 2012, p.9). Similar to Stage 6, learners engaged in self-reflection by completing Can-Do Statements. Finally, mirroring the approach in Stage 7, the researcher provided individual written feedback based on recorded Zoom performances to assess and enhance the learners' progress.

2.5.3. PBL Instruction in a Language Speaking Course

PBL instruction aims to integrate both cognitive and metacognitive aspects of teaching and learning. Thus, the approach actively involves language learners in the process of learning how to learn, enhancing language acquisition and content comprehension simultaneously (Mathews-Aydinli, 2007). In ELT, problem-based learning aligns with approaches that motivate students to actively learn the target language through its practical use, rather than solely focusing on receiving and practicing predetermined language structures. There have been approaches with similar principles such as content-based learning and task-based learning. However, problem-based learning is unique; its distinctiveness lies in its central emphasis on learning by resolving authentic, open-ended problems that lack fixed solutions (Mathews-Aydinli, 2007).

In PBL instruction, the roles and responsibilities of instructors and learners are different compared to those in traditional instruction. The instructors are no longer ultimate source of knowledge, but a facilitator who scaffold learners to carry out tasks. The instructor presents suitable problems to learners, aids in their comprehension of the problem scenarios, assists them in accessing the required materials and equipment to formulate potential solutions, monitors their progress, offers constructive feedback, and evaluates their performance, all with the objective of helping them enhance their problem-solving skills, as well as their language and literacy proficiency.

Julia Mathews-Aydinli (2007) designed a PBL model which describes the roles and responsibilities of learners and instructors in a language learning context. The teacher's roles and responsibilities include the following stages:

1. Pre-teaching: Ensuring that learners understand the goals and benefits of PBL approach and highlighting the importance of PBL on language learning.
2. Introduce Problem and Vocabulary: Introducing the problem and related vocabulary. Providing prereading activities about the problem scenarios.
3. Group Students, Provide Resources: Ensuring that students comprehend the problem scenario and the expectations from them. Emphasizing that the problems are open-ended; therefore, they have more than one single solutions. Assisting learners access to resources for their research and showing them how to use them. Grouping learners varied language backgrounds and different levels of proficiency.
4. Observe and Support: Monitoring learners and scaffolding them as needed throughout the process, but avoiding direct intervention. Providing feedback on learners' performance and language skills during the activity.
5. Follow Up and Assess Progress: Providing learners with opportunities to share their findings. Providing follow-up activities based on their observations to work on the areas that learners need more support. Assessing learners' participation and performance in the activity.

The PBL model Mathews-Aydinli designed is similar to the PBL models discussed in section 2.3.3. as the core principles are the same. However, what makes it unique is the recognition of the language learners' essential language needs to carry out the tasks in PBL stages. The current study included the Introduction Problem and Vocabulary stage where a wide range of reading, listening, grammar and vocabulary activities were undertaken. The first 50-minute lessons in the eight-week speaking course were dedicated to establishing or enhancing language learners' understanding of the weekly target goal and honing their language skills.

3. METHODS

The primary purpose of this research was to investigate the effect of a technology-enhanced Problem-Centered Curriculum on language learners' oral communication skills in higher education. This chapter discusses the research design, pilot study, context and sample, instructional materials, instruments utilized in data collection, and data analysis.

3.1. The Context and Sample

Each year, approximately 650 students begin the preparatory program at the institution discussed in the research. Upon enrollment, all new students are obligated to take the placement and proficiency exams during the registration process for the academic year, unless they can provide evidence of passing an international or national foreign language examination at a level specified by the university. The tests aim to assess whether the students intending to pursue undergraduate or graduate programs at the university possess the necessary English proficiency and academic skills to continue their studies in their faculties. Those who successfully pass the exam are admitted into Freshman Year courses. However, students who do not pass the proficiency test are streamed in the appropriate program route (Route 1 (A1), Route 2 (A2 – A2+), Route 3 (B1), and Route 4 (B1+)) based on their exam score.

The preparatory program is comprised of both a fall and spring semester, both of which are 16 weeks long. In Route 2 during the fall semester, there are typically 6 or 7 sections available, each of which can accommodate up to 16 students. To successfully complete the program, students must meet attendance requirements and demonstrate proficiency at their given level through in-class assignments, two oral assessments, two writing exams, a midterm exam, and a final exam. A student who achieves an average of 70 or higher in their coursework is considered to have passed the course.

Students in Route 2 receive 20 hours of instruction per week, with each class lasting for 50 minutes. Each section has a primary teacher, who is responsible for grading and addressing any student-related concerns, as well as one or two support teachers. The teachers are accountable for covering the course objectives stated in the program, and they are

responsible for teaching all of the necessary skills. While teachers must adhere to the course calendar, they have some flexibility in their instructional design.

Students are also offered three-hour long support sessions in the afternoons where they practice reading, listening and speaking skills, review grammar and vocabulary they have studied in class, get feedback for their work and have the chance to ask their questions to the teachers.

During the fall semester of the 2021-22 academic year at Route 2, a study was conducted at an institution where classes were held face-to-face for three days and online for two days. The study focused on a speaking course designed by PBL principles that spanned eight weeks, with a total of three hours of instruction per week and 24 hours of instruction overall. Initially, 72 participants (36 in the experimental group and 36 in the control group) were enrolled; however, six students from the experimental group dropped out after the second week, resulting in six randomly selected students from the control group being removed. No new students were added to replace those who left, so the study was conducted with a total of 60 English Preparatory Program students in the Fall 2021-22 academic year. Both the experimental group (N=30) and control group (N=30) were selected randomly from the existing A2+ level learners. The experimental group students attended the PBL instruction while students in the control group attended the support tutorials. The first six weeks of both PBL course and support tutorials were held in-person, while the final two weeks were conducted online due to COVID-19 preventive measures held in Turkey.

3.2. Instruments

3.2.1. Interviews

Three different interview sessions were held. The first one was conducted for the needs analysis purposes. The researcher interviewed six teachers and four students before designing the research regarding the skills that had been neglected and needed to be supported in the curriculum. Two questions were asked to the instructors during the interview which were: “How satisfied are you with the program?” and “What are the areas within the curriculum that you believe require more attention or improvement? Due to the time constraints, the interview was conducted as a group.

Teachers and students provided comments and expressed their concerns about the speaking tasks, suggesting that they could be enhanced with additional allocated time. Teachers highlighted the issue of knowledge such as grammar and vocabulary being taught but not sufficiently practiced in the classroom and questioned the overall effectiveness of the teaching skills in class. Students pointed out that there was a tendency to practice speaking toward the oral assessments.

The second interview was held after the fourth week of the intervention with five volunteered students from the experimental group and four volunteered from the control group. The researcher collected data regarding students' perceptions on PBL instruction and traditional instruction. The most emphasized points that students in the experimental group expressed was how PBL instruction differed from the typical flow of regular classes, and the challenges they encountered in adapting to PBL in the first weeks of the intervention. The students in the control group expressed satisfaction as the speaking tasks closely mirrored the original exam tasks.

The third interview was held at the end of the treatment with the participation of seven volunteered students from the experimental group and four volunteered students from the control group. The aim was to understand the perceptions of the learners regarding the PBL process and its effect on their oral communication skills. Given the time limitations, it was organized as a group. They were asked to state the differences between the speaking skills taught with the PBL approach and the speaking skills taught in the classroom setting. Students in the experimental group reported positive outcomes in their speaking skills in English as a result of the PBL approach. They said that engaging in real-life scenarios and problem-solving activities during PBL enhanced their confidence, and ability to express their ideas effectively. In addition, they mentioned that they enjoyed the opportunity to collaborate with group members since it provided a supportive environment for practicing and improving their spoken English and learning from each other. They also pointed out the relevance of PBL in improving critical thinking, idea development and connecting ideas together. They also expressed their concerns about the limitations of current speaking instruction in class. They mentioned that after experiencing PBL instruction, they realized they did not have opportunities in traditional classroom settings to apply what they had learned, and that their speaking practice was typically centered around exams. When the

responses from both learners and instructors are considered, it becomes apparent that there is an overlap in their perceptions.

3.2.2. **“Can-Do” Statements Form for Self-Evaluation**

In education, self-assessment has a pivotal role by fostering self-awareness. It is an effective approach that enhances autonomous learning and the utilization of metacognitive strategies both in and out of class (Vygotsky 1978; Wallace 1991; Kumaravadivelu, 2006). These statements are part of language learning frameworks and proficiency scales, such as the Common European Framework of Reference for Languages (CEFR) and the American Council on the Teaching of Foreign Languages (ACTFL) Proficiency Guidelines. “Can-do” statements provide a beneficial way for students to assess their progress and identify areas for improvement.

In the study, students fill in a “can-do” statement (Appendix F). By putting a tick sign in the respective box next to the descriptors based on their perception of how well they performed during the lessons, students were able to assess their own language abilities and performance in a problem-based learning environment according to a specific, measurable criteria. After they assessed themselves, the researcher assessed their performance by filling in the “Teacher Section” column and returned the form to the learners.

In the study “can-do” statements were given to students in two different ways. In the first half of the course students filled in the form at the end of the lesson; however, in the second half of the course, the researcher handed out the form at the beginning of the lesson. Implementing the second way was more beneficial because these statements communicate the lesson objectives to the learners and make them concrete to them (Yılmaz & Akcan, 2011). Therefore, knowing the expectations and requirements beforehand motivated them to make a commitment to learning as well as helped them prepare themselves for the task requirements in the lesson. Additionally, this enabled learners to evaluate their performance at the end of a specific task or stage of the lesson, rather than having to wait until the lesson's end to reflect on their performance regarding a particular task.

3.2.3. **Formative Feedback Sheets**

The practice of gathering regular formative feedback on teaching and learning practices should be integrated with classroom research and ongoing professional development

activities. Formative feedback, which involves collecting quantitative and qualitative data from learners in order to make informed decisions about the teaching and learning process, should be conducted regularly and in a timely manner throughout the course, such as every 2 weeks or every month, to achieve these goals (Smith, 2011).

In this research, learners were given a formative feedback sheet at the end of the fourth and eighth week in order to compare and contrast qualitative data gathered from learners' feedback with the quantitative data collected from their assessment performances. Both feedback sheets included two same questions: "What are the most beneficial parts of the course?" and "What are the least beneficial parts of the course?" The learners were allowed to answer the questions either in Turkish or English to prevent any language barriers from hindering their ability to express their thoughts and feelings about their process.

3.2.4. Oral Assessment (OA) Achievement Test

In both pretest (OA1) and posttest (OA2), the following framework were adhered to: coverage, procedures, benchmarking, and grading. During the exams, instructors used the Route 2 OA Grading Criteria to give learners a grade for each band and then calculated the learners' overall grades by looking at the conversion charts.

Coverage: In the Oral Assessment (OA) students in groups of three were asked to respond to three discussion prompts on one theme that relates to the regular course material covered in class prior to the exam. As long as there was a natural discussion on the theme in the group, learners did not need to answer all the prompts in the task sheet. It was crucial that total contribution of a student to the discussion should be approximately equal in length to the contribution of the other participants.

Procedures: Students were put into groups of 3 within their own class on a random basis by their teachers and the groups as well as the time and venue of the exam were announced one day before the exam. When the learners entered the exam venue, they were invited to seat separately and given the task sheet. Learners were given 5 minutes to read and reflect on the prompts and to take notes about them. The test takers were then invited to sit in the arranged seats and began the discussion and continued until the time allocated for the task elapsed. The exam lasted for 9 minutes, providing each learner 3 minutes to contribute. When the allocated time for the task elapsed, learners returned the discussion prompts and their notes

to the assessors before leaving the room. The notes were not evaluated by the assessors when awarding their grades.

Benchmarking and Grading: Before OA, a standardization session was held to help teachers familiarize themselves with the grading descriptors in the Route 2 OA Grading Criteria. The standardization session took place before the assessment. The assessment team provided the teachers with two video samples and the Route 2 OA Grading Criteria. In preparation for standardization, the first sample was provided to teachers a week in advance. They individually assessed the test-takers' performance, and during the standardization session, they shared their grades and discussed the reasons behind them with a partner assigned to them. This was followed by a group discussion to analyze the performance breakdowns in the video. During the standardization meeting, the second sample was reviewed, and teachers worked in pairs to assess the test-takers' performance. To ensure clarity in grading expectations for each band, participants' individual performances were discussed, referring to the Route 2 OA Grading Criteria.

During assessment, each group was assessed by two instructors, neither of whom was students' instructor. During the intervals, instructors discussed the performance of each test taker individually with reference to the Route 2 OA Grading Criteria and awarded a grade.

In the Route 2 OA Grading Criteria, there are 4 components that learners were assessed: Idea Development, Interaction, Fluency and Coherence, and Use of Language. There are 4 bands for each component which means that a learner could get a maximum of 4 and a minimum of 1 from each component. However, if a learner does not respond to questions or there is not enough evidence to assess the learner's speaking skills, then the learner may get 0 from the relevant area. Assessors award a grade on a scale of 1-16 and then convert it to a percentage grade out of 100.

3.3. Instructional Materials

3.3.1. Problem-based Learning Activity Sheet

Students in the experimental group were given PBL task sheets which provided an interactive and engaging learning experience as well as a clear structure throughout the process. First of all, the activity sheets fostered a structured approach to the learning process. Before the course, the learners did not have any previous knowledge about or experience

with the PBL process. Therefore, outlining and numbering each stage provide clear guidelines and assisted learners comprehend the objectives, expectations, and steps included in the problem-solving process. Secondly, by following the stages, learners were able to organize their thoughts while dealing with the problem. They signaled how to proceed along the way and ensured that students were focused and were able to keep track of their progress throughout the activity. This helped learners work effectively both collaboratively and independently in their groups. On the one hand, it promoted teamwork and collaboration. As the stages were given, learners were able to distribute roles and responsibilities. They also cooperated and shared decision-making. There was positive interdependence throughout the process. On the other hand, it promoted self-directed learning since learners were able to take control of their learning process and practiced independent thinking and self-regulated learning. As they were searching for the questions they were assigned in their groups, they worked through the problem and made decisions about how to proceed. Moreover, activity sheets provided data about the learners' strengths and areas to improve for both the instructor and learners. It provided valuable evidence about their performance while filling in the "can-do" statements sheet.

3.3.2. Lesson Plans and Procedures

The lesson plans were prepared in detail including learning outcomes, teaching tips, teaching methods and techniques, learners' prior knowledge which is expected to be useful throughout that lesson, problem scenarios, required materials, a comprehensive outline of the lesson which includes pre-teaching activities, stages of the PBL, assignment scenarios and teacher's reflection. The PBL process which was designed and implemented was mainly based on the key issues that were identified by Duffy and Cunningham – task analysis, problem generation, the learning sequence, facilitator role and assessment (1996). The principles were discussed in section 2.4.7. Thus, the lesson plans designed for the course mirror the nature of these principles. In addition, the plans were enhanced by integrating suggestions offered in the PBL literature. Each lesson plan started by pre-teaching stage where learners were introduced to the target concepts related to the problem scenarios. The pre-teaching process followed the principles that were stated by Julie Matthews Aydinli (2009).

The results gathered in the pilot study were beneficial in terms of designing lesson plans for the main study. As a case in point, the instructors and learners who were involved in the pilot

study recommended presenting scenarios that revolved around individuals rather than scenarios that presented a general problem. They also mentioned the benefits of using visuals such as videos, and pictures to enrich the real-life problems. Additionally, they suggested an amount of time intervals for each stage to ensure that adequate attention and effort could be given to each stage of the PBL process. Their feedback was considered, and implemented accordingly in the design of the course for the main study. In the feedback sheets and interviews, learners in the experimental group stated that working on a plot that centered around an individual made problem-solving more achievable and that using visuals eliminated the language barriers and helped them understand the problem better. In the pilot study, both instructors and learners suggested the researcher to explain what PBL is and its rationale since it develops differently compared to traditional teaching and learning process. Before the main study, the researcher conducted an introductory session where the researcher explained the process of each lesson and set the expectations for the learners. The researcher who is an English language teacher for academic purposes designed and implemented the course. Since the scenarios include different disciplines, the researcher was not familiar with all the disciplines involved in the scenarios. Therefore, all the PBL stages were planned step by step including the questions that may be asked to guide the learners properly. The instruction was intentionally structured based on Gagne's 9 stages of instruction:

1. Gaining attention: The lesson started with the sharing of a small part of an interesting picture related to the theme of the lesson to grab students' attention. Students provided their thoughts about the picture and gradually the instructor shared the entire picture.
2. Informing learners of the objective: The learning objectives and outcomes of the lesson were clearly stated to the learners.
3. Stimulating recall of prior knowledge: Learners were engaged in a role-play activity where in groups of three they discussed an issue related to the theme of the week to activate their prior knowledge related to the lesson topic.
4. Presenting the content: The instructor introduced the necessary content, concepts, and skills that students need during the PBL process. Learners were engaged in various resources, such as reading and listening materials and vocabulary activities. Additionally, learners were provided with the scenarios.

5. Providing guidance: The instructor provided the PBL task sheet where learners could find step-by-step instructions and guidelines on how to proceed with the problem-solving. The process was broken into manageable tasks and provided support which gradually diminished along the way.
6. Eliciting performance: Learners were encouraged to apply their knowledge and skills by actively participating in problem-solving. Throughout the process, learners were allowed to be flexible and have autonomy.
7. Providing feedback: The instructor constantly monitored the learners and offered constructive feedback on their progress, highlighting their strengths and helping with the areas for improvement. The feedback included various knowledge areas and skills such as the use of language, idea development, constructing coherent thoughts, and interaction.
8. Assessing performance: The instructors evaluated learners' language outcomes based on the Route 2 Oral Assessment Grading Criteria.
9. Enhancing retention and transfer: Learners were given "can-do" statements to reflect on their learning experience.

3.3.3. United Nations' Sustainable Development Goals

United Nations' Sustainable Development Goals are a set of 17 goals aimed to address global challenges such as climate change, poverty, inequality, and many more. The SDGs were adopted by the United Nations in 2015 as part of the 2030 Agenda for Sustainable Development, which aims to achieve a more sustainable and equal world by 2030.

SDGs offered an effective learning environment to implement PBL in this study. Since a lesson based on PBL needs to be structured around a real-world problem, SDGs provide a wide range of global challenges which are either encountered directly or indirectly. Therefore, they become resources to be used in PBL classes. Each week of the course, the learners worked on one SDG goal. However, in the first week, rather than focusing on a SDG goal, it was crucial to study human rights as learners needed to understand that SDGs and human rights are intertwined and complement each other. On the other hand, in the last course, learners wanted to study and learn about both life on land (goal 15) and life on water (goal 16). Due to the learners' demand, the last day of the course was structured on two goals

which means that the learners worked on 8 goals in total. The list of focused SDGs is as follows, in respective order:

- Week 1: Human Rights
- Week 2: SGD 13. Climate Action (Life on land and life below water)
- Week 3: 2. Zero Hunger
- Week 4: SDG 3. Good Health and Well-being
- Week 5: SDG 12. Responsible Consumption and Production
- Week 6: SDG 4. Quality Education
- Week 7: SDG 10. Reduced Inequalities
- Week 8: SDG 15. Life on Land & SDG 14. Life Below Water

The researcher chose the goals listed above since they provided concrete and tangible topics that all the learners could relate to and discuss by giving specific examples. This helped the learners express their thoughts, feelings, and experiences easier as well as make the PBL cycle more manageable. As a result, the learners were able to develop their language skills as well as gain a better understanding of the goals.

Initially, the order of goals was arranged differently; however, based on the emerging situations, they were rearranged. For example, climate change was scheduled for week 4; yet the COP 26 UN *Climate Change Conference* was held between 31 October and 12 November 2021 which fell into week 1. It would be enjoyable to address this goal while it was still fresh. Therefore, the goals were rescheduled, and the first goal studied in the course was climate change.

3.3.4. Route 2 Oral Assessment Grading Criteria

Idea development, interaction, fluency and coherence as well as use of language are four crucial components of oral communication skills that contribute to the overall assessment of a student's performance. The Route 2 Oral Assessment Grading Criteria includes specific descriptors and scoring guidelines for each band to provide clear and constructive feedback to students about their oral communication skills.

1. **Idea Development:** In the idea development, there are three important aspects which are clarity and depth of ideas, supporting evidence and organization. Students are expected to present clear and well-developed ideas related to the provided prompts. They also need to provide facts, details and examples to develop their ideas. Finally, it is highly important to express ideas in a logical way with a clear organization (introduction, body and conclusion).
2. **Interaction:** In the interaction component, students need to engage with their conversation partners actively. They are expected to be good listeners and respond accordingly to speakers' questions and comments. Also, they are expected to use communicative strategies such turn-taking, agreeing, disagreeing, interrupting.
3. **Fluency and Coherence:** Students are expected to present their ideas through a clear and comprehensible delivery. Also, their speech should be smooth without frequent hesitations and pauses.
4. **Use of Language:** Students are expected to demonstrate a varied and appropriate vocabulary and use grammatical structures that they have studied in class accurately.

3.3.5. Oral Assessment Questions

Both in OA1 (pretest) and OA2 (post-test), open-ended questions were used since they promoted critical thinking, enhanced active participation, and communication skills. Through open-ended questions, students were expected to articulate their ideas clearly, provide supporting evidence, and maintain coherent and fluent discourse. The R2 OA1 (pretest) are in Appendix J and OA2 (post-test) questions are in Appendix K.

3.4. Implementation of Treatments

This section covers two subsections. Initially, it provides a thorough explanation of the treatment administered to the experimental groups. Subsequently, it outlines the treatment administered to the control group.

3.4.1. Treatment Implemented in the Experimental Groups

In the main study, the learners studied in the course for a span of 8 weeks. There was a dedicated day each week for each class with a total duration of 3 hours. The day consisted of 50-minute lessons followed by 10-minute breaks. The treatment was given in group work.

There were two sections which included 15 subjects in each class. Therefore, the researcher divided the learners into groups of three which means there were five groups per section. No distinctions were observed among the classes. In the following paragraphs, a comprehensive explanation of the treatment administered to the experimental group is provided.

Five days prior to the lessons, reading, listening and video activities about the theme of the week were shared on Google Docs with the learners. This flipped classroom approach was used as it would help the learners learn new content outside of class; thus, the researcher and the learner could use class time more sufficiently to apply and practice what they had learned. In fact, it has been observed that flipped classroom teaching approach could be effective in conjunction with PBL since it allowed learners to attain a fundamental understanding of the concepts and themes related to the problem before the PBL process started.

After an attention-gathering activity, the lessons started with a role-play activity and some pre-lesson activities which were designed to help learners recognize and apply the acquired knowledge in the first lesson and during the PBL process. In the next stage, the learners were asked about their individual prior experiences related to the theme of the week. Asking about personal previous experience helped promote engagement and motivation, create connections between learners' previous and new knowledge, and address any misconceptions that might arise. After working on the think-pair-share activity about the topic in pairs for maximum of 10 minutes, learners were given a 10-minute break. In the second lesson, the learners were divided heterogeneously to encourage collaboration since learners with different strengths could help and learn from each other. Then, the researcher distributed the PBL activity sheet and the scenario to the learners and asked them to read them thoroughly in 5 minutes. The researcher asked comprehension questions about the scenario to check if everything about the scenario was understood clearly by all the learners. Next, each group identified the problem in the scenario and wrote questions on the PBL task sheet. Then, they brainstormed on what they knew and what they needed to know to find answers to the questions they generated. After identifying the learning issues which were the information they needed to learn, assigning those issues within the group members for research, and distributing roles, learners did online research by using their laptops, tablets and mobile phones. They mostly relied on the Google search engine and the Sabancı University Information Center online database. At the last stage of the second lesson,

learners noted down information which they thought would be reliable and beneficial to answer the questions that they were responsible for.

The third lesson started with the findings sharing. After the research, group members collaborated and presented their investigation results to each other. Then, learners analyzed and synthesized the findings and suggested possible solutions to the given problem. In order to share their questions, findings and offered solutions to their classmates or an imaginary audience, they prepared a 3-minute presentation. When each groups' presentation is completed, the other learners were encouraged to give feedback on their overall group performance. Then, the researcher distributed "can-do" statements to each learner and allocated 5 minutes to read the statements, reflect and evaluate their performance during the three lesson hours. Each week, the researcher assigned a similar problem scenario as homework and asked the learners to work on the problem following the same PBL cycle. The learners in the same groups met on Zoom, recorded their performance, and shared it with the researcher within the set deadline. Finally, the researcher gave feedback on each learner's performance according to the areas (idea development, interaction, fluency and coherence, and use of language) specified in the R2 OA Grading Criteria. That is, the learners repeated the PBL cycle twice a week and 16 times in 8 weeks. Comprehensive lesson plans of the treatment implemented with the experimental group can be found in Appendix I.

Although there didn't seem to be any interventions, the researcher played a crucial role as a scaffolder, facilitator, guide, and feedback provider who helped learners more on the metacognitive level. In the study, the researcher continuously monitored the learners and scaffolded them throughout the process. Rather than providing specific answers to their questions, the researcher asked questions to guide them.

3.4.2. Treatment Implemented in the Control Group

Traditional instruction where the instructor is perceived as the source of information and is responsible for transmitting the information to learners was implemented as treatment in the control group. The process followed in the control group is explained below.

The students in the control group attended support sessions. They worked on inputs such as reading and listening resources related to the SDGs that align with the topics studied by the experimental group and then engaged in speaking practice that simulated authentic oral

assessment conditions. In addition, when needed, some grammar and vocabulary that had been covered in class were reviewed.

Technology was integrated into every class for the control group, enabling students to use their phones, tablets, or laptops to check unfamiliar words in online dictionaries or online translation programs. Additionally, they could conduct searches for any unclear topics related to the SDG goals. Furthermore, the majority of the reading materials used in class were adapted from diverse websites. Also, in order to enrich the context and offer more engaging content, teachers incorporated YouTube videos during lessons.

The treatment was given to two classes and in each class, there were 15 learners. The support sessions lasted for three lesson hours (50 minutes each, with a 10-minute break) In the first lesson, students focused on lead-in and vocabulary activities. In the second lesson, they worked on either a reading or a listening activity. After receiving input through reading and listening materials, in the third lesson, students were provided with discussion prompts about the target goal to practice their oral communication skills. Thus, they had the opportunity to practice what they learned in the reading and listening tasks.

In the speaking practice, after forming groups of three, task sheets containing three open-ended questions on the target SDG were distributed. Students had five minutes to think individually and take notes on their task sheets. After five minutes, the groups discussed the prompts with their groupmates. The discussion part lasted for nine minutes. During the process, the instructor took notes about each individual student's performance and provided corrective feedback at the end of the discussion. The instructors said that while giving feedback they explained the grammar mistakes, demonstrated the correct pronunciation of words, and explained alternative ways to improve their communicative strategies. The instructors also mentioned that when they asked the learners in the groups what they thought about their own and group's performance, they were either silent or made short and ineffective general comments without specific details such as "it was good", "we performed well", "I think I need to work on grammar." Except for the discussion section, the students in the control group were knowledge receivers, observers and worked individually most of the time. It is worth mentioning that the students in the control group found the speaking practices useful as they reflected the same task types and procedures with the authentic oral assessment.

3.5. Research Method

At the institution where the study was conducted, it posed a difficulty to allocate individual students to either experimental or control groups due to their preexisting class placements. Therefore, intact groups were randomly divided into experimental and control groups for the research. Moreover, all variables were carefully balanced between both groups in this study. Consequently, the research adopted a quasi-experimental research approach. The matching-only pretest-posttest control group is the type of design used in the study (Fraenkel & Wallen, 2003).

Both quantitative data and qualitative data were gathered and analyzed. Quantitative data was collected through pretest and posttest, and analyzed through Independent Sample T-tests. Qualitative data are collected through semi-structured interviews, and feedback sheets. Independent variable of the study is the PBL instruction. The dependent variables are:

- the pretest scores of students' idea development, interaction, fluency and coherence, use of language components of oral communication skills as well as the overall oral assessment exam scores.
- the pretest scores of students' idea development, interaction, fluency and coherence, use of language components of oral communication skills as well as the overall oral assessment exam scores.

3.6. Research Design

Below in Table 3.5.1 is the research design. Based on the type of design, first, both experimental and control groups took the Route 2 OA1 - pretest. Next, students in the experimental group and control group received PBL instruction and traditional teaching respectively. When the treatments were completed, students in both groups took the Route 2 OA2 – post-test. T-test analysis was utilized to compare the pretest and posttest exam scores of students in both groups, and their results in terms of idea development, interaction, fluency and coherence, and use of language in both exams.

Table 3.5.1

Design of the study

	Pretest	Treatment	Posttest
Experimental Group	Oral Assessment 1	Instruction based on PBL 8 weeks – 24 hours in total 3 hours per week	Oral Assessment 2
Control Group	Oral Assessment 1	Instruction based on traditional teaching 8 weeks – 24 hours in total 3 hours per week	Oral Assessment 2

3.7. Procedures

Below is the procedure followed throughout this research study, starting from its introduction to the completion of the dissertation writing. The steps are organized in chronological order, although there was some overlap between some of them. As a case in point, the literature review was a continuous process meaning that it occurred at the inception, middle, and conclusion stages of the study and helped to better the process. The steps implemented in the study are outlined in detail as follows:

- Identifying the research problem and sub-problems
- Identifying the keywords of the study
- Conducting a comprehensive search and thoroughly reviewing the relevant sources obtained from the literature review
- Developing instructional materials
- Piloting instructional materials in the summer school of 2020-2021
- Redesigning instructional materials based on feedback received from the teachers and learners in the pilot study
- Formulating participants and sample

- Conducting needs analysis (survey given to learners in the route and 6 instructors were interviewed)
- Applying the OA pretest to learners in both experimental and control groups
- Implementing the main study in the Fall semester of 2021-2022
- Collecting quantitative data from learners in the experimental groups through interviews and feedback sheets
- Applying the OA posttest to learners in both experimental and control groups
- Entering quantitative data
- Analyzing quantitative data
- Writing the dissertation

The steps outlined above are briefly explained briefly in the subsequent paragraphs.

There has been an ongoing concern related to the instruction of oral communication skills in the institution. Learners have had difficulties developing their ideas, expressing their thoughts and feelings coherently, using appropriate interaction skills, and making grammatically accurate sentences by using a range of basic and complex grammatical structures and vocabulary. This concern was the driving force of this research. As soon as the research question and sub-research questions were created, databases including JSTOR, Wiley Online Library, TUBITAK Ulakbim, Turkish Higher Education Council National Dissertation Center, Oxford ELT Journal, ProQuest (UMI) Dissertations and Theses, and ERIC were searched by typing a range of combinations of the keywords. In addition, Sabancı University Information Center physical and online databases were searched to access relevant sources. Several books such New Curriculum for New Times were provided through the Interlibrary Loan system. Information about the design and implementation of PBL in developing foreign language learners' oral communication skills was obtained via this literature review. All the sources were thoroughly read and evaluated during the process.

Next, instructional materials were developed for piloting. Since developing real-world problems is crucial in the PBL process, Sustainable Development Goals serve as an ideal resource for creating problems. The researcher opted to select the goals rather than

conducting a curiosity test to determine which ones to utilize. The goals which were selected for PBL instruction were those for which students already had prior knowledge and experience. The first two PBL scenarios and the PBL activity sheet were piloted in the Summer School of 2021-2022. Oral and written feedback was collected from the instructors and students who participated in the pilot study. The piloted scenarios were undergone a redesign and the remaining scenarios to be used in the following six weeks were planned according to the collected feedback. As one-day one-problem approach was implemented, the researcher and the students in the experimental group dedicated each week to focus on one problem scenario related to an SDG goal, covering a total of eight goals over eight weeks.

Then, the participants and sample of the research were identified. The focus of this study were the students whose English language level were determined after taking the university's placement test. There were five sections/classes in Route 2. Two sections were selected as the experimental group and the other two sections were selected as the control group randomly.

The next stage was the needs analysis. A survey was conducted with the learners in Route 2 (Appendix M). 73 learners participated in the survey. The results revealed that the learners did not have any negative attitudes towards learning the English language. In fact, they found it enjoyable. However, the majority stated that they found the speaking skill difficult to acquire and had hesitations about whether they would become fluent speakers. Six teachers in Route 2 were also interviewed and all claimed that the instruction used to develop speaking skills in the curriculum needed to be redesigned in order to help students improve their oral communication skills.

The main study was conducted in the Fall semester of the 2020-2021 academic year at Sabanci University, School of Language. Prior to the study, all the necessary permissions to conduct the research were obtained from the Sabanci University Research Ethics Council. The approval form is Appendix M. The pretest was implemented on 01 November 2021. The course started on 03 November 2021 and ended on 23 December 2021. The posttest was administered on 24 December 2021. Two standardization sessions which ensured objectivity, fairness, and consistency were held before the pretest and post-test. After the standardization, all the teachers implemented the exam at the same time in pretest and post-

test. The before, during, and after OA procedures in detail can be found in section 3.2.3 Oral Assessment (OA) Achievement Test.

Throughout the research process, the researcher instructed one class on Wednesdays and another class on Thursdays for eight weeks. The experimental group started the study with 36 subjects; however, six of them dropped out of the course in the first two weeks and the study continued with 30 subjects in the experimental group. There were 30 subjects in the control group. The control group received regular instruction whereas learners in experimental group received instruction based on PBL. There were no course books used during the research process. The researcher prepared both pre-lesson activities and PBL materials. When their respective timeframes approached, all the necessary materials were shared with the learners. The internet served as the primary source utilized throughout the research process. With the closure of schools because of the pandemic at the end of the Fall semester in Turkey, the lessons changed to an online format. Thus, the last two weeks of the course were held on Zoom.

Two instruments were used to measure learners' oral communication skills before and after the study. The first instrument was the Oral Assessment which is an achievement test developed to assess learners' speaking skills. The learners were given open-ended questions and asked to discuss them in nine minutes. It was used as a pretest and posttest. The second instrument encompassed the Oral Assessment Grading Criteria including four components (idea development, interaction, fluency and coherence, and use of language) by which learners' performances were evaluated accordingly. Since the OA questions and the grading criteria have been used for more than six years and have undergone continuous improvements throughout their development, the questions and the criteria were not piloted. Following the collection of data from both the pretest and posttest, it was entered into the SPSS program and subjected to analysis. Additionally, qualitative data was collected from the learners through feedback sheets and interviews. The last stage of the research was the composition of the dissertation. It started on April 2022 and finished in September 2023.

3.8. Assumptions and Limitations

The assumptions of the course are given below:

- Learners took the tasks seriously and completed them.
- Lesson plans were strictly followed during the treatments.
- Both the pretest and post-test were conducted online and followed the regular oral assessment exam procedures.
- The two instructors who implemented the treatment in the control group followed the procedures and steps that are implemented in regular instruction.
- The study focused on a variety of global problems.

The research limitations are outlined as follows:

- The study's scope is confined to language learners at the A2+ level who are enrolled in a private university.
- The time allocated for the study was limited.
- The time allocated for each PBL lesson was limited.
- The learners could use the Internet and online databased for research.
- Conducting the lessons in the last weeks on Zoom was found less effective compared to face-to-face classes.
- Some learners experienced some technical issue in online classes.
- The learners' heavy workload hindered the effectiveness of the flipped classroom approach. They did not always have enough time to complete the shared materials.

4. RESULTS

This chapter includes the subsequent sections: results of the normality tests, descriptive statistics, and independent t-tests for the areas of idea development, interaction, fluency, use of language, and the overall oral assessment scores which encompass the aforementioned four sections, the insights derived from interviews conducted with volunteered students in the experimental control groups, results of the self-evaluation forms (feedback sheets and can-do statements) and classroom observation checklist carried out in the experimental group, and summary of the findings.

4.1. Idea Development

To determine whether the OA pretest and OA post-test results for the idea development area in both the experimental and control groups were normally distributed or not, Kolmogorov-Smirnov and Shapiro-Wilk tests were computed for the experimental group and control group. The results of the normality tests for idea development OA pretest and OA post-test scores for both groups are presented in Table 4.1.1.

Table 4.1.1

Tests of Normality

			Kolmogorov-Smirnov ^a			Shapiro-Wilk		
			Statistic					
	c	df	Sig.			Statistic	df	Sig.
Experimental Group ID	,273	30	<,001			,853	30	<,001
Pretest								
Experimental Group ID	,244	30	<,001			,798	30	<,001
Posttest								
Control Group ID	,295	30	<,001			,764	30	<,001
Pretest								
Control Group ID	,339	30	<,001			,793	30	<,001
Pretest								

a. Lilliefors Significance Correction

The test results indicate that the data do not follow a normal distribution as the p-value is $p=,001$ in Kolmogorov-Smirnov and Shapiro-Wilk. Thus, the skewness and kurtosis data values for the idea development results need to be checked for normality. Table 4.1.2 shows the skewness and kurtosis values of the data obtained from the idea development area for both the pretest and post-test results of both groups:

Table 4.1.2

Descriptives

					Statistic	Std. Error
Experimental	Mean				2,5000	,14183
Group	ID	95% Confidence Interval Lower			2,2099	
Pretest		for Mean		Bound		
				Upper Bound	2,7901	
		5% Trimmed Mean			2,5000	
		Median			3,0000	
		Variance			,603	
		Std. Deviation			,77682	
		Minimum			1,00	
		Maximum			4,00	
		Range			3,00	
		Interquartile Range			1,00	
		Skewness			-,236	,427
		Kurtosis			-,207	,833
Experimental	Mean				2,8000	,13043
Group	ID	95% Confidence Interval Lower			2,5332	
Posttest		for Mean		Bound		
				Upper Bound	3,0668	
		5% Trimmed Mean			2,7778	
		Median			3,0000	
		Variance			,510	
		Std. Deviation			,71438	

	Minimum	2,00	
	Maximum	4,00	
	Range	2,00	
	Interquartile Range	1,00	
	Skewness	,316	,427
	Kurtosis	-,911	,833
Control Group	Mean	2,6333	,12208
ID Pretest	95% Confidence Interval Lower Bound	2,3836	
	Upper Bound	2,8830	
	5% Trimmed Mean	2,5926	
	Median	3,0000	
	Variance	,447	
	Std. Deviation	,66868	
	Minimum	2,00	
	Maximum	4,00	
	Range	2,00	
	Interquartile Range	1,00	
	Skewness	,586	,427
	Kurtosis	-,589	,833
Control Group	Mean	2,4667	,13333
ID Posttest	95% Confidence Interval Lower Bound	2,1940	
	Upper Bound	2,7394	
	5% Trimmed Mean	2,4444	
	Median	2,0000	
	Variance	,533	
	Std. Deviation	,73030	
	Minimum	1,00	
	Maximum	4,00	
	Range	3,00	

Interquartile Range	1,00	
Skewness	,692	,427
Kurtosis	,055	,833

Figure 4.1.1

Experimental Group - Idea Development Pretest Histogram Graph

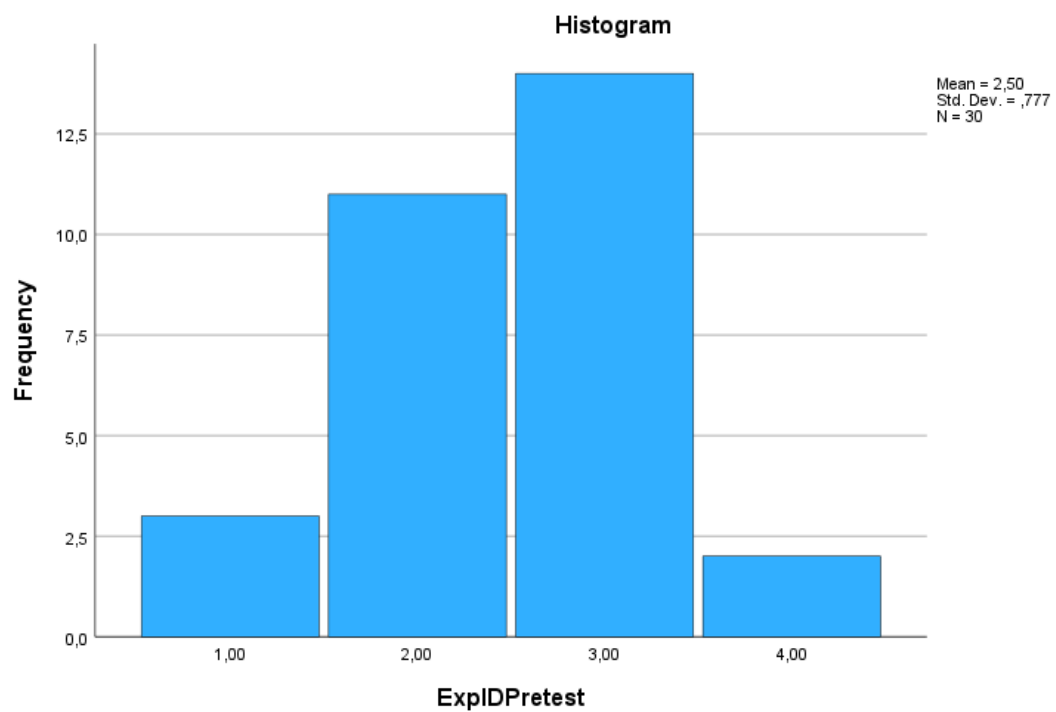
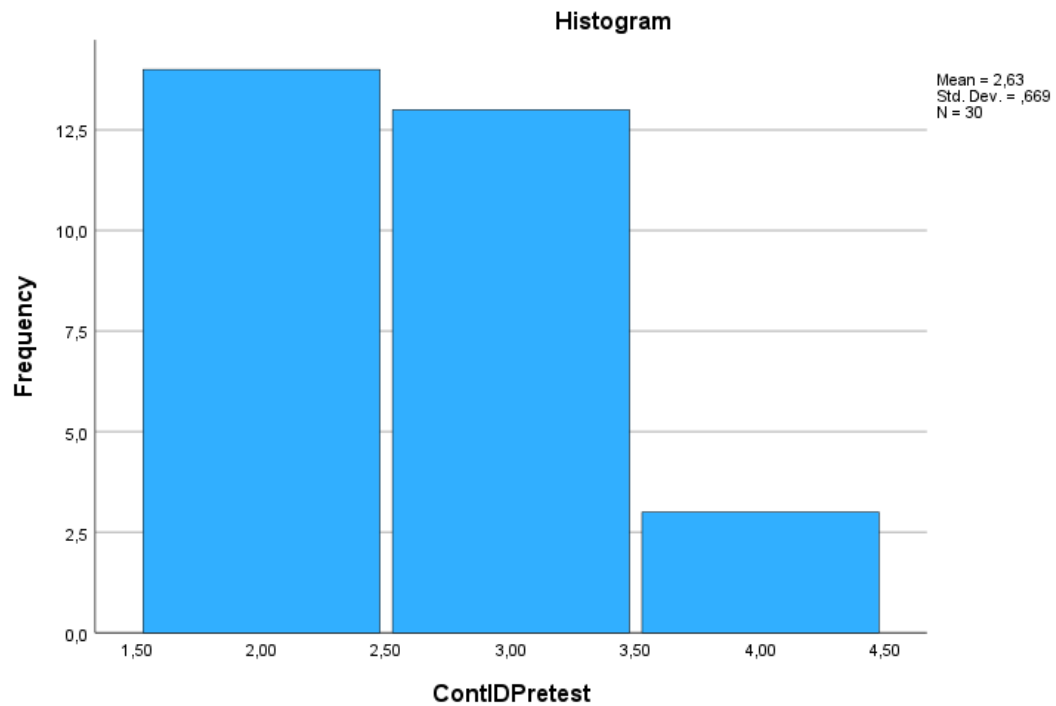


Figure 4.1.2

Control Group - Idea Development Pretest Histogram Graph

**Figure 4.1.3**

Experimental Group - Idea Development Post-test Histogram Graph

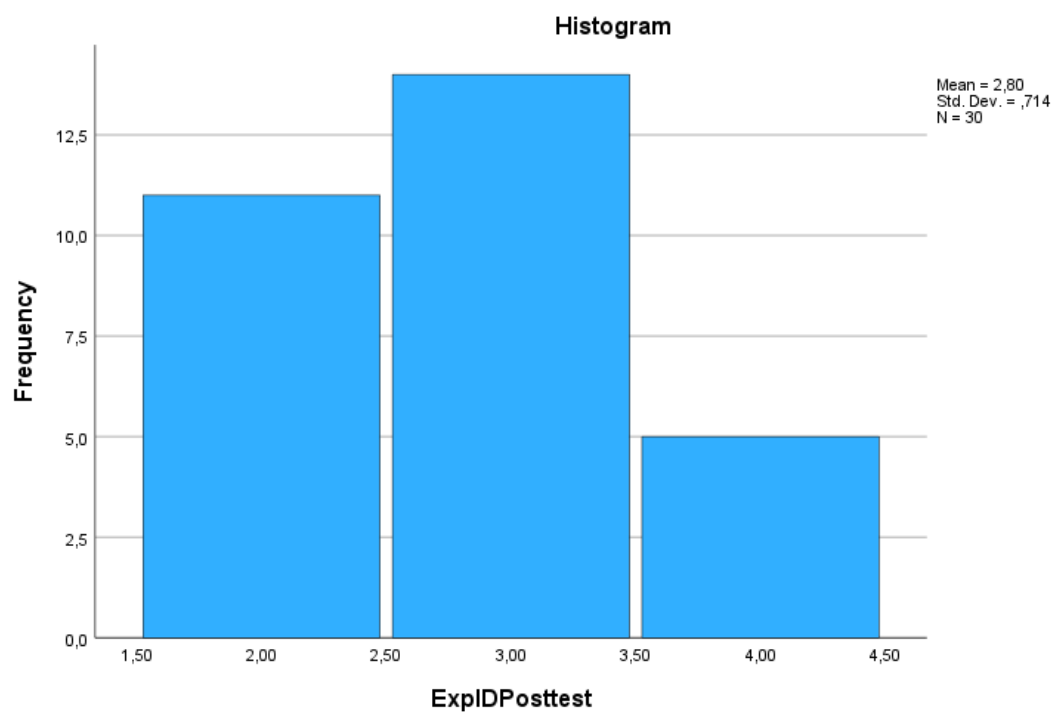
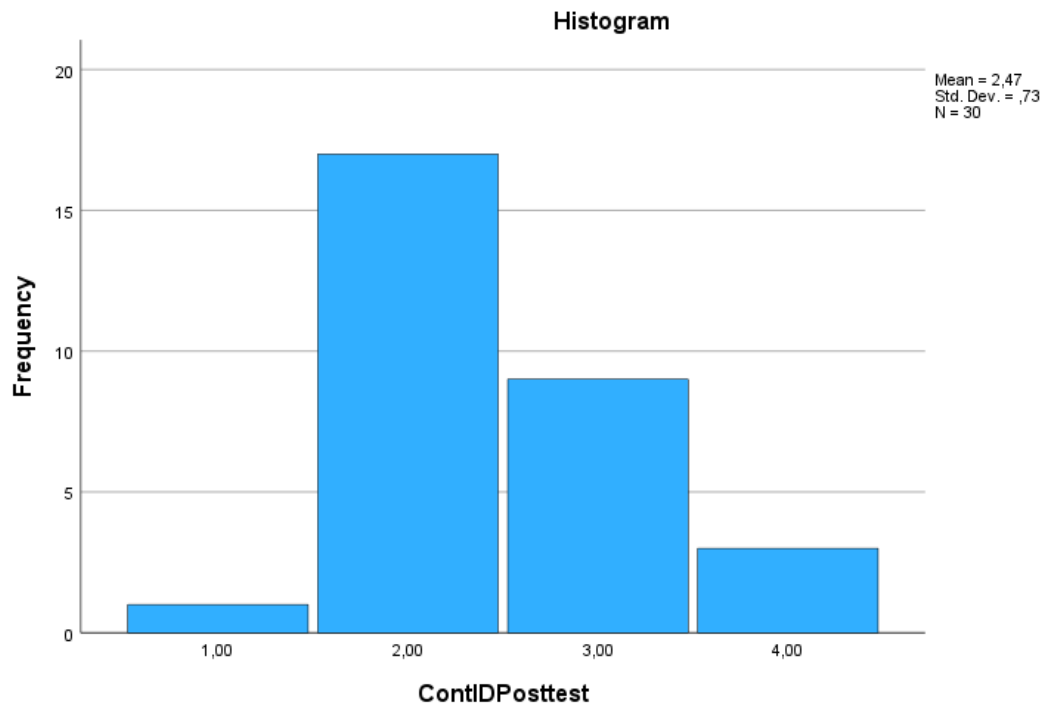


Figure 4.1.4

Control Group - Idea Development Post-test Histogram Graph



Based on the data in Table 4.1.2, the skewness value is $-.236$ and the kurtosis value is $-.207$ for the idea development area in the experimental group pretest; the skewness value is $.586$ and the kurtosis value is $-.589$ for the idea development area in the control group pretest; the skewness value is $.316$ and kurtosis value is $-.911$ for the idea development area in the experimental group post-test; the skewness value is $.692$ and the kurtosis value is $.055$ for the idea development area in the control group post-test. Thus, the results indicate that the data collected from the pretest and post-test in the idea development area for both groups follows a normal distribution since the skewness and kurtosis values which fall within the range of ± 1.0 are generally considered indicative of a normal distribution (Hair et al., 2018). As a result, t-test analysis is conducted to determine if the idea development results in the pretest and post-test for both groups are significant or not.

Table 4.1.3*IDEA DEVELOPMENT - Independent samples t-test statistics*

	Group	N	Mean	SD	t	df	p	Cohen's d
ID PRETEST	EG	30	2,50	0.77	-713	58	,240	-,352
	CG	30	2,63	0.66				
ID POSTTEST	EG	30	2.80	0.71	1,78	58	,040	0.72
	CG	30	2,46	0.73				

EG: Experimental Group CG: Control Group

The first section indicates that there was not a statistically significant difference between the experimental group and control group with respect to their idea development pretest scores on average: $t = -713$; $p = ,240$. The finding shows that learners in the experimental and control groups were presumed to have an equivalent level of knowledge and skills in the idea development band before the intervention.

The second section presents that there was a statistically significant difference between the experimental group and control group with respect to the idea development post-test scores on average: $t = 1,78$; $p = ,040$, Cohen's $d = 0.72$. Based on this finding, the researcher rejected the null hypothesis that there was not a significant difference between the groups in the idea development part of the oral communication competence in English. As a result, it was found that the students in the experimental group showed an improvement in the idea development band at the end of the intervention.

4.2. Interaction

In order to find out whether the OA pretest and OA post-test results of the interaction area in the experimental group and control group were normally distributed or not, Kolmogorov-Smirnov and Shapiro-Wilk tests were computed for both groups. Table 4.2.1 indicates the test of normality for the interaction area in the OA pretest and OA posttest scores for both groups.

Table 4.2.1

Tests of Normality

		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Experimental		,352	30	<,001	,794	30	<,001
Group Interaction							
Pretest							
Experimental		,234	30	<,001	,802	30	<,001
Group Interaction							
Posttest							
Control	Group	,295	30	<,001	,775	30	<,001
Interaction							
Pretest							
Control	Group	,339	30	<,001	,735	30	<,001
Interaction							
Pretest							

a. Lilliefors Significance Correction

The test results indicate that the data obtained from the test of normality do not present a normal distribution because the p-value is $p=,001$ in Kolmogorov-Smirnov and Shapiro-Wilk. Hence, the Skewness and Kurtosis data values for interaction results need to be checked for normality. Table 4.2.2 illustrates the skewness and kurtosis values of the data from the interaction area for both the pretest and post-test results:

Table 4.2.2*Descriptives*

	GROUP1E2C		Statistic	Std. Error
Interaction pretest	1,00	Mean	2,8000	,12130
		95% Confidence Interval Lower Bound	2,5519	
		Upper Bound	3,0481	
		5% Trimmed Mean	2,8148	
		Median	3,0000	
		Variance	,441	
		Std. Deviation	,66436	
		Minimum	1,00	
		Maximum	4,00	
		Range	3,00	
		Interquartile Range	1,00	
		Skewness	-,514	,427
		Kurtosis	,934	,833
	2,00	Mean	2,8333	,13632
		95% Confidence Interval Lower Bound	2,5545	
		Upper Bound	3,1121	
		5% Trimmed Mean	2,8148	
		Median	3,0000	
		Variance	,557	
		Std. Deviation	,74664	
		Minimum	2,00	
		Maximum	4,00	
		Range	2,00	
		Interquartile Range	1,00	
		Skewness	,286	,427
		Kurtosis	-1,095	,833

Interaction posttest	1,00	Mean		2,7333	,11679
		95% Confidence Interval Lower Bound		2,4945	
			Upper Bound	2,9722	
		5% Trimmed Mean		2,7037	
		Median		3,0000	
		Variance		,409	
		Std. Deviation		,63968	
		Minimum		2,00	
		Maximum		4,00	
		Range		2,00	
		Interquartile Range		1,00	
		Skewness		,291	,427
		Kurtosis		-,554	,833
	2,00	Mean		2,7667	,10376
		95% Confidence Interval Lower Bound		2,5545	
			Upper Bound	2,9789	
		5% Trimmed Mean		2,7407	
		Median		3,0000	
		Variance		,323	
		Std. Deviation		,56832	
		Minimum		2,00	
		Maximum		4,00	
		Range		2,00	
		Interquartile Range		1,00	
		Skewness		-,013	,427
		Kurtosis		-,168	,833

Based on the data in Table 4.2.2, the skewness value is -,514 and the kurtosis value is ,934 for the interaction area in the experimental group pretest and the skewness value is ,286

and the kurtosis value is -1,095 for the interaction area in the control group pretest. The skewness value is ,291 and the kurtosis value is -,554 for the interaction area in the experimental group posttest; the Skewness value is -,013 and the Kurtosis value is -,168 for the interaction area in the control group posttest. Thus, the results indicate that the data collected from the pretest and post-test in the interaction area for both groups follows a normal distribution because the skewness and kurtosis values which fall within the range of ± 1.0 are generally accepted as a normal distribution (Hair et al., 2018). The control group interaction pretest score is 1,095; however, since it is close to ± 1.0 and the skewness and kurtosis values that fall within the range of ± 2.0 are also considered acceptable to prove normal distribution, it is also accepted as a normal distribution (George & Mallory, 2010). Thus, t-test analysis is conducted to determine if the pretest and post-test interaction results for both groups are significant or not.

Figure 4.2.1

Experimental Group - Interaction Pretest Histogram Graph

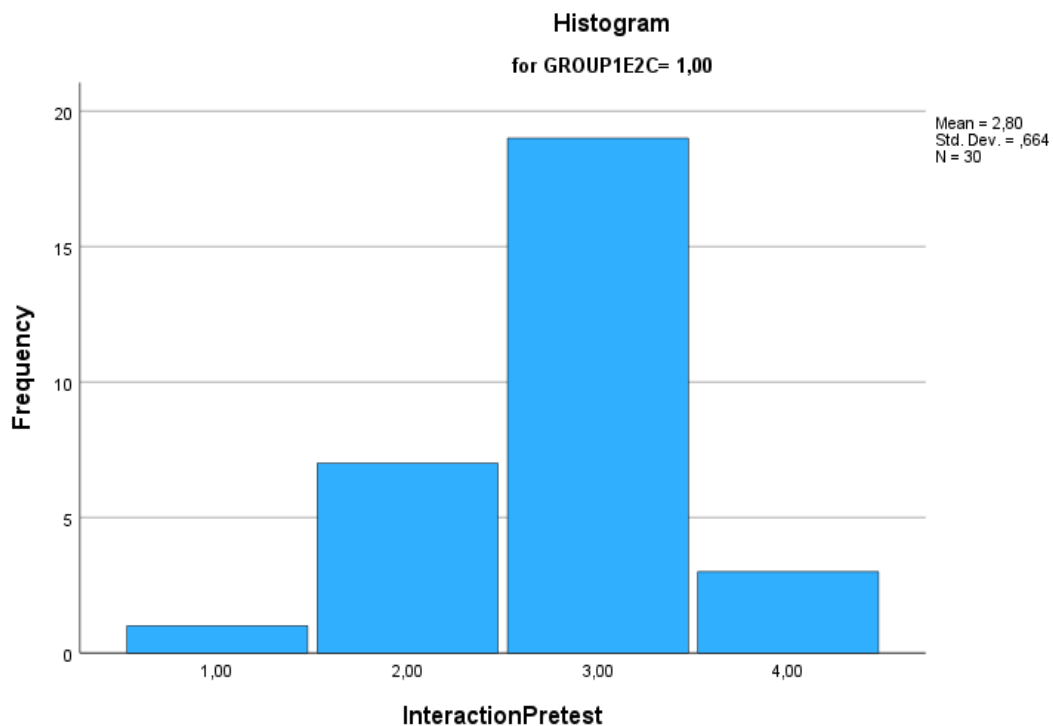
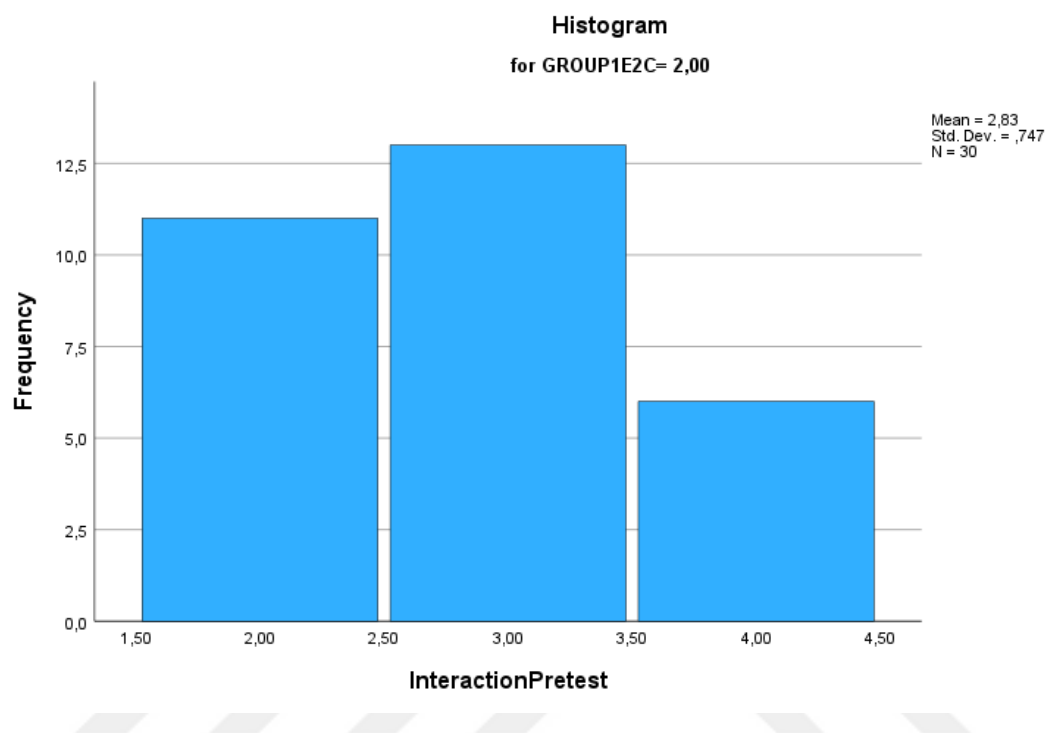


Figure 4.2.2

Control Group - Interaction Pretest Histogram Graph

**Figure 4.2.3**

Experimental Group - Interaction Posttest Histogram Graph

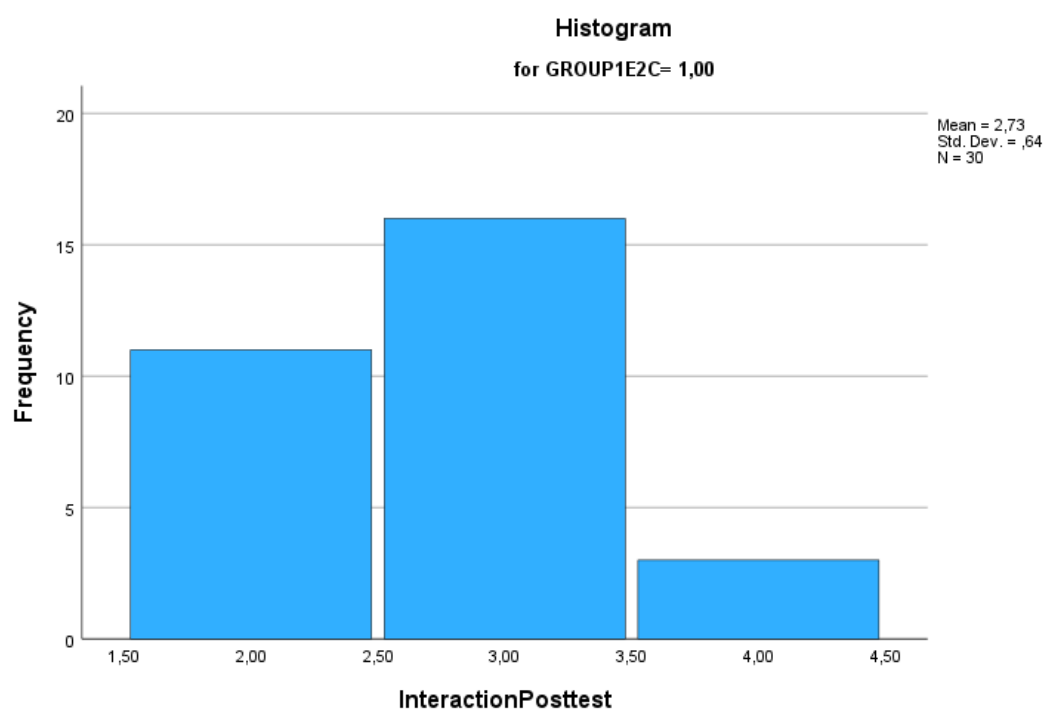
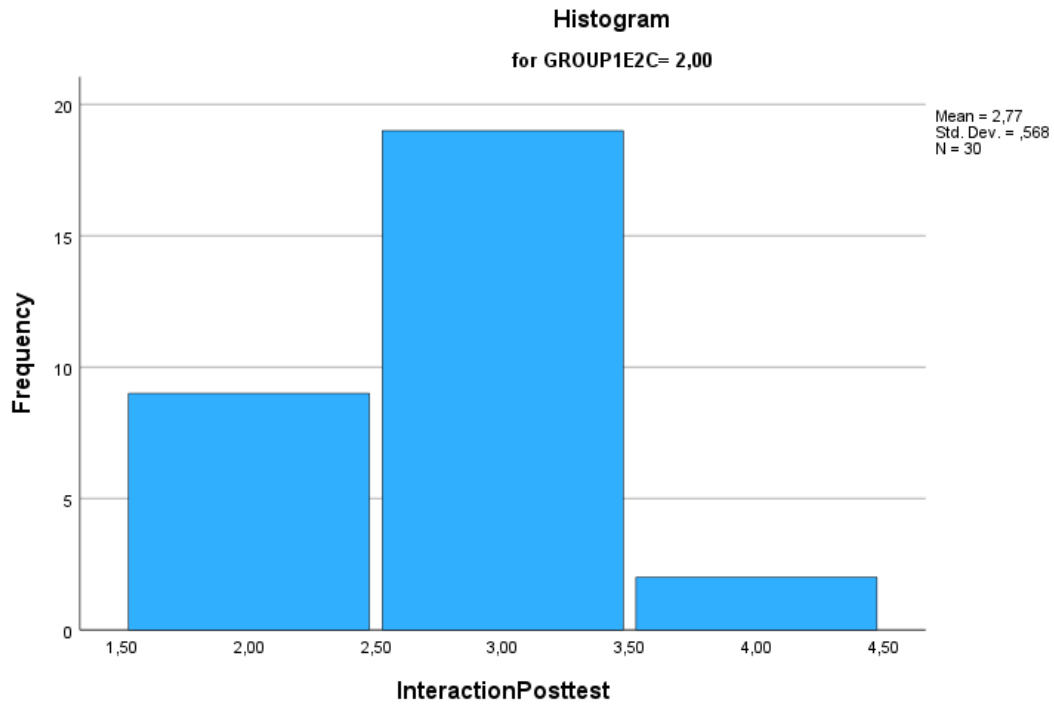


Figure 4.2.4*Control Group - Interaction Posttest Histogram Graph***Table 4.2.3***INTERACTION - Independent samples t-test statistics*

	Group	N	Mean	SD	t	df	p	Cohen's d
ID PRETEST	EG	30	2,80	0.66	-,183	58	,428	0.70
	CG	30	2,83	0.74				
ID POSTTEST	EG	30	2.73	0.63	-,213	58	,416	0.60
	CG	30	2,76	0.56				

EG: Experimental Group CG: Control Group

The first section shows that there was not a statistically significant difference between the experimental group and control group with respect to their interaction pre-test scores on average: $t = -,183$; $p = ,428$. The finding illustrates that learners in both groups were assumed to have a similar level of knowledge and skills in the interaction area before the intervention.

In the second section, the p-value is 0,416, indicating that there is no statistically significant difference in means between the experimental group and control group for the interaction area in the post-test scores. According to the findings, the researcher accepted the null hypothesis that there was not a significant difference between the groups in the interaction area of oral communication competence in English. The t-test results show that there are no statistically significant differences in means between the groups for both the pretest and post-test scores. This suggests that, based on the collected data, no significant difference was observed between the groups in the interaction area.



4.3. Fluency and Coherence

Kolmogorov-Smirnov and Shapiro-Wilk tests were computed for the experimental group and control group in order to determine whether the OA Pretest and OA Posttest results of the fluency and coherence area in both groups were normally distributed or not. Table 4.3.1 indicates the test of normality of the fluency area in the OA pretest and OA post-test scores for both groups.

Table 4.3.1

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Experimental Group Fluency Pretest	,253	30	<,001	,846	30	<,001
Experimental Group Fluency Posttest	,250	30	<,001	,787	30	<,001
Control Group Fluency Pretest	,322	30	<,001	,858	30	<,001
Control Group Fluency Posttest	,320	30	<,001	,804	30	<,001

a. Lilliefors Significance Correction

The test results indicate that the data do not follow a normal distribution as the p-value is $p=,001$ in Kolmogorov-Smirnov and Shapiro-Wilk. Thus, the skewness and kurtosis data values for the fluency and coherence area results need to be checked for normality. Table 4.3.2 shows the skewness and kurtosis values of the data obtained from the fluency and coherence area for both groups for the pretest and post-test results:

Table 4.3.2

Descriptives

	GROUP1E2C		Statistic	Std. Error
Fluency	1,00	Mean	2,5000	,13348

Pretest		95% Confidence Interval Lower	2,2270			
		for Mean	Bound			
			Upper Bound	2,7730		
		5% Trimmed Mean			2,5000	
		Median			2,5000	
		Variance			,534	
		Std. Deviation			,73108	
		Minimum			1,00	
		Maximum			4,00	
		Range			3,00	
		Interquartile Range			1,00	
		Skewness			,000 ,427	
		Kurtosis			-,089 ,833	
		2,00		Mean	2,4333	,11430
				95% Confidence Interval Lower	2,1996	
for Mean	Bound					
	Upper Bound			2,6671		
5% Trimmed Mean				2,4259		
Median				2,0000		
Variance				,392		
Std. Deviation				,62606		
Minimum				1,00		
Maximum				4,00		
Range				3,00		
Interquartile Range				1,00		
Skewness				,268 ,427		
Kurtosis				-,011 ,833		
Fluency	1,00			Mean	2,8333	,14450
		95% Confidence Interval Lower	2,5378			
		for Mean	Bound			
			Upper Bound	3,1289		
		5% Trimmed Mean			2,4259	
		Median			2,0000	
		Variance			,392	
		Std. Deviation			,62606	
		Minimum			1,00	
		Maximum			4,00	
		Range			3,00	
		Interquartile Range			1,00	
		Skewness			,268 ,427	
		Kurtosis			-,011 ,833	
		Post-test		Mean	2,8333	,14450
95% Confidence Interval Lower	2,5378					
for Mean	Bound					
	Upper Bound			3,1289		
5% Trimmed Mean				2,4259		
Median				2,0000		
Variance				,392		
Std. Deviation				,62606		
Minimum				1,00		
Maximum				4,00		
Range				3,00		
Interquartile Range				1,00		
Skewness				,268 ,427		
Kurtosis				-,011 ,833		

	5% Trimmed Mean	2,8519	
	Median	3,0000	
	Variance	,626	
	Std. Deviation	,79148	
	Minimum	1,00	
	Maximum	4,00	
	Range	3,00	
	Interquartile Range	1,00	
	Skewness	-,132	,427
	Kurtosis	-,444	,833
2,00	Mean	2,4667	,12441
	95% Confidence Interval Lower for Mean	2,2122	
		Bound	
		Upper Bound	2,7211
	5% Trimmed Mean	2,4444	
	Median	2,0000	
	Variance	,464	
	Std. Deviation	,68145	
	Minimum	1,00	
	Maximum	4,00	
	Range	3,00	
	Interquartile Range	1,00	
	Skewness	,478	,427
	Kurtosis	,072	,833

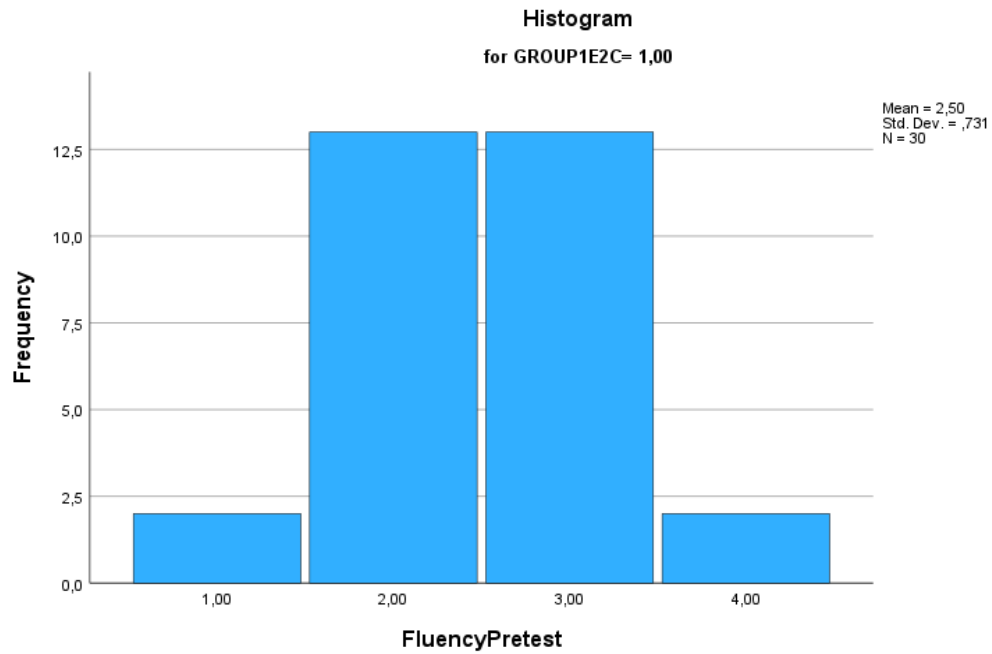
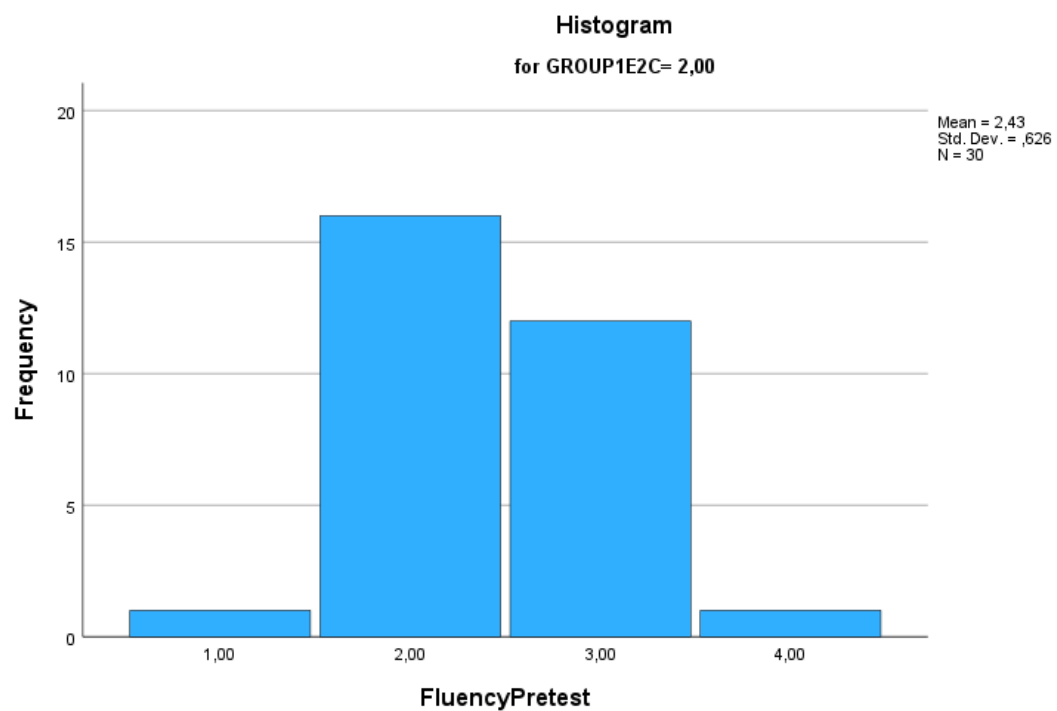
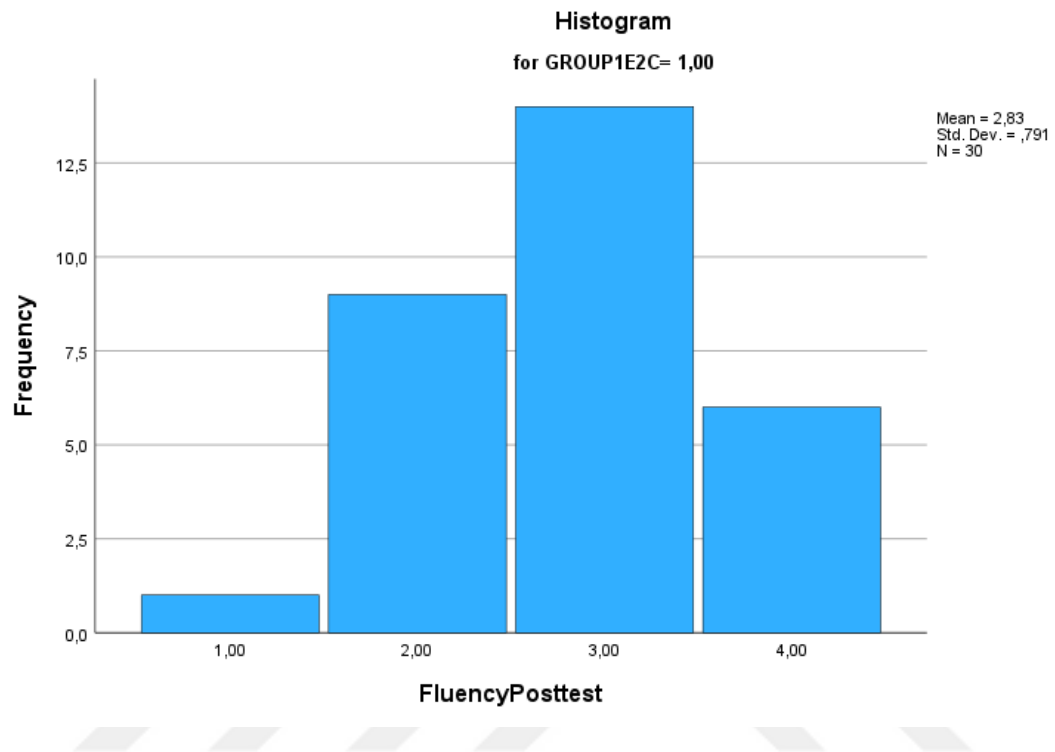
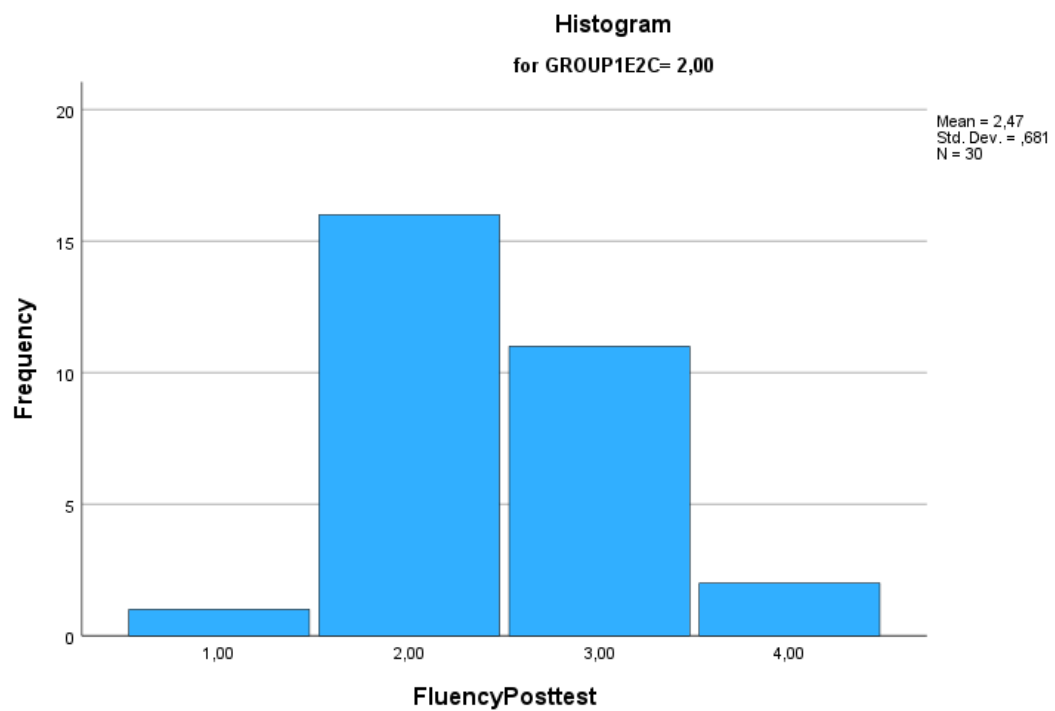
Figure 4.3.1*Experimental Group - Fluency and Coherence Pretest Histogram Graph***Figure 4.3.2***Control Group – Fluency and Coherence Pretest Histogram Graph*

Figure 4.3.3*Experimental Group - Fluency and Coherence Posttest Histogram Graph***Figure 4.3.4***Control Group – Fluency and Coherence Posttest Histogram Graph*

Based on the data in Table 4.3.2, the skewness value is ,000 and the Kurtosis value is -,089 for the fluency and coherence area in the experimental group pretest; the skewness value is ,268 and the kurtosis value is -,011 for the fluency and coherence area in the control group pretest; the skewness value is -,132 and kurtosis value is -,444 for the fluency and coherence area in the experimental group posttest; the skewness value is ,478 and the kurtosis value is ,072 for the fluency and coherence area in the control group posttest. Thus, the results indicate that the data collected from the pretest and post-test in the fluency and coherence area for both groups follows a normal distribution since the skewness and kurtosis values that fall within the range of ± 1.0 are generally accepted as a normal distribution (Hair et al., 2018). Thus, independent sample t-test analysis is conducted to determine whether the pretest and post-test fluency and coherence results for both groups are significant or not.

Table 4.3.3

FLUENCY AND COHERENCE - Independent samples t-test statistics

	Group	N	Mean	SD	t	df	p	Cohen's d
ID PRETEST	EG	30	2,50	0.73	,379	58	,353	,098
	CG	30	2,43	0.62				
ID POSTTEST	EG	30	2.83	0.79	1,92	58	,030	,496
	CG	30	2,46	0.68				

EG: Experimental Group CG: Control Group

In the initial section, it is demonstrated that there was no statistically significant distinction between the experimental group and the control group in terms of their average pretest scores for fluency and coherence, as indicated by $t=0.379$; $p = ,353$. This discovery suggests that both groups of students were presumed to possess a similar level of fluency and coherence skills before the intervention.

In the second section, it is demonstrated that there existed a statistically significant disparity between the control group and the experimental group in terms of their average posttest scores for fluency and coherence, with $t=1,92$, $p = 0,030$, and Cohen's $d = 0,496$. According to these findings, the researcher rejected the null hypothesis, which posited that there was no

significant difference between the groups in the fluency and coherence aspects of English oral communication competence. Consequently, it was determined that students in the experimental group exhibited an enhancement in fluency and coherence by the conclusion of the intervention.



4.4. Use of Language

To determine whether the OA pretest and OA post-test results of the use of language area in both groups were normally distributed or not, Kolmogorov-Smirnov and Shapiro-Wilk tests were computed for the experimental group and control group. Table 4.4.1 illustrates the test of normality of the use of language area in the OA pretest and OA post-test scores for both groups.

Table 4.4.1

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Experimental Group Fluency Pretest	,359	30	<,001	,735	30	<,001
Experimental Group Fluency Posttest	,371	30	<,001	,701	30	<,001
Control Group Fluency Pretest	,342	30	<,001	,710	30	<,001
Control Group Fluency Posttest	,412	30	<,001	,669	30	<,001

a. Lilliefors Significance Correction

The test results indicate that the data do not follow a normal distribution as the p-value is $p=,001$ in Kolmogorov-Smirnov and Shapiro-Wilk. Thus, the skewness and kurtosis data values for the use of language results need to be checked for normality. Table 4.4.2 shows the skewness and kurtosis values of the data obtained from the use of language area for the pretest and post-test results:

Table 4.4.2*Descriptives*

		GROUP1E2C	Statistic	Std. Error
Use of Language Pretest	1,00	Mean	2,2333	,10376
		95% Confidence Interval Lower Bound	2,0211	
		Upper Bound	2,4455	
		5% Trimmed Mean	2,2593	
		Median	2,0000	
		Variance	,323	
		Std. Deviation	,56832	
		Minimum	1,00	
		Maximum	3,00	
		Range	2,00	
		Interquartile Range	1,00	
		Skewness	,013	,427
		Kurtosis	-,168	,833
	2,00	Mean	2,4333	,10376
		95% Confidence Interval Lower Bound	2,2211	
		Upper Bound	2,6455	
		5% Trimmed Mean	2,4630	
		Median	2,0000	
		Variance	,323	
		Std. Deviation	,56832	
		Minimum	1,00	
		Maximum	3,00	
		Range	2,00	
		Interquartile Range	1,00	
		Skewness	-,326	,427

		Kurtosis	-,819	,833
Use of 1,00	Mean		2,5000	,11497
Language	95% Confidence Interval Lower		2,2649	
Post-test	for Mean	Bound		
		Upper Bound	2,7351	
	5% Trimmed Mean		2,4444	
	Median		2,0000	
	Variance		,397	
	Std. Deviation		,62972	
	Minimum		2,00	
	Maximum		4,00	
	Range		2,00	
	Interquartile Range		1,00	
	Skewness		,888	,427
	Kurtosis		-,134	,833
2,00	Mean		2,2333	,09202
	95% Confidence Interval Lower		2,0451	
	for Mean	Bound		
		Upper Bound	2,4215	
	5% Trimmed Mean		2,2407	
	Median		2,0000	
	Variance		,254	
	Std. Deviation		,50401	
	Minimum		1,00	
	Maximum		3,00	
	Range		2,00	
	Interquartile Range		1,00	
	Skewness		,422	,427
	Kurtosis		,042	,833

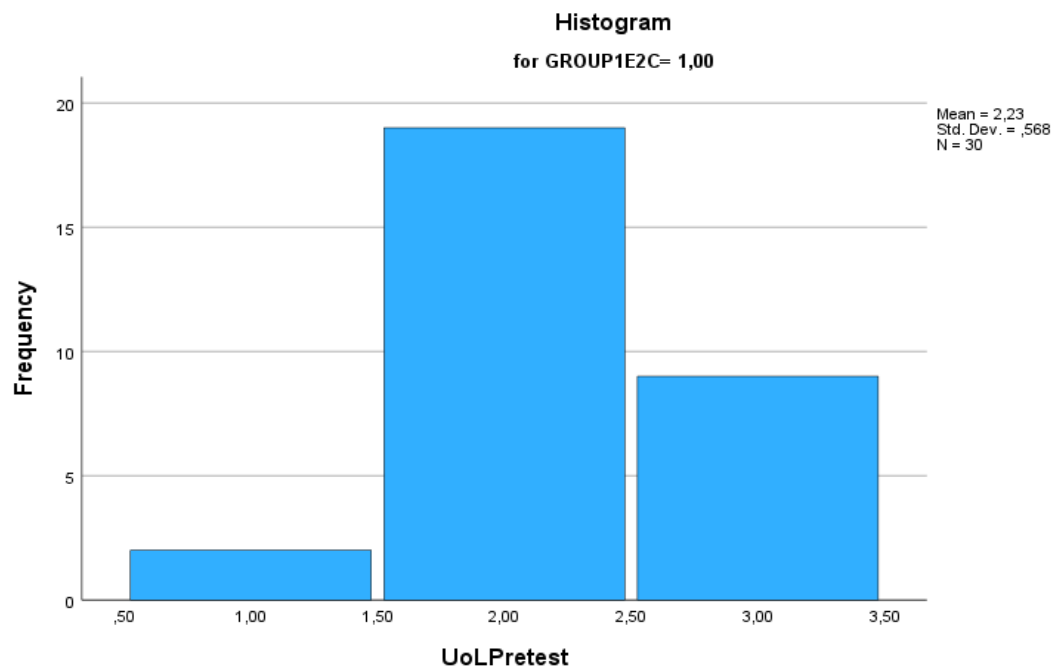
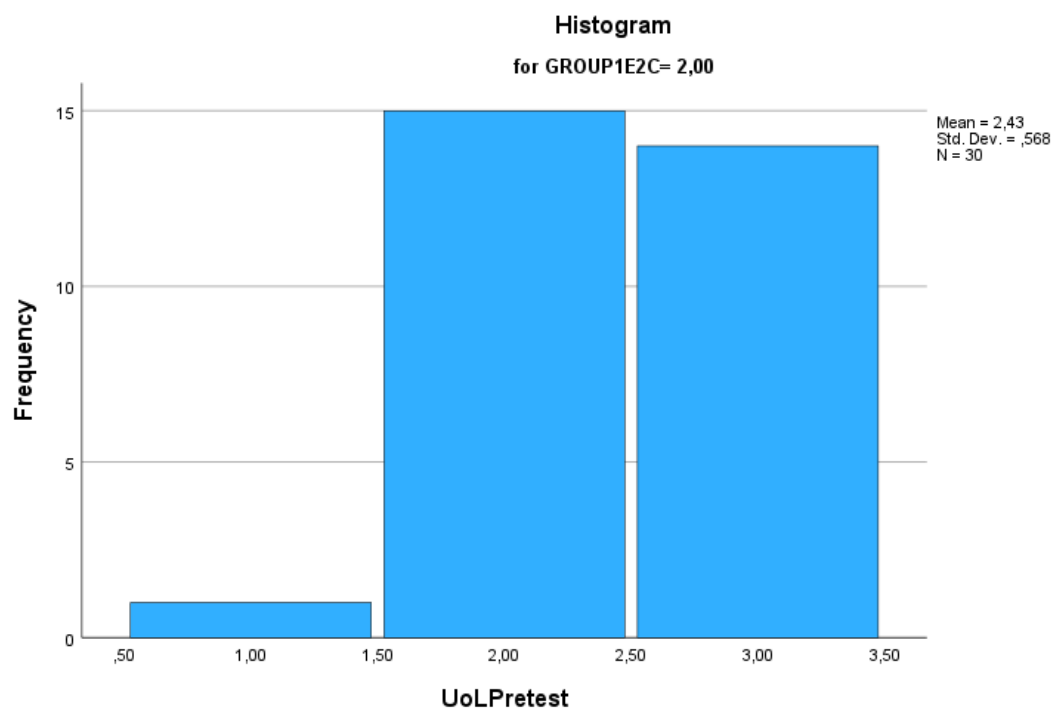
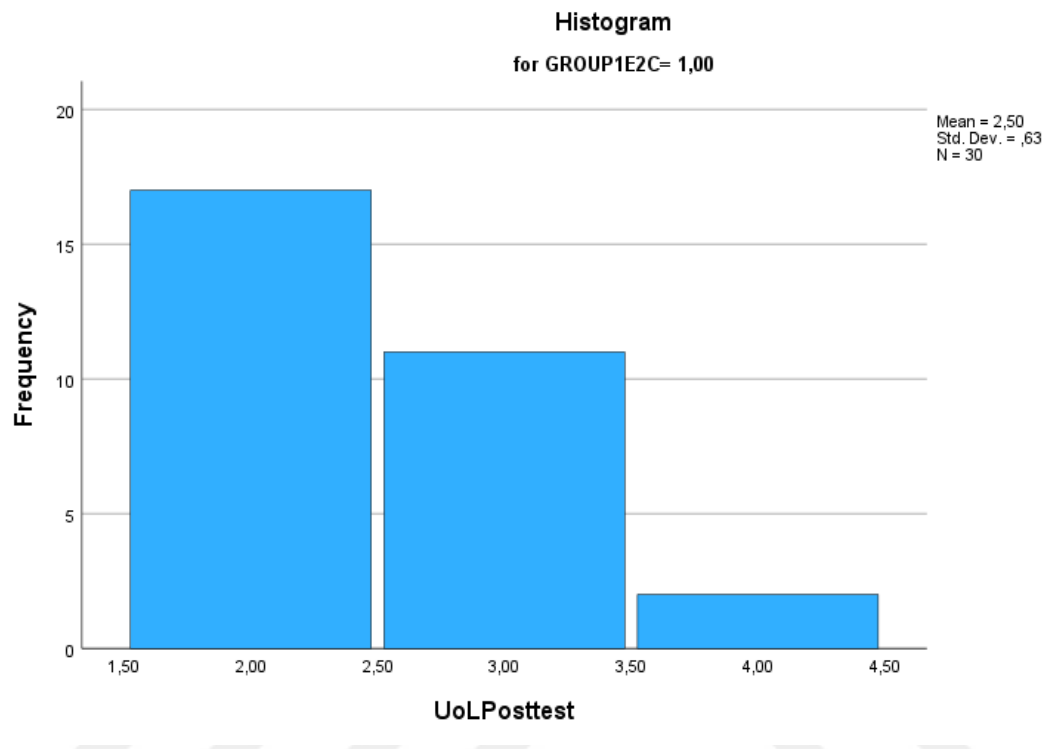
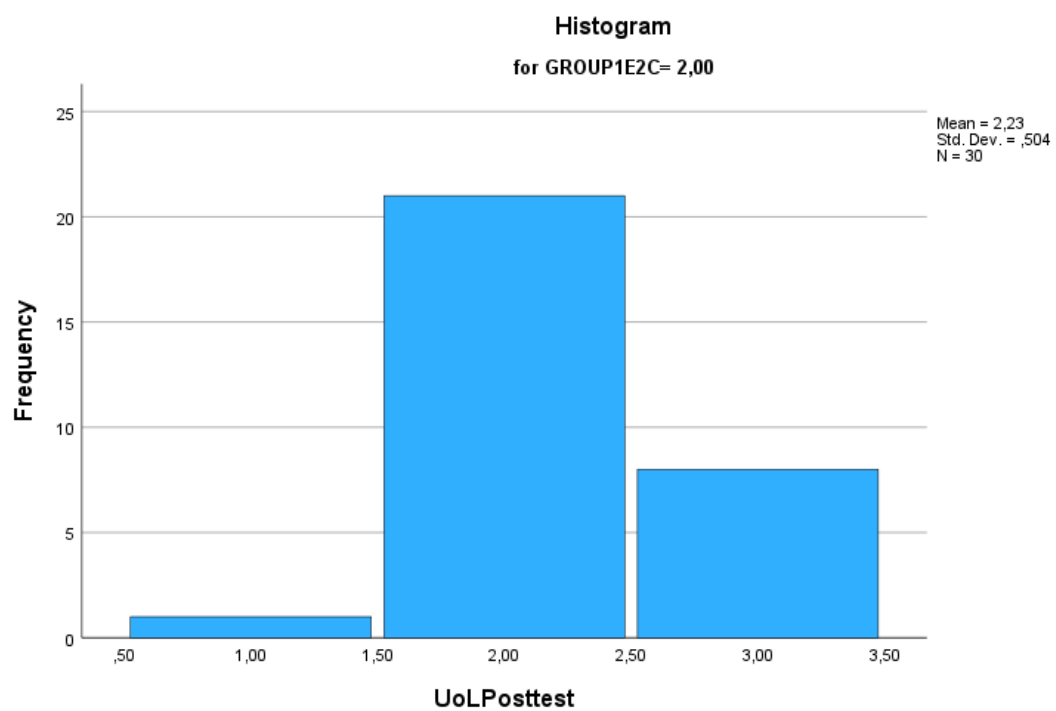
Figure 4.4.1*Experimental Group – Use of Language Pretest Histogram Graph***Figure 4.4.2***Control Group – Use of Language Pretest Histogram Graph*

Figure 4.4.3.

Experimental Group – Use of Language Posttest Histogram Graph

**Figure 4.4.4.**

Control Group – Use of Language Posttest Histogram Graph



Based on the data in Table 2, the Skewness value is ,013 and the Kurtosis value is -,168 for the use of language area in the experimental group pretest; the Skewness value is ,888 and Kurtosis value is ,134 for the use of language area in the experimental group posttest; the Skewness value is -,326 and the Kurtosis value is -,819 for the use of language area in the control group pretest; the Skewness value is ,422 and the Kurtosis value is -,042 for the use of language area in the control group posttest. Thus, the results indicate that the data collected from the Pretest and Posttest in the use of language area for both groups follows a normal distribution since the Skewness and Kurtosis values are considered acceptable within the range of ± 1.0 (Hair et al., 2018). Thus, t-test analysis is conducted to determine if the Pretest and Posttest use of language results for both groups are significant or not.

Table 4.4.3

USE OF LANGUAGE - Independent samples t-test statistics

	Group	N	Mean	SD	t	df	p	Cohen's d
UoL PRETEST	EG	30	2,23	0.57	-1,363	58	,089	-,352
	CG	30	2,43	0.57				
UoL POSTTEST	EG	30	2.50	0.63	1,811	58	,038	,468
	CG	30	2,23	0.50				

EG: Experimental Group CG: Control Group

The first section shows that there was not a statistically significant difference between the experimental group and control group with respect to their use of language pre-test scores on average: $t = -1,363$; $p = ,089$. The finding shows that learners in both groups were assumed to have a similar level of skills in the fluency band before the intervention.

The second section shows that there was a statistically significant difference between the experimental group and control group with respect to the use of language post-test scores on average: $t = 1,811$; $p = ,038$, Cohen's $d = ,468$. According to this finding, the researcher rejected the null hypothesis that there was not a significant difference between the groups in the fluency part of the speaking skills in English. Thus, it was found that the students in the experimental group showed an improvement in the fluency band at the end of the intervention.

4.5. Oral Assessment Results

In order to find out whether the OA Pretest and OA Posttest results in both groups were normally distributed or not, Kolmogorov-Smirnov and Shapiro-Wilk tests were computed for the experimental group and control group. Table 1 indicates the test of normality of OA Pretest and OA Posttest scores for both groups.

Table 4.5.1

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Experimental Group OA Pretest	,160	30	<,049	,949	30	<,158
Experimental Group OA Posttest	,186	30	<,010	,922	30	<,031
Control Group OA Pretest	,150	30	<,084	,945	30	<,123
Control Group OA Posttest	,149	30	<,086	,950	30	<,172

a. Lilliefors Significance Correction

The test results indicate that the data do not follow a normal distribution as the p-value is $p=,001$ in Kolmogorov-Smirnov and Shapiro-Wilk. Thus, the Skewness and Kurtosis data values for oral assessment results need to be checked for normality. Table 2 shows the Skewness and Kurtosis values of the data obtained from the idea development area for both the pretest and posttest results:

Table 4.5.2*Descriptives*

	GROUP1E2C	Statistic	Std. Error
PRETEST	1,00	Mean	10,0333
		95% Confidence Interval Lower Bound	9,1757
		Upper Bound	10,8909
		5% Trimmed Mean	10,1296
		Median	10,0000
		Variance	5,275
		Std. Deviation	2,29667
		Minimum	4,00
		Maximum	14,00
		Range	10,00
		Interquartile Range	2,25
		Skewness	-,593
			,427
		Kurtosis	,922
			,833
	2,00	Mean	10,4000
		95% Confidence Interval Lower Bound	9,6241
		Upper Bound	11,1759
		5% Trimmed Mean	10,3333
		Median	10,5000
		Variance	4,317
		Std. Deviation	2,07780
		Minimum	7,00
		Maximum	15,00
		Range	8,00
		Interquartile Range	3,25
		Skewness	,362
			,427

		Kurtosis	-,687	,833
POSTTES	1,00	Mean	10,7333	,40947
T		95% Confidence Interval Lower Bound	9,8959	
		Upper Bound	11,5708	
		5% Trimmed Mean	10,6852	
		Median	10,0000	
		Variance	5,030	
		Std. Deviation	2,24274	
		Minimum	7,00	
		Maximum	15,00	
		Range	8,00	
		Interquartile Range	3,25	
		Skewness	,594	,427
		Kurtosis	-,495	,833
	2,00	Mean	9,7333	,34883
		95% Confidence Interval Lower Bound	9,0199	
		Upper Bound	10,4468	
		5% Trimmed Mean	9,7222	
		Median	9,5000	
		Variance	3,651	
		Std. Deviation	1,91065	
		Minimum	5,00	
		Maximum	14,00	
		Range	9,00	
		Interquartile Range	2,25	
		Skewness	,187	,427
		Kurtosis	,916	,833

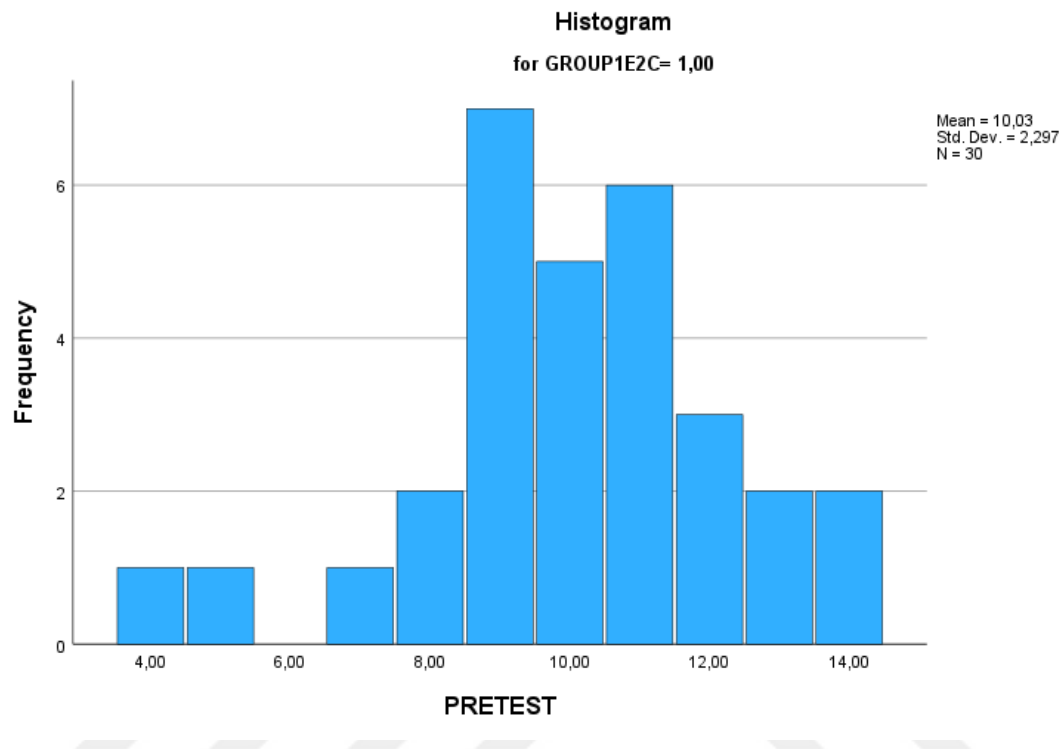
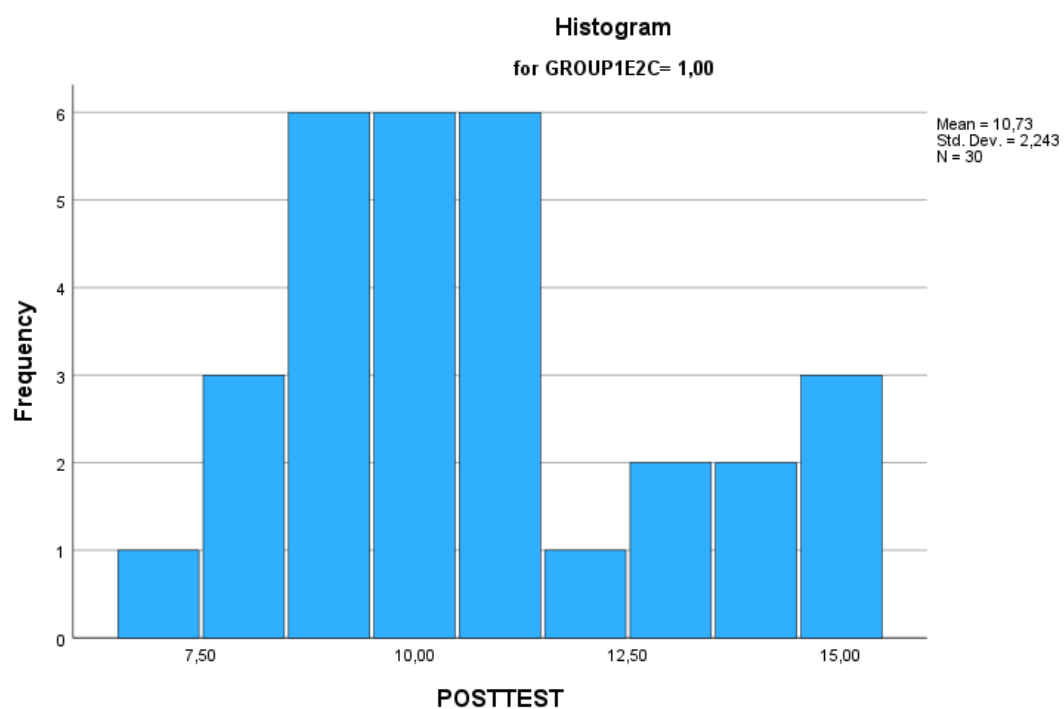
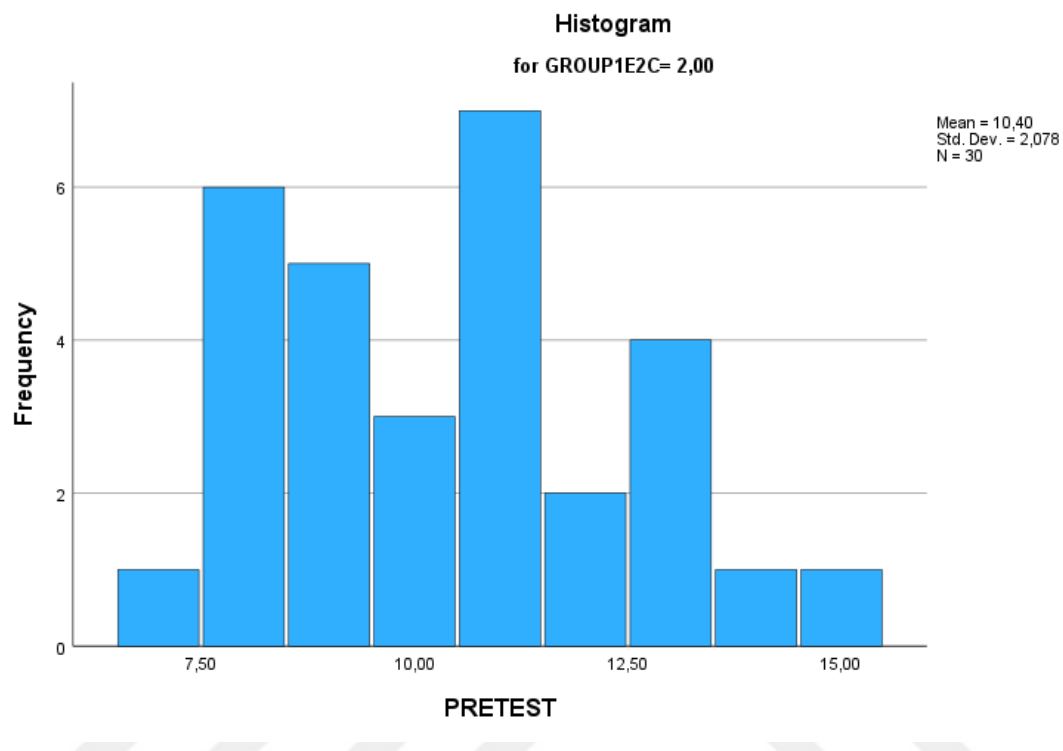
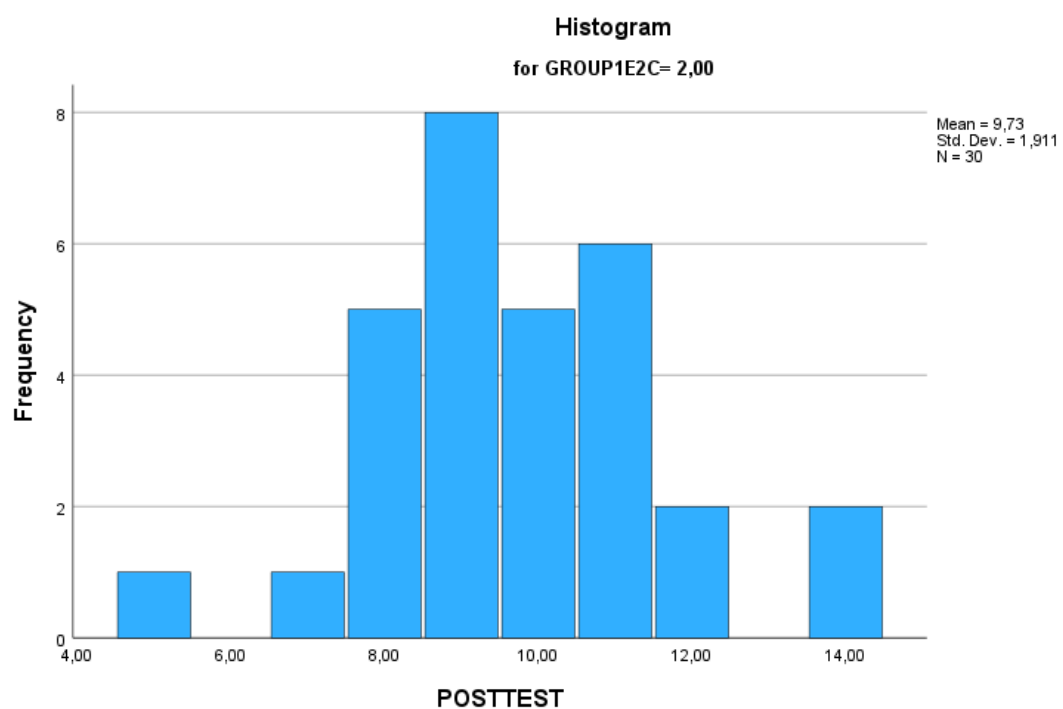
Figure 4.5.1.*Experimental Group - OA Pretest Histogram Graph***Figure 4.5.2***Experimental Group - OA Posttest Histogram Graph*

Figure 4.5.3*Control Group - OA Pretest Histogram Graph***Figure 4.5.4***Control Group - OA Posttest Histogram Graph*

The data displayed in Table 2 provides insights into the distribution statistics for various assessment scenarios. Specifically, for the experimental group pretest, the Skewness value for the total oral assessment score is -0.593, and the Kurtosis value is 0.922. In the experimental group posttest, the Skewness value stands at ,594, while the Kurtosis value is -,495. Moving on to the control group, during the pretest, the Skewness value records ,362 and the Kurtosis value is -,687. In the control group posttest, the Skewness value is ,187, with a Kurtosis value of ,916.

Thus, the results suggest that the data gathered from both the Pretest and Posttest in both groups adhere to a normal distribution. This inference is supported by the Skewness and Kurtosis values, which fall within the range of ± 1.0 , a widely accepted criterion for indicating a normal distribution. (Hair, Babin, Anderson & Black, 2018). Thus, t-test analysis is conducted to determine if the pretest and post-test OA results for both groups are significant or not.

Table 4.5.3

ORAL ASSESSMENT - Independent samples t-test statistics

	Group	N	Mean	SD	t	df	p	Cohen's d
ID PRETEST	EG	30	10,03	2.29	-648	58	,260	-,167
	CG	30	10,40	2.07				
ID POSTTEST	EG	30	10.73	2.24	1,859	58	,034	,480
	CG	30	9,73	1.91				

EG: Experimental Group CG: Control Group

The first section shows that there was not a statistically significant difference between the experimental group and control group with respect to their overall oral assessment pre-test scores on average: $t = -648$; $p = ,260$. The finding shows that learners in both groups were assumed to have a similar level of knowledge in the oral assessment before the intervention. The second section shows that there was a statistically significant difference between the control group and experimental group with respect to the oral assessment scores on average: $t = 1,859$; $p = ,034$, Cohen's $d = 480$. According to this finding, the researcher rejected the null hypothesis that there was not a significant difference between the groups in the oral

communication competencies in English. Thus, it was found that the students in the experimental group showed an improvement in oral assessment at the end of the intervention.

4.6. Drawing from the Interviews

To conduct a feedback checklist analysis for the interviews, the following steps were followed (Sönmez & Alacapınar, 2018):

1. The interviews were conducted in Turkish and translated into English by the researcher.
2. The feedback was compiled and reviewed.
3. Common themes in the responses were identified and categorized.
4. A checklist was developed based on the identified and categorized themes.
5. Each piece of feedback was matched with the corresponding item on the checklist.
6. The analysis focused on qualitative data; therefore, descriptive explanations were added to the checklist when necessary.
7. The results were summarized, and concerns and suggestions were noted.
8. The findings were interpreted, and areas of strengths and weaknesses in the study were identified.

The results of the findings are presented below.

Engagement Levels

- The students in the experimental group were actively engaged with real-life scenarios, attempting to solve problems that arose from these scenarios. They found the problem scenarios engaging, leading them to work on the tasks during the lessons.
- Grade served as an essential driving force for students to study. First, students in the control group were exam-oriented and even requested to work on the topics that might appear in the oral assessments. Secondly, students in the experimental group

claimed that they would have studied more for the speaking course if the course had contributed to their overall course average score.

- At first, students new to PBL found it challenging to grasp and navigate the different stages effectively. Yet, with the help of the PBL checklist and tutor guidance, they got used to it.
- As students in the experimental group became more familiar with stages of the PBL, there was an increase in the level of their participation
- Students in the PBL class questioned the benefits of PBL and agreed that it was a demanding process that helped learners develop various skills. Therefore, after the second week, they created a positive attitude toward the PBL course.
- The PBL students were more active both physically (collaborating on group tasks, creating posters, presentations, etc.) and mentally (analyzing and interpreting data, critical thinking and problem-solving, identifying problems, generating research questions, assessing the validity of sources, formulating arguments, evaluating solutions, synthesizing information from multiple sources, reflecting on the learning process, and applying theoretical knowledge to practical scenarios.)
- Students in the PBL class claimed that they learned from their peers as there were ample collaboration and discussion opportunities.
- Students in the PBL class seemed reluctant to speak at first as they were not familiar with the process and were afraid of making grammatical mistakes. However, they gained more self-confidence as the course progressed, enabling them to overcome their apprehensions.
- In the initial lessons of the intervention, students in the experimental group experienced challenges in mentally organizing their ideas. However, they developed their ability to generate and structure ideas as the course progressed.
- Two students were unwilling to participate in the group work and extend the discussion.

- Students in the control group stated that they learned from the teacher a lot. The teacher gave brief feedback about the students' performance and highlighted the mistakes they had made. They stated although they found teacher's input beneficial, there could be more interesting activities.
- Students in the control group were very exam-oriented. They wanted to focus on the themes they were studying in their regular classes rather than SDGs so that they could have speaking practice for the speaking exams.
- Students in the control group received a longer list of signposting language than those in the experimental group. Students in the control group mentioned memorizing the signposting language and a variety of helpful expression phrases for agreement, disagreement, interrupting, and giving opinions.
- Students in the control group expressed a greater interest in studying grammar.
- Students in the experimental and control groups noted that they learned about the SDGs.

Progress in idea development

- All the interviewed students in the experimental group noted that their idea development improved. One student said, "The course taught me how to think, how to support my ideas, and how to connect my ideas." Since students in PBL tackle complex, open-ended problem scenarios, they were questioning, analyzing, evaluating, and solving problems individually and in groups. This fostered their critical thinking skills, which helped them in their idea-generation process.

Progress in the use of language

- Although the PBL speaking course contributed to developing language skills in the experimental group since they constantly used various grammatical structures and vocabulary to express their idea, they still needed more practice opportunities and time to improve their grammar and vocabulary.
- Specific challenges in grammar and pronunciation were identified and worked on in both experimental and control groups.

Progress in the Speaking Skills

- Students in the experimental group developed a positive attitude towards speaking in English. At the end of the intervention, students in the experimental group stated they could join a spontaneously occurring discussion on any topic.
- Students in the control group were still reluctant to talk in English for various reasons, such as lack of confidence, fear of making mistakes, and peer pressure. Two students expressed their lack of confidence due to limited exposure to real-life situations. They stated that their experience was confined to 9-minute, in-class group discussions, which made them feel less at ease when participating in broader discussions.
- Students in the control group stated that as they were instructed to answer the given questions in 9 minutes, it was difficult for them to have a natural conversation practice.
- Students in the control group asserted that they had discussion opportunities similar to those that could arise in the oral assessments. These support sessions offered chances to practice oral assessments.

Concerns Related to the Study

- Allocating three lesson hours was not enough for a PBL class.

5. DISCUSSION, CONCLUSION AND IMPLICATIONS

This chapter is structured into five sections. The first part provides an overview of the study's findings. Sections two and three delve into the study's internal and external validity, respectively. The fourth part encapsulates the study's conclusions. Section five explores the implications of the research. Lastly, the concluding section offers recommendations for future research.

5.1. Discussion of Study Findings

This study aimed to investigate the impact of Project-Based Learning (PBL) on the English language communication competence of A2+ level students enrolled in higher education. The pretest t-test results revealed that, prior to the intervention, there was no significant difference in the mean scores between the control group and the experimental group in various aspects, including idea development, interaction, fluency, language use, and students' oral assessment 1 pretest scores. This implies that both groups of students had similar levels of proficiency in spoken English.

The researcher concluded that PBL instruction yielded better results compared to traditional instruction, where students initially engaged in reading and/or listening tasks related to a topic before participating in group discussions of three. The post-test t-test results showed a statistically significant difference in idea development, fluency, language use, and overall oral assessment scores, but no significant difference was observed in the area of interaction. A group of researchers, Fahmi et al. (2021) also found out in the study they conducted that there was a significant difference in students' speaking skills instructed by using PBL instruction and that PBL has successfully enhanced students' oral communication skills. Another study which focused on the effect of PBL on speaking skills was done by Sy et al. (2013) and the findings indicated that there were significant differences between the students in the experimental group instructed by implementing PBL and the control group taught by the traditional approach. In addition, Sutrisna and Artini (2020) conducted a study to investigate the effect of PBL on students' speaking competence as well as their attitude towards English language learning (ELL). The results indicated that implementing PBL

enhanced students' oral communication skills as well as helped them develop a positive attitude towards ELL.

The OA pretest and post-test scores were a result of four different areas which are idea development, interaction, fluency, and use of language. The researcher found that there is a statistically significant difference in the idea development area. Idea development is a cognitive process which is closely related to critical thinking since both include the generation, evaluation, as well as refinement of ideas. There have been studies that conducted research on the impact of teaching critical thinking (CT) skills on the development of students' oral communication skills. As a case in point, Sanavi and Tarigat (2014) found that focusing on CT skills in class can enhance students' speaking skills. In addition, Aswan and Sumarmin (2017) investigated the effect PBL on students' CT skills and found that PBL had a positive effect on students' critical thinking competencies. Another study conducted on the effect of PBL on critical thinking indicated that there were statistically significant improvements after the PBL intervention on students' CT competencies.

The researcher found a significant improvement in the fluency area. Yet, there has been no study found in the literature specifically analyzing the effect of PBL on the development of students' fluency levels. It has been mentioned as one of the areas of oral communication competence in the conducted studies and implementing PBL has a positive impact on the speaking skills in different studies some of which have been discussed above and will be discussed in the following areas of oral communication.

In the interaction area, there has been no significant result found between the experimental group and control group by the researcher. There have been no studies found on the effect of PBL on the interaction area. The researcher found that PBL has a positive impact on the development of the use of language. Othman and Shah (2013) conducted a study to investigate the effects of PBL on students' knowledge and skills of language and the results indicated that the experimental group showed more improvements in terms of language.

In the interviews, the researcher asked the students whether they found the topic of the problem scenarios interesting and appealing to them. They all stated that they had some reservations about the topics as they derived from the Sustainability Development Goals. Since they thought that SDGs were serious and significant global goals and that they were A2+ level learners, they questioned their level of English at first and were not sure whether

they were able to express themselves. However, the problems students worked on were individual-based and students were familiar with the topics of the problems; therefore, despite some difficulties they encountered due to limited proficiency in English, they were able to cope with the stages of the PBL classes. Campbell (2000) and Conger (2001) highlighted the fact that students' interests, previous experiences, and familiarity with the topic of a problem is a prominent factor that determines the success or failure of PBL. The current study took into account this factor and concrete and clear scenarios were created based on individuals rather than on public or global scales in the main study as advised in the pilot study.

In the interviews, students in the experiment group reported that they experienced a range of emotions while studying SDGs. They reported that initially, they were hesitant about whether they would be able to talk about the SDGs and that as they deepened their knowledge and recognized that they were able to participate in discussions and contribute in all the stages of PBL by following the PBL sheet, they were proud of themselves. They also mentioned that they were motivated and enthusiastic to contribute to achieving SDGs in the future.

Furthermore, the qualitative outcomes of the current study supported the findings of a case study which was carried out by Kovalik. (1999). The results highlighted the challenges that students encountered in identifying their learning issues and learning them by themselves, along with some students' limited participation in group work. Thus, first, the readiness level of students to contribute determines the success of PBL. Once the expectations of a PBL class became clear, students were more ready to take on new roles, and responsibilities (Boud & Feletti, 1997). Students in the experimental group were not accustomed to teamwork and problem-based learning stages. Thus, in the first three weeks of the study, students experienced difficulties in adapting to their new roles and some concept confusion regarding certain concepts such as critical thinking. Second, in the pilot study of the current research, students encountered the same difficulties only with the teacher's instructions. Therefore, in order to eliminate this issue, the researcher shared a PBL study sheet with the students in the experimental group for both classwork as well as homework. However, the lack of contribution of two students who needed more support affected the group dynamics and put a heavier workload on other group members, leading to a loss of motivation. Therefore, after the second week, the group members started to rotate.

During the research stage, since students had to do the research in the classroom within a limited time frame, the only source type students were able to use was online sources including search engines such as Google and academic journal databases to which access was provided by the university. However, students had the choice to utilize any online resources they preferred as long as they were reliable. Both the interviews and teacher observation results indicated that there was a tendency to use more visual materials such as YouTube videos with subtitles, and images. Students relied on multilingual neural machine translation services as such Google Translate as well as online dictionaries to assess their comprehension of the texts they read.

Students also had a similar option to choose the type of work they were going to do in the final production stage. They were allowed to prepare a PPT, a poster, or a role-play as long as they shared the results of their research and offered possible solutions to the problem.

Although students relied on search engines in the class, for their assignments three of them interviewed exchange students at the university, as well as experts in the field of their research, one used library sources, and one student conducted a survey for his research.

Based on the qualitative data obtained from the students in the experiment group, they had a positive attitude toward PBL instructions. However, they also stated that if the speaking course had been graded, they would have done the assignments shared by the researcher prior to class regularly and performed better in the course. Besides, they said that since they already had a heavy workload in their regular classes, they needed to prioritize the assignments which had an effect on their overall course total.

The interview and teacher observation results showed that despite the flexibility of online education, students were not in favor of having classes online due to the digital divide, limited hands-on learning, and limited interaction. They had no reservations about doing assigned tasks online; however, they thought face-to-face classes were much more beneficial.

5.2. Internal Validity of the Research

In order to enhance the internal validity of the conducted two oral assessments, the researcher defined the construct that was intended to be assessed. Students were assessed based on the four main components of oral communication skills: idea development, interaction, fluency

and coherence, and use of language. The used detailed OA criteria aligned with the construct that was defined. It was developed by integrating the appropriate CEFR A2 and B1 speaking descriptors into the criteria which focuses on what students can do. In addition, prior to the oral assessments, assessors gathered for a standardization session and received proper training. In the standardization session, assessors watched two samples, gave a grade for each performance by following the criteria, and discussed their decisions to ensure that there was a clear understanding of the grading criteria. The questions and the criteria were official documents of the institution where the study was conducted, which means that both have been used multiple times, feedback has been collected on them and necessary adjustments have been made after the feedback. They were regularly reviewed and revised. In addition, the exam prompts were assigned to the students randomly to reduce the test content-related threats to its internal validity. Moreover, all the students had similar test-taking conditions such as the exam environment, time limits, and the provided materials.

Despite all the taken measures to ensure internal validity, there could be some threats to the internal validity of the research. As a case in point, students' characteristics, students' attitudes toward speaking in English or taking an exam, and maturation level could have affected the internal validity. Yet, the research design of the study, matching only pretest-post-test control group design, is effective to some extent in controlling potential threats including subject characteristics, maturation, mortality, instrument decay, testing, history, and regression to the validity and reliability of the findings (Fraenkel and Wallen, 1996, p.285). However, these threats may still have occurred in this study.

5.3. External Validity of the Research

According to the t-test findings, a significant statistical distinction is evident between PBL instruction and traditional instruction in terms of idea development, fluency, coherence, language use components in speaking, and the overall oral assessment (OA) score. However, there is no statistical difference observed in the interaction component. Thus, PBL instruction has a more significant impact on three out of the four primary oral communication competencies in students. The sample of the study consisted of A2+ level students (n=60) from a prestigious private university in Istanbul, Turkey who had taken the university entrance exam and achieved a qualifying score for admission to the university. There were no missing values in the pretest and post-test data. Therefore, the results of this

study can be generalized to the other populations in higher education if similar conditions detailed in this current study are provided.

This study was conducted between 03 November 2021 and 23 November 2021 which was a time period in the middle of the Fall semester of the 2021-2022 academic year. Regular classes were held in the morning and the study was carried out in the afternoon as an extra-curricular activity. The experimental group was supported by materials that led to PBL instruction whereas the control group was provided with regular class tasks that were used in traditional teaching. The pretest and post-test were administered on Zoom due to the COVID-19 measurements. Each group was allocated 5 minutes for thinking and 9 minutes for discussion.

The study was done during the COVID-19 period. The classes were held face-to-face yet with the masks on. The first 6 weeks of the course were done in physical classrooms and the last two classes were held online.

5.4. Conclusions

This should be acknowledged that conclusions shared in this paper could be extended to other contexts or samples only if the conditions specified in the previous heading. In addition, the conclusions declared only pertain to A2+ level English language learners in higher education. The conclusions of the research are outlined below:

- Students were intrigued by the Sustainable Development Goals (SDGs) and were interested in exploring them further.
- Students' attitude towards the PBL instruction was positive and their participation in the course increased. They became more confident and enjoyed the course more during the last weeks of the course because they were able to transfer the knowledge about the goals they acquired in the previous weeks to their discussions. As a case in point, while they were discussing refugees, all of them referred to the previously studied goals such as climate change, quality education, good health and well-being, responsible consumption and production.
- Students in the PBL classes were more active than the ones in the control group both physically and mentally. PBL instruction provides a learning environment where

students were engaged in meaningful inquiry and research processes whereas students in the control group received information from the teachers.

- PBL creates a learning environment where multiple educational goals such as developing critical thinking, collaboration, and communication skills which are prominent 21st century skill.
- Enhancing technology in PBL classes offered various opportunities such as enhancing students' learning experience, providing collaboration opportunities as well as online resources for research. The research stage, which is the core of PBL, instruction would have been impossible to conduct without the internet access provided at the university campus where the study was undertaken. Additionally, students met on cloud-based video conferencing platforms such as Zoom to work on the assigned problems and record their sessions to be shared by the researcher for feedback. Also, Zoom facilitated the delivery of online classes when face-to-face classes were temporarily suspended as a precautionary measure during the COVID-19 pandemic.
- Despite having a wide range of beneficial aspects of PBL, the research showed that there could be instances which may challenge PBL instructors. First, some students in a PBL group may put less effort forward than the other group members, leading to unequal workload. Second, since PBL instruction consists of more stages than traditional instruction and more higher-order thinking skills are necessary to complete those stages, it requires more lesson time than traditional instruction.

5.5. Implications

Based on the finding in the current research, the following implications could be made.

- English language teachers who aim to create student-centered learning environment can implement PBL instruction.
- PBL can be implemented in order to improve idea development component of A2+ level language learners' oral communication competence.
- PBL can be implemented in order to improve fluency and coherence component of A2+ level language learners' oral communication competence.

- PBL can be implemented in order to improve use of language component of A2+ level language learners' oral communication competence.
- PBL can be implemented in order to improve A2+ level language learners' oral communication competencies.
- PBL can be implemented in order to improve A2+ level language learners' higher order thinking skills such as creative thinking, synthesis and evaluation.
- PBL can be implemented in order to improve A2+ level language learners' self-directed learning and collaboration skills.
- PBL can be an instructional approach in order to improve A2+ level language learners' research skills.
- The reason why there was no statistically significant difference in the interaction component of the criteria could be that the expectations are not very demanding. Using communicative strategies such as asking questions like "what do you think?", agreeing by saying "I agree with you", interrupting by saying "sorry, can I say/add something?" or giving opinions by saying "I think" are the skills which students were practicing in their classes since they started the preparatory program. If they used four of the communicative strategies in the discussions, they were able to score four, the highest grade.
- In order to improve students' idea development skills, tasks which require critical thinking skills can be implemented since they are interconnected processes which complement each other. In PBL, critical thinking and idea development work together in cyclical way. When students start by focusing on a complex and real-world problem, they engage in critical thinking to analyze it, generate ideas as well as possible solutions, evaluate these ideas critically and carry on the process until a solution is found. Such an iterative process develops both critical thinking and idea development skills.
- In order to develop students' oral communication competencies, an assignment where they would get the opportunity to practice the same iterative process

mentioned above should be given to enhance the skills students do in the classroom.

- In PBL instruction, language learners can develop their oral communication skills as it requires them to engage in discussions, ask questions, respond their peers' questions, express their thoughts and offer solutions.
- Since students focus on a problem, they are exposed to relevant vocabulary and collocations in texts as well as discussions, expanding their vocabulary repertoire and expressing their ability to express themselves accurately.
- In PBL, students are constantly in a cognitive engagement by analyzing a problem, identifying learning issues, considering issues from different perspectives, evaluating data and creating solutions. This actual thinking and intellectual involvement support the development of higher-order thinking skills, which are closely related to idea development as well as coherence which is achieved by using appropriate linking words, logical organization of ideas and a clear and well-structures expression of ideas.
- Once students are familiar with certain abilities such developing and connecting ideas, they can free up some space in their working memory which they can use for other cognitive demands such as formulating sentences and choosing the appropriate vocabulary to express their knowledge and thoughts.
- Using real-life situations as problems create a learning context in which students experience the cognitive demand that is related to the cognitive demand expected from them to perform outside the classroom. Therefore, implementing PBL in a speaking course can help students in higher education communicate effectively in both academic and non-academic environments.
- It should be noted that providing appropriate scaffolding such as language support, modelling effective communication strategies, providing guidance in discussions tailored to students' proficiency level is crucial to help them carry out the tasks and all the PBL stages.

- Repeating the same PBL cycle as an assignment has a positive effect on learners speaking skills as they gain more familiarity with the process and language, leading to the decreased cognitive workload.
- Both prescribed and described curricula are essential for the PBL curriculum. Since there is no need for the facilitator to be an expert on the problem and the facilitator help learners develop a metacognitive level, prescribed guidelines are important as they need to anticipate the flow of the lesson and anticipate potential challenges and questions from the learners. The described curriculum adapts the prescribed guidelines to align with learners' needs.
- Implementing scaffolding in a language learning context that includes A2+ level language learners is an important part of learning in PBL and it is crucial to help learners to carry out the tasks. Thus, depending on students' needs, teachers should choose the optimal approach including traditional instruction.
- Integrating Sustainable Development Goals into higher education curricula has become a priority. Universities have recognized the significance of preparing their students to comprehend and even contribute to achieving these global goals. Implementing a speaking language course on SDGs, even with lower language learners is possible by choosing the goals with which they are already familiar, have personal experiences and can easily build knowledge. Such a course can offer institutions an opportunity to raise their students' awareness and develop background knowledge about the goals.
- Since there are a lot of online sources about the SDGs, it is easy for students to access information that could be helpful to understand the goals, to find answers to their questions, come up with solutions, and prepare tasks such as posters and presentations.
- Students experienced difficulty getting used to their new roles in PBL instruction in the beginning; however, using PBL worksheets were beneficial for them to follow the stages, understand what was expected from them and track their progress. Therefore, it is highly recommended that the researchers who are planning to implement PBL in class should prepare a study sheet which would

act as a checklist so that students can follow their progress. This also smooths the process of giving instructions for the researchers.

- The amount of content covered in class in PBL instruction and traditional instruction may differ. Therefore, goals and stages of each should be thoroughly planned for effective teaching and learning.
- Since PBL needs detailed planning and teachers need to be ready to provide scaffolding support to their students for various needs, designing and implementing it could pose a challenge for teachers.
- PBL provides a good opportunity for students to participate to the course through collaboration and discussions.
- Since PBL is multi-disciplinary and aims to focus on multiple educational goals, stakeholders who are responsible for developing curriculum in language courses in higher education can design a course on PBL to help their students develop their language knowledge and skills via a skills-based curriculum rather than learning content through teacher-oriented activities.
- Implementing PBL in language classrooms may present a significant challenge, particularly with lower level students since the language serves a dual role. It is both the medium of instruction and the target outcome of the lessons. In other words, while students engage in activities to understand and solve real-life problems, they're simultaneously honing their language skills. The challenge lies in seamlessly integrating these two aspects, where language acquisition happens through the process of problem-solving. This demands meticulously crafted lesson plans, well-designed problem scenarios and readiness for flexibility which are necessary for both language development and the primary problem-solving goals.

5.6. Recommendation for Further Research

The following recommendations for further research could be done based on the results of the current study and the experiences of the researcher.

- This course could be integrated to the regular curriculum of a language course, given a grade value that would affect students' overall course grade. Then, the students' attitudes toward the course as well as their performance level could be investigated again.
- PLB is a suitable approach for Flipped Learning instructional approach in which learners are introduced the new content and materials outside of class before attending the classes. This approach could increase the amount of quality time spent in class. There would be more opportunities for tasks which require higher-order thinking skills. As a result, the impact of flipped learning on PBL classes could be investigated.
- Students could choose the SDGs that they prefer to study during the course; however, it should be noted that asking students preferences may create challenges for the curriculum developers as it may not allow them to have sufficient amount of time to plan a semester-long course focusing on one goal per week beforehand.
- The research on the effect of PBL on the A2+ level language learners in higher education could be investigated with a larger sample size in order to get more powerful results.
- The effect of PBL on the B1 or higher-level language learners' oral communication competencies could be investigated. As the proficiency level increases, the results of exam scores may change.
- The current study is based on pure problem-centered approach according to Barrow's taxonomy. However, a speaking course for A1 level language learners could be developed by using a softer form of PBL within the taxonomy such as lecture-based with problem-solving activities or case-based learning. The effect

of a softer version of PBL on the A1 level students' speaking skills could be implemented.

- The effect of PBL on language learners' writing skills could be investigated. The same PBL instructional design could be used to find out whether there is an impact of PBL on task fulfillment, rhetorical pattern and use of language in written language.
- The impact of PBL on language learners' receptive skills could be investigated. In other words, the effect of PBL instruction in reading or listening skill could be compared by implementing a similar PBL instruction.
- The relationship between the use of online sources and the effectiveness of PBL in developing students' idea development skills in written or spoken communication could be investigated.
- With lower-level students, videos and images such as pictures which clearly gives the message should be used as they make the problem situation more concrete and thus more meaningful. They can communicate concepts and ideas effectively to students across language and cultural barriers.
- Since the facilitator is expected to scaffold each individual student, the class size is an important factor that may impact the outcomes of PBL studies. As presented in Chapter 3, the current research was conducted in classes which had the same amount of subjects. Thus, the effect of class size on results of PBL could be investigated.
- Subjective tests such as the oral assessment which depend on the personal interpretation and evaluation of assessors should be done in a careful manner. Thus, standardization sessions should be conducted to clarify the standards.
- Integrating PBL instruction to language learning courses could be a challenging situation in terms of resources, teachers' training and time required for the PBL process. Thus, planning of the integration of the PBL instruction to language learning courses should be done carefully.

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APPENDIX A: CONTROL GROUP IN-CLASS TASK

WEEK 2 – SDG 12 CLIMATE ACTION

READING 1

PART A. Read the text and number the main idea (a-d) in order that they are mentioned.

- a. A solution to the problem _____
- b. Changing ecosystems _____
- c. Melting glaciers _____
- d. Causes of climate change _____

PART B. Read the text and complete the sentences below using the words & phrases in the box.

mangrove forests	agriculture	global sea levels	extinction
global temperatures	coral reefs	CO ₂ levels	

- _____ are at their highest for 800,000 years.
- _____ could rise by about 39 centimeters by the end of the century.
- Recently, over 33% of the world's _____ have been destroyed.
- Over the last century, _____ have gone up by 0.75 degrees.
- Twenty-five percent of the land on earth is used for _____
- Global increases in temperature could cause the _____ of 30% of land species.
- Twenty percent of _____ have been lost in the last few decades.

PART C. Read the text and answer the questions below.

- In which country is the Upsala Glacier?

- What is the name of the new sea route through the Arctic ice?

- Many forests are being cut down all over the world. What is the land needed for?

- What medical problem could more pollen production lead to?

5. What is the term for the main chemicals responsible for climate change?

6. What do humans do that reduces the amount of oxygen in the atmosphere?

7. What should governments start using to reduce the amount of CO₂ in the atmosphere?

UPSALA GLACIER: OUR CHANGING PLANET



Two images of the Upsala glacier in Argentina show the retreat of the ice (**top: 1928; bottom: 2004**). Photograph: Greenpeace/Reuters

The Upsala glacier used to be one of the biggest glaciers in South America. In 1928, it was covered in ice and snow but now the glacier is melting at an annual rate of 200 meters, so the area is covered in water. This is evidence of global warming.

In the last 100 years, the global temperature has gone up by 0.75 degrees Celsius. This may not sound much but such a small increase is causing sea levels to rise and threatening the habitat of many species of plants and animals. An increase of two degrees Celsius in global temperatures could result in the extinction of 30% of the world's land species.

The Northwest Passage is a sea route which runs along the northern coast of Canada between the Atlantic and the Pacific Oceans. In the past, it was often difficult to use, as the waters were frozen; however, increasing temperatures and the subsequent deglaciation have made it easier to travel down this route. The major issue is that this will lead to a loss of habitat for the polar bears and other species that live in this area.

Sea levels in the UK have increased by around 10 cm in the last 100 years and experts predict that global sea levels could rise by up to 59 cm by the end of the century. Consequently, areas which were land a few hundred years ago are now submerged and many low-lying islands may be under water in the near future.

As a result of the changing climate, the world's ecosystems are also changing faster than ever before. Over one-third of the world's mangrove forests and around 20% of the world's coral reefs have been destroyed in the last few decades. Forests are being cut down to provide

land for food because the population is growing at such a rapid rate. Approximately a quarter of the land on earth is now used agriculturally for growing food. As a result of the higher temperatures and higher levels of carbon dioxide in the atmosphere, plants are producing more pollen which could lead to more cases of asthma.

So what is causing climate change? The main cause of climate change is the huge amount of greenhouse gases such as methane and carbon dioxide (CO₂) in the atmosphere, but the reason for this is the world's population – you and me - As the population increases, more land is needed to provide food, and more energy is needed. Burning fossil fuels for heating, lighting, transport, electricity or manufacturing produces CO₂. Furthermore, humans breathe out CO₂ and trees 'breathe in' CO₂ and produce oxygen – so by cutting down trees, we are increasing the amount of CO₂ in the atmosphere and reducing the amount of oxygen. As a result of these activities, CO₂ levels are now at their highest for 800.000 years.

The biggest challenge we face today is to prevent further environmental disasters. We must do something before it is too late.

Reference: Westbrook, C., (2014), Unlock Reading and Writing Skills 3. CUP, Dubai

READING 2

PART A. Match the words and phrases (1-9) to their definitions (a-i).

1. Flooding	a. When all the trees in a large area are cut down
2. Erosion	b. When animals feed on grass or plants
3. Deforestation	c. The number and types of plant and animal species that exist in a particular area
4. Subsistence Farming	d. When an area is covered in water
5. Absorb	e. Cutting down trees for wood
6. Biodiversity	f. Cattle or other farm animals
7. Logging	g. Farming that only provides enough food for farmers and their families to live on
8. Grazing	h. To take something in, especially gradually
9. Livestock	i. Gradual damage and removal of soil, stone, etc., by the sea, rain, or wind
10. Overpopulation	j. Having too many people for the amount of food, materials and space available there.

PART B. Complete the summary below using the words in the box.

livestock	erosion	environment	fires	crops
effects	deforestation	decade	habitats	protected

The essay discusses the human causes of 1. _____ and the 2. _____ on the environment. Trees are removed for grazing of 3. _____ and growing 4. _____ like soya and palm oil. Subsistence farmers traditionally leave the land for a 5. _____ before reusing it but if the land is constantly reused, it results in 6. _____ of the soil. Deforestation contributes to global warming because it dries out the trees, causing forest 7. _____. It affects biodiversity because it leads to the loss of 8. _____. Governments should make sure forests are 9. _____ from logging. Deforestation will have terrible consequences for the 10. _____.

Causes of Deforestation and Its Effects on the Natural Environment

¹ Deforestation means the removal of a forest so that the land is converted for urban use or agriculture. The destruction of forests occurs for many reasons: trees are used as fuel or for construction, while cleared land is used as pasture for livestock (e.g. cows and sheep) and crop plantations. The main adverse effects of deforestation are aridity and damage to animal habitat, as well as climate change and erosion damage.



² The main causes of deforestation are commercial agriculture by big businesses and subsistence farming by local people. For instance, in Indonesia, industrial logging is carried out to clear areas for the production of palm oil, while in Brazil, large areas of the Amazon rainforest were cleared to grow soya and vegetable oil. Also, subsistence farmers clear an area big enough to graze cattle or grow crops by cutting down the trees and burning them. However, after two or three years, the land can no longer be used, so the farmer moves to another piece of land. It takes around ten years for the piece of land to recover. However, in populated areas, the land cannot recover and this leads to heavy erosion because the layer of the soil that protects the ground is removed during the crop-growing process. This can cause flooding problems in heavy rain.

³ One area affected by deforestation is the Amazon Basin in Brazil. The vast rainforests of the Amazon cover an area around 25 times the size of the UK and absorb an estimated 1.5 billion tons of carbon dioxide annually. They are thought to have helped keep global warming under control in recent years. However, in areas where deforestation has taken place, the increased temperatures result in less rain because there are not enough trees to provide water for clouds to form. If tropical forests dry out, more trees will die and there will be more logging and more fires. This will cause more emissions of carbon dioxide, making the rainforest contribute to global warming rather than help solve it.

⁴ Forest destruction is also having an effect on biodiversity. The growth in the world's population is causing the loss of habitats and damage to land where plants and animal species live, reducing biodiversity and leading to the extinction of many species. A decrease in biodiversity threatens entire ecosystems and destroys future sources of food and medicine.

⁵ The damage caused by humans to the world's forests leads to changes in natural environment and causes global warming. Governments should act to protect forests from illegal logging and plant more trees to absorb carbon dioxide. Deforestation on such a large scale is sure to have disastrous effects for the environment.

Reference: Westbrook, C., (2014), Unlock Reading and Writing Skills 3. CUP, Dubai

PART C. Correct the factual mistakes in the sentences.

1. In Indonesia, trees are cut down to make way for olive oil plantations.
2. Subsistence farmers can graze livestock on their land for ten years.
3. The rainforests of the Amazon cover an area 25 times the size of the USA.
4. Deforestation protects future sources of food and medicine.
5. Governments should plant more trees to absorb oxygen.
6. Small-scale deforestation will have disastrous effects for the environment.

PART D. Vocabulary

Replace the bolded and underlined words in the sentences below with the academic words in the box.

annual	issue	predict	challenge	areas	trend	consequences
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1. The most serious **problem** that threatens the environment is climate change.

2. Experts **think** that there will not be enough fresh water in the future. _____
3. Pollution and climate change are the **effects** of human activity. _____
4. Fortunately, the **pattern** is for more recycling and less packaging. _____
5. In some **places**, the glaciers have melted or even disappeared as a result of higher temperatures. _____
6. The **twelve-month** rate of deforestation between 1990 and 2005 was around seven eight million hectares. _____
7. The biggest **test** we face is to protect the plant. _____

APPENDIX B: CONTROL GROUP SPEAKING PRACTICE TASK

WEEK 2 – SDG 13 CLIMATE ACTION - PRACTICE TASK

- In groups you are going to discuss the topic of **environment**.
- You have 5 minutes to prepare some notes before the discussion begins.
- Use the points below to help you. However, you do not have to talk about all of these points. You can use any other relevant points to develop your discussion.
- You will have 9 minutes to discuss the topic and come to a conclusion.

1. Which one is the greatest threat to the environment? Why?

- Desertification
- Deforestation
- Loss of Biodiversity
- Pollution
- Overpopulation

2. What are some possible solutions to environmental problems?

3. What can people do to stop climate change?

APPENDIX C: EXPERIMENTAL GROUP – VOCABULARY TASK

WEEK 2 SDG 13 CLIMATE ACTION – VOCABULARY PRACTICE

PART A. Match the words and phrases (1-9) to their definitions (a-i).

1.Flooding	A.When all the trees in a large area are cut down
2.Erosion	B.When animals feed on grass or plants
3. Deforestation	C.The number and types of plant and animal species that exist in a particular area
4.Subsistence Farming	D.When an area is covered in water
5.Absorb	E.Cutting down trees for wood
6.Biodiversity	F.Cattle or other farm animals
7.Logging	G.Farming that only provides enough food for farmers and their families to live on
8.Grazing	H.To take something in, especially gradually
9.Livestock	J.Gradual damage and removal of soil, stone, etc., by the sea, rain, or wind
10.Overpopulation	I.Having too many people for the amount of food, materials and space available there.

PART B. Complete the summary below using the words in the box.

livestock	erosion	environment	fires	crops
effects	deforestation	decade	habitats	protected

The essay discusses the human causes of 1. _____ and the
 2. _____ on the environment. Trees are removed for grazing of
 3. _____ and growing 4. _____ like soya and palm oil.
 Subsistence farmers traditionally leave the land for a 5. _____ before
 reusing it but if the land is constantly reused, it results in 6. _____ of the
 soil. Deforestation contributes to global warming because it dries out the trees, causing forest
 7. _____. It affects biodiversity because it leads to the loss of
 8. _____. Governments should make sure forests are
 9. _____ from logging. Deforestation will have terrible consequences for
 the 10. _____.

PART C. Vocabulary

Replace the bolded and underlined words in the sentences below with the academic words in the box.

annual	issue	predict	challenge	areas	trend	consequences
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1. The most serious **problem** that threatens the environment is climate change.

2. Experts **think** that there will not be enough fresh water in the future. _____
3. Pollution and climate change are the **effects** of human activity. _____
4. Fortunately, the **pattern** is for more recycling and less packaging. _____
5. In some **places**, the glaciers have melted or even disappeared as a result of higher temperatures. _____
6. The **twelve-month** rate of deforestation between 1990 and 2005 was around seven eight million hectares. _____
7. The biggest **test** we face is to protect the plant. _____

APPENDIX D: EXPERIMENTAL GROUP PBL TASK SHEET

WEEK 2 – SDG 13 CLIMATE ACTION PBL TASK SHEET

PROBLEM SCENARIO



Ayşe lives in a small farming village in southeastern Turkey. For many years, her community has relied on farming to make a living, but the climate has been changing recently, making it harder to grow crops and raise livestock. The village has been experiencing more severe and frequent droughts, leading to economic losses and food shortages. The land is also turning into a desert, causing soil erosion and reducing water resources, which could lead to wildfires.

1. **Explore the issue:** What is/are the problem(s) in the picture? Identify the problems and write them below:

- A. _____
- B. _____
- C. _____
- D. _____
- E. _____
- F. _____
- G. _____
- H. _____

2. **State what is known:** Discuss the problem with your teammates and list what you already know.

3. **Define the learning issues:** What do you need to learn?

- A. _____
- B. _____
- C. _____
- D. _____
- E. _____

4. Fill in the chart about the problem.

	WHAT DO WE ALREADY KNOW?	WHAT DO WE NEED TO KNOW?	HOW CAN WE REACH INFORMATION?
A.			
B.			
C.			
D.			
E.			
F.			
G.			

5. **Distribute the roles:** Distribute the questions among your teammates. Who is going to research what?

6. **Research the knowledge:** Find available and appropriate resources to answer your questions (learning issues) to have a discussion. (Possible sources: search engines, SU Information Center database for books and articles, online dictionaries your teacher)

7. **Share your findings:** Talk to your teammates and share your findings.
8. **As a team, find possible solutions to the problem(s):** Discuss possible solutions and actions with your teammates. Support your ideas by explaining or exemplifying them.
9. **Review your performance:** Evaluate your strengths and areas that need improvement by filling out the **feedback sheet and CAN-DO statements** document. Plan your next action(s) to improve your performance.

APPENDIX E: EXPERIMENTAL GROUP PBL ASSIGNMENT

WEEK 2 – SDG 13 – CLIMATE ACTION – ASSIGNMENT

INSTRUCTIONS

- Meet on Zoom as a team.
- Read the problem scenario thoroughly.
- Find out what you already know and what you need to learn to answer the questions below.
- Team members need to understand what they need to learn and distribute your roles.
- Independently, research the topic to offer possible solutions in the discussion.
- Meet your group on Zoom again and share your findings.
- In 12 minutes, discuss the problem and offer solutions.
- The host will record the discussion and share it with the teacher.
- As you discuss, use the expressions of stating, clarifying, and justifying of opinion.
- If you have any questions, please do not hesitate to contact me.
- The deadline to share your recording is 11:00 pm Tuesday, 16 November.



You live in a small coastal town Black Sea region of Turkey. The town has a population of 10,000 people and relies on the fishing industry for economic stability. However, changes in the climate have caused problems for the town. The sea level has risen and there are more frequent and severe storms, causing significant damage to homes, businesses, and infrastructure. These changes have led to significant economic losses for the community. The temperatures have caused fish populations to migrate. It becomes difficult for the town's fishermen to make a living. Young people are leaving the town to find work elsewhere, leading to a decline in the population.

1.Explore the issue: What is/are the problem(s) in the picture? Identify the problems and write them below:

- A. _____
- B. _____
- C. _____
- D. _____
- E. _____
- F. _____
- G. _____
- H. _____

2.State what is known: Discuss the problem with your teammates and list what you already know.

3.Define the learning issues: What do you need to learn?

- A. _____
- B. _____
- C. _____
- D. _____
- E. _____

4.Fill in the chart about the problem.

	WHAT DO WE ALREADY KNOW?	WHAT DO WE NEED TO KNOW?	HOW CAN WE REACH INFORMATION?
A			
B			
C			
D			
E			
F			
G			

5.Distribute the roles: Distribute the questions among your teammates. Who is going to research what?

6.Research the knowledge: Find available and appropriate resources to answer your questions (learning issues) to have a discussion. (Possible sources: search engines, SU Information Center database for books and articles, online dictionaries your teacher)

7. Share your findings: Talk to your teammates and share your findings.

8. As a team, find possible solutions to the problem(s): Discuss possible solutions and actions with your teammates. Support your ideas by explaining or exemplifying them.

9. Review your performance: Evaluate your strengths and areas that need improvement by filling out the **feedback sheet and CAN-DO statements** document. Plan your next action(s) to improve your performance.

APPENDIX F: CAN-DO STATEMENTS

SPEAKING COURSE “CAN DO” STATEMENTS

These “can do” statements are to encourage you to reflect on your own assess your progress throughout the course. *You should keep these statements carefully in order to keep a record of your progress and refer to them throughout the course.*

When I complete the speaking course and Route 2 course, my level will be approximately B1 on the Common European Framework of Reference for Languages. This means:

- I can explain the main points in an idea or problem with reasonable precision.
- I can describe how to do something, giving detailed instructions.
- I can report straightforward factual information on a familiar topic, for example, to indicate the nature of a problem or to give detailed directions, provided they can prepare beforehand.

√√ I can do this well

√ I need more practice with this

X I can't do this

SPEAKING	TEACHER	
I can give a simple description, explanation, or summary of a familiar topic.		
I can give a short summary of information that I have heard or read.		
I can describe objects, situations, people, places, and simple processes.		
I can explain the terms and concepts that I have studied.		
I can give examples from the texts I have read to support a claim.		
I can have a short discussion in the classroom.		
I can start a discussion and end it in a suitable way.		
I can interrupt and hold a turn appropriately.		
I can ask for and give important information and details during a discussion.		
I can agree or disagree with others' ideas appropriately.		
I can invite others to respond to an idea.		
I can speak for a short while, but I need time to think of suitable words or structures for the task.		
My pronunciation is clear enough for others to understand.		
I can use simple structures easily and accurately.		
I have enough vocabulary to talk about topics I have studied.		
I can use linking words to organize my ideas.		
I have some simple strategies to give myself time to think.		
I can identify the problem and develop a plan about a problem.		
I can collect and analyse information about a problem.		
I can communicate my ideas and opinions clearly.		
I can collaborate with my peers to solve a problem.		
I can present my findings.		

APPENDIX G: FEEDBACK SHEET

FEEDBACK SHEET

1. What did you learn today? Think about your knowledge and skills (Bugün ne öğrendiniz? / Öğrendiğiniz bilgilere ve edindiğiniz becerilere odaklanın)

2. Write three activities we did in class today that have helped you improve your English-speaking skills. Explain. (Bugün yapılan derste İngilizce konuşma becerinizi geliştirdiğini düşündüğünüz üç aktivite nedir?)

- a.

- b.

- c.

3. I *think / don't think* I have performed well in class today because

Bugünkü derste performansımı **beğendim** / **beğenmedim** çünkü

APPENDIX H: 8-WEEK SPEAKING PROGRAM

Route 2 Fall 2021-22 Extracurricular Activity: Speaking course program

Title of the Course:	Speaking Course
Time:	• 24 hours in total – 3 hours per week • 8 weeks (November 3 & 4, 2021 - December 22 & 23, 2021)
Number of Students:	30 active participants (experimental group) – 2 sections
Course Goals	In this course, students will improve their comprehension and production of spoken English at the A2+ level.
Student Learning Outcomes	Upon successful completion of the course, students will be able to: • communicate in group discussions to discuss real-world problems • collaborate to offer possible solutions to given real-world problems • put forward a variety of relevant ideas consistently and appropriately to develop them • initiate and maintain interaction by using a variety of appropriate communicative strategies • use a variety of discourse markers to connect ideas • use some complex and a variety of simple structures & a variety of vocabulary
Formative Assessment	Role-plays, group discussions on problem scenarios; recorded discussions in groups of 3 on Zoom; mini oral presentations
Summative Assessment	2 Oral Assessments conducted online: 9-minute group discussions assessed using an Oral Assessment rubric (designed according to communicative competence models) that consists of four aspects of language: idea development, interaction, fluency, and use of language
Problem Scenarios used in the course	• Week 1: Human Rights – November 3 & 4, 2021 • Week 2: Goal 13. Climate Action (Life on land and life below water) • Week 3: Goal 2. Zero Hunger • Week 4: Goal 3. Good Health and Well-being • Week 5: Goal 12. Responsible Consumption and Production • Week 6: Goal 4. Quality Education • Week 7: Goal 16. Peace, Justice and Strong Institutions – Migration & Refugees; Child Labor • Week 8: Goals 14. Life on land & Goal 15. Life below water

Teaching methods and techniques
Problem-based learning, role play, guided inquiry research, brain-storming, poster, presentations
Problem Scenarios
WEEK 1 - This is Angelo from Philippines. He is 9 years old. He is a child laborer. He works in the mines. You are going to present his situation at a conference in UNICEF. Prepare a presentation to explain the problem and offer possible solutions to it.
WEEK 2 - Ayşe lives in a small farming village in southeastern Turkey. For many years, her community has relied on farming to make a living, but the climate has been changing recently, making it harder to grow crops and raise livestock. The village has been experiencing more severe and frequent droughts, leading to economic losses and food shortages. The land is also turning into a desert, causing soil erosion and reducing water resources, which could lead to wildfires.
WEEK 3 – Ahmet is a 10-year-old boy who lives in a poor community in a developing country. His family can't give him enough healthy food, so he's often hungry and not healthy. Many other families in his community are like Ahmet's, and they also can't get enough food because of poverty and limited resources.
Ahmet's situation has bad effects on his body and mind, and he doesn't do well in school. He's often tired and can't concentrate in class, so he falls behind. He feels bad about himself and gets frustrated.
Ahmet's friends are having the same problems as him, and they can't get enough food either. They go to a school that doesn't have meals, and they can't afford to bring food from home. This makes their hunger and not being healthy worse and makes it hard for them to do well in school. Think about the challenges that their community faces, like not having enough resources or good infrastructure, and make a plan that can last a long time and solve the problem. Present your plan to United Nations.
WEEK 4 - Tamara, a 28-year-old woman. She in a rural area with limited access to healthcare services. She is pregnant with her third child. Unfortunately, Tamara's first child died during childbirth due to complications because of poor maternal health. Her second child missed out on important vaccinations because there is no access to healthcare services. Tamara is not alone in her struggles, and many other women in her community face similar challenges. Poor maternal health during pregnancy can have serious results for both the mother and the baby. Prepare a presentation for a UN conference to explain why this is happening and to create solutions that can help improve the health of pregnant women living in low-income communities.

WEEK 5 - Olivia is a 16-year-old in the US. She likes going to shopping malls to shop for the latest fashion trends. She buys clothes, shoes, and accessories without thinking about how they affect the environment. Olivia's family worries about her habits and how they harm the environment. They want her to learn about sustainable consumption, which is one of the United Nations' goals for protecting the planet. Her family has asked your group to talk to her and inform her about the consequences of her actions.

WEEK 6 - Kübra is a 12-year-old girl who lives in a poor village in Turkey. Her parents can't afford to send her to a good school in the closest city, and the one near her home is overcrowded, and under-resourced. There is only one teacher who teaches all the subjects. Kübra dreams of being a doctor, but unfortunately, she's not getting the proper education she needs to reach her goal. In addition, her parents tell her that she may marry as soon as she turns 18. Kübra is not alone. Many children face these same issues worldwide. One of the biggest problems that needs to be addressed is inequality, particularly in poorer countries. If children kids don't get a good education, they often stay trapped in poverty. The situation could be worse for girls. Prepare a presentation about this problem to Bill Gates and persuade him to start a worldwide campaign.

WEEK 7 - Anna is a 20-year-old university student who left Ukraine with her mother when the war started. Her brother and father stayed in Ukraine to join the army. Anna and her mother went to Holland to find safety and a place to stay. They were lucky to find a temporary place to live on a cruise ship which became a refugee camp. However, they had to find a place to stay because the Dutch government allowed them to stay for 90 days. Also, they have many difficulties adjusting to their new environment. Explore the specific difficulties Anna and her mother encounter as refugees in another country.

WEEK 8 - Anatolian leopards are animals that are in danger of disappearing. They live in the mountains of Turkey. The number of Anatolian leopards has been decreasing for several reasons. The situation is really bad because Anatolian leopards might go extinct. You are a group of conversationalists who want to save the Anatolian leopards. You are working with the Turkish government to make a plan to protect the Anatolian leopards and their homes. You also want to help the villagers who live in the same area as the leopards. You'll present your plan to Turkish government officials.

Activities
- Role-play scenarios - Debate discussions - Story-telling activities - Brainstorming – Working on mind maps - Information-gap activities
Instructional Tools
- 8 Problem scenarios for class use - 8 problem scenarios for assignment - 8 problem-based stages handouts - Zoom - Students’ mobile phones/tablets/computers for research - Can-do statements sheet
Learning Skills
PROBLEM-BASED LEARNING 1. Thinking Critically: The ability to assess information to make logical judgments and sound decisions. 2. Communicating effectively: The ability to clearly and effectively present ideas and opinions, as well as actively listen and respond the others. 3. Collaborating with others: The ability to work with others effectively in a group. 4. Developing Self-directed learning: The ability to take responsibility of their own learning, set short and long-term goals as well as monitor their own progress. 5. Developing Information literacy: The ability to find, evaluate, and use information from different sources. 6. Developing Problem-solving: The ability to identify problems and generate possible solutions 7. Reflecting on Progress: The ability to critically evaluate one's own learning and experiences 8. Developing Creativity: The ability to generate new ideas and solutions to problems. SPEAKING 1. Improving Idea Development: The ability to support each idea by explaining, giving examples. 2. Improving Interaction: The ability to use communicative strategies for a natural and effective communication. 3. Improving Fluency: The ability to speak English effortlessly, without long pauses and hesitation. 4. Improving Coherence: The ability to articulate ideas coherently. 5. Improving Vocabulary: The ability to use a wide range of English words and phrases to communicate clearly. 6. Improving Grammar: The ability to use English grammar accurately to form grammatically correct sentences. 7. Improving Pronunciation: The ability to pronounce English words and sounds correctly. 8. Improving Listening comprehension: The ability to comprehend English when it is spoken by others

9. Improving Cultural awareness: The ability to use English in different cultural contexts, and understand the differences in communication styles. 10. Improving Self-confidence: The ability to speak English with confidence, even when making mistakes, knowing that this is a process 11. Improving Active learning: The ability to actively engage with English language materials to develop vocabulary and fluency.		
Real-World Connection		
All of the problematic scenarios are related to the UN's sustainable goals. https://www.un.org/sustainabledevelopment/sustainable-development-goals/		
Independence Level		
Independent Students work independently in the research stage. (STAGE 5)	Paired There are think-pair-share activities in the pre-teach section	Teamed Students work in teams of three in role play and 1, 2, 3, 4, 6, 7 and 8 stages.
Lessons/Teacher Guidance		
- Teacher provides pre-communication materials and activities. - Teacher makes sure that students are aware of the resources that are available to them. - Teacher observes students, takes notes and provides feedback on student participation in the activities and on the language used during the activities		
Final Product		
Mini presentations, debate discussions, poster creation		
Reflection/Self-Assessment		
Students fill in can-do statements to evaluate their progress		
Assignments		
WEEK 1 – You, as a team, work for People for the Ethical Treatment of Animals (PETA) which is the largest animals’ right organization. There are two important cases that you need to focus on. One of them is that a cosmetic company in Turkey tests its products on rabbits. Secondly, workers in a zoo located in Istanbul treat animals badly. WEEK 2 – You live in a small coastal town Black Sea region of Turkey. The town has a population of 10,000 people and relies on the fishing industry for economic stability. However, changes in the climate have caused problems for the town. The sea level has risen and there are more frequent and		

severe storms, causing significant damage to homes, businesses, and infrastructure. These changes have led to significant economic losses for the community. The temperatures have caused fish populations to migrate. It becomes difficult for the town's fishermen to make a living. Young people are leaving the town to find work elsewhere, leading to a decline in the population.

WEEK 3 – The problem scenario on animal rights was provided through 4 pictures.

WEEK 4 – Gülay lives in a small village in Turkey. Her family has limited resources and she is not going to school. COVID-19 has affected her health in a negative way. Evaluate the situation and offer possible some solutions to improve her health.

WEEK 5 – The problem scenario on responsible consumption was provided through 4 pictures.

WEEK 6 – There are two schools in a village in Turkey: School A and School Z. Students from School A always perform better in all standardized tests, have more extracurricular opportunities, and plan to study at top-league universities. The number of girls is more than the number of boys. However, students from School Z have difficulties, receive poor education, face lower expectations for success and university degree is hard for them to receive. There are more male students in school. Evaluate the situation and offer possible solutions to the problem.

WEEK 7 – Two pictures showing the migration crises at the Poland-Belarus border were provided.

WEEK 8 – Three pictures showing the ghost nets threatening marine animals in the ocean.

APPENDIX I: LESSON PLANS – EXPERIMENTAL GROUP

Lesson Plan 1

Course: Speaking Course	Topic: Human Rights – Lesson 1
Approx. Time: 3 hours (50 minutes class time + 10 minutes break)	
Learning Outcomes	Students will be able to ... - identify opinions and facts. - listen actively and respond productively. - understand and apply key human rights concepts to real-world situations - discuss human rights topics with peers. - express their ideas and findings clearly through a presentation.
Teaching Tips for teachers	- Develop vocabulary related to human rights: Introduce and practice essential vocabulary related to human rights, such as freedom, equality, justice, discrimination, rights, responsibilities, etc. - Improve comprehension of human rights concepts: Ensure that students understand the basic principles of human rights, including their universality, inalienability, and indivisibility. - Encourage discussion: Promote critical thinking and communication skills by encouraging students to express their opinions on human rights issues, both in teams of three and as a whole class. Allow them to practice agreeing, disagreeing, and providing reasons for their opinions. - Enhance listening skills: Include listening activities, such as short videos or audio clips, to help students develop their listening skills while learning about human rights. Ensure they can identify the main ideas and supporting details in the listening material. - Build cultural awareness: Discuss the importance of respecting cultural diversity. - Engage in problem-based learning activities: Present students with real-world human rights issues and guide them through the process of identifying problems, researching background information, brainstorming possible
Teaching methods and techniques	
Problem-based learning, role play, guided inquiry, research, brain-storming, presentation	
Prior Knowledge	
- Students are able to use the basic expressions for agreeing and disagreeing with someone e.g. I agree with you / I disagree with you. - Students are able to formulate wh- questions and Yes/No questions in Present Simple, Past Simple, Future Simple tense.	
Problem Scenario	
Angelo is a 9-year-old boy from Philippines. He is a child laborer. He works in the mines. You are going to present his situation at a conference at UNICEF. Prepare a presentation to explain the problem in this situation and offer possible solutions to it.	
Required Materials	
- Vocabulary – gap-fill exercise - Projector and computer to facilitate the presentation of materials and activities - Role Play scenario - Problem-based Learning task sheet	

- Problem scenario
- Students' mobile phones/tablets/computers for research
Internet Access

Process of the Lesson

LESSON 1

1. PRE-TEACHING (50 minutes)

Teacher greets the learners and students, in pairs, talk about their experiences in learning English by answer the question of "When and how did you learn to speak English?" (3 minutes)

Teacher introduces a role-play activity, hands out the roles. David Beckham, an Indian journalist and a Judge at the court. Students in groups of 3 do the role-play activity (12 minutes – 3 minutes thinking time and 9 minutes for the role-play).

A quiz to help students develop an understanding of a strong link between human rights and personal responsibilities (10 minutes).

Ask students about personal experiences with the human rights. (5 minutes)

Provide vocabulary exercises related to human rights. Students fill in the gaps using words related to human rights in a reading text (10 minutes).

Think – Pair – Share: In pairs, students discuss "what are human rights?" (5 minutes)

Whole-class discussion – "Why are human rights important?" (5 minutes)

LESSON 2

1. EXPLORE THE PROBLEM SCENARIO

Put students into teams of three.

Teacher hands out the Problem-based Learning Task sheet and the scenario.

Students read the scenario and study the picture. In their groups, they examine and define the problem.

Ask students questions to check their understanding of the problem (Where does Angelo live?; Is he a student? Why? / Why not?; What does he do?; What is the problem?)

Teacher reminds students that there is no single correct answer to the problem.

2. STATE WHAT IS KNOWN

Students identify what they already know about the problem

3. STATE WHAT IS UNKNOWN

Students identify learning issues about the problem to make a presentation at a conference at UNICEF.

Students write up questions to which they need to find answers to.

Teacher elicits information from students by asking open-ended questions to help them generate questions for their research. Since this is the first PBL activity, if needed, teacher guides the students and offers the following questions and raises an awareness on the cause and effect relationship.

1. What are children's rights?
2. What are the reasons for child labor?
3. Why do children's rights matter?
4. What are the effects of child labor on children and society?
5. What can governments and individuals do to prevent child labor?

Students use online resources for research.

Teacher observes students, take notes and provide feedback on student participation in the activity and on language they used during the activity.

Teacher conducts an activity focused on distinguishing between facts and opinions, aiming to enhance students' comprehension of information literacy skills.

4. DISTRIBUTE THE ROLES

Students decide on their roles and divide up the work among themselves.

5. RESEARCH THE KNOWLEDGE

Students, independently, research to collect information and answer their questions.

Teacher makes sure that students use reliable sources.

Teacher observe students, take notes and provide support as needed.

LESSON 3**6. SHARE FINDINGS**

Students come together to share their findings and co-construct knowledge.

7. SOLUTION AND THE FINAL PRODUCT

Students generate possible solutions to the problem. Teams do a mini presentation to other groups.

8. REFLECTION ON PERFORMANCE

Students fill in the can-do statement to reflect on their learning process.

Real-World Connection

The proper growth and development of children is of utmost importance for any country as they are future citizens. Sadly, child labor is a widespread issue affecting children globally. The world has a population of around 1.2 billion people between the ages of 10 and 19. There are various forms of child labor and it is estimated that approximately 186 million children are working as laborers worldwide. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3425238/>

Independence Level**Independent**

Students work independently in the research and reflection stages. (STAGES 5 & 9)

Paired

There is think-pair-share activity in the pre-teach section

Teamed

Students work in teams of three in role play and 1, 2, 3, 4, 6, 7 and 8 stages

Lessons/Teacher Guidance

- Vocabulary teaching
- Teacher observes students, takes notes, and provides feedback on student participation in the activity and on the language used during the activity.

Tasks to be Completed

Teacher provides a problem-based learning task sheet where students can follow the process. The tasks on the sheet are broken down as a checklist.

Final Product

A 2 -minute presentation

Accommodations/Modifications

-Depending on time, the second pre-lesson activity could be omitted.

Reflection/Self-Assessment

- Students evaluate their performance and reflect on their learning process by filling in a can-do statement.

Assignment	
Animal rights assignment	
Assessment	
Oral assessment – group discussion recorded on zoom. Teacher gives individual written feedback on students' homework performance by using the Oral Assessment criteria which was designed based on Bachman's modal of language competence	
Teacher Reflections	
What worked? 1. Some students had difficulty formulating object questions. We worked on the order of object YES/NO and WH- questions. 2. Most students did not know the difference between subject WH- and object WH- questions. <i>ACTION: A worksheet on question formation has been assigned for next week.</i> 3. Some students were not able to pronounce the regular past verb forms. -d / -t / -id <i>ACTION: A pronunciation activity will be planned for next week.</i> 4. Agreeing and disagreeing expressions are limited and inaccurate e.g. I am agree. <i>ACTION: An activity will be planned for next week.</i>	Changes? Due to time constraints, the second pre-lesson activity was omitted.

Lesson Plan 2

Course: Speaking Course	Topic: Climate Change – Lesson 2
Approx. Time: 3 hours (50 minutes class time + 10 minutes break)	
Learning Outcomes	Students will be able to ... - identify the causes and effects of climate change. - will be able to discuss issues related to drought led by climate change. - use a variety of expressions for agreeing and disagreeing. - take turns in a discussion. - produce correct pronunciation of regular past verb forms.
Teaching Tips for teachers	- Develop vocabulary related to climate change: Introduce and practice essential words related to drought such as agriculture, global sea levels, extinction, global temperatures, drought, global warming, flooding, erosion, deforestation, absorb, biodiversity, logging, grazing, livestock, husbandry. - Encourage discussion: Promote critical thinking and communication skills by encouraging them to express their opinions on climate change in pairs, in groups of three and as a whole class. - Allow them to practice a variety of expressions on agreeing, disagreeing. - Introduce 3 turn taking strategies: Speak, then Ask; phrases for agreeing and disagreeing, asking for or giving an opinion. - Engage in problem-based learning activities: Present students with a real-life climate change issues and guide them through the process of identifying problems, researching background information, brainstorming.
Teaching methods and techniques	
Problem-based learning, role play, research, brain-storming, poster	
Prior Knowledge	
- Students are able to use the basic expressions for agreeing and disagreeing with someone e.g. I agree with you / I disagree with you. - Students are able to formulate affirmative and negative sentences, wh- questions and Yes/No questions in Present Simple, Present Continuous, Past Simple, Future Simple tense. - Students are able to formulate sentences cause and effect linkers (because, since, as, therefore, so) - Students are able to formulate sentences using “may” and “might” to discuss possible situations that may happen in present or future.	
Problem Scenario	
You live in a small farming village in southeastern Turkey. For many years, your community has relied on farming to make a living, but the climate has been changing recently. Today it is harder to grow crops and raise livestock. The village has been experiencing more severe and frequent droughts. This situation leads to economic losses and food shortages. The land is also turning into a desert. This causes soil erosion and reduces water resources, which could lead to wildfires.	

Required Materials	
- Vocabulary – gap-fill exercise - Projector and computer to facilitate the presentation of materials and activities - Role Play scenario - Problem-based Learning task sheet - Problem scenario - Students’ mobile phones/tablets/computers for research - Internet Access	
Process of the Lesson	
LESSON 1	
1.***Pre-teach*** (50 minutes) Teacher greets the learners and they, in pairs, talk about their experiences in learning English by answering the question of “What is your main reason for learning to speak English?” (3 minutes) Teacher introduces a role-play activity, hands out the roles. Environmental activist, US president and a factory owner (12 minutes – 3 minutes for thinking and 9 minutes for the role-play). Brainstorming on the causes and effects of climate change so that students develop an understanding of how human activities contribute to climate change. This is an activity to provide necessary vocabulary for the topic and checking the assigned pre-class tasks. (20 minutes). Ask students about personal experiences about the climate change (5 minutes). Think – Pair – Share: In pairs, students discuss “how can we stop climate change? (5 minutes)” Teacher provides a handout where students categorize agree and disagree expressions (3 minutes). Teacher and students brainstorm on ways of turn taking. Teacher aims to introduce 3 ways (2 minutes).	
LESSON 2	
1. EXPLORE THE PROBLEM SCENARIO Put students into teams of three. Teacher hands out the Problem-based Learning task sheet and the scenario. Students read the scenario and study the pictures. In their groups, they examine and define the problem. Ask students questions to check their understanding of the problem (Do you see water in these pictures?; Are agriculture and husbandry possible in these regions? Why? / Why not?; Do you think people in these areas are rich? Why? / Why not?; What is the problem?) Teacher reminds students that there is no single correct answer to the problem in the scenario. 2. STATE WHAT IS KNOWN Students identify what they already know about the problem 3. STATE WHAT IS UNKNOWN Students identify learning issues about the problem to prepare a poster. Students write up questions to which they need to find answers to. Since this is the second PBL activity, teacher guides the students by brainstorming the questions they need to work on to raises awareness on the cause-and-effect relationship. 1. How is climate change affecting the village in Turkey? 2. How can farmers adapt to climate change? 3. What are the long-term effects of economic losses and food shortages in the village? 4. What can villagers do to reduce the effects of climate change? 5. What can governments and international organizations do to reduce the effects of climate change? Students use online sources for research.	

Teacher observes students, take notes and provide feedback on student participation in the activity and on the language they use during the activity.

4. DISTRIBUTE THE ROLES

Students decide on their roles and divide up the work among themselves.

5. RESEARCH THE KNOWLEDGE

Students, independently, research to collect information and answer their questions.

Teacher makes sure that students are aware whether the sources they use are reliable or not.

Teacher observe students, take notes and provide support as needed.

LESSON 3

6. SHARE FINDINGS

Students come together to share their findings and co-construct knowledge.

7. SOLUTION AND THE FINAL PRODUCT

Students generate possible solutions to the problem and they prepare a poster or a presentation to present their findings to class.

98 REFLECTION ON PERFORMANCE

Students fill in the can-do statements to reflect on their learning process.

Real-World Connection

Increased temperatures are causing various negative effects on the environment, including environmental degradation, natural disasters, extreme weather, lack of food and water security, economic turmoil, conflicts, and terrorism. Furthermore, the sea level is increasing, the Arctic ice is melting, coral reefs are dying, oceans are becoming more acidic, and forests are experiencing more frequent wildfires. <https://www.un.org/en/un75/climate-crisis-race-we-can-win#:~:text=Rising%20temperatures%20are%20fueling%20environmental,acidifying%2C%20and%20forests%20are%20burning.>

Independence Level

Independent

Students work independently in the research and reflection stages. (STAGES (5 & 9))

Paired

There is a think-pair-share activity in the pre-teach section.

Teamed

Students work in teams of three in role play and 1, 2, 3, 5 and 6 stages.

Lessons/Teacher Guidance

- Pre-teaching activities – brainstorming causes and effects of climate change - Vocabulary practice & cause and effect relation
- Expressions of agreement and disagreement
- 3 turn-taking strategies
- Teacher observes students, takes notes and provides feedback on student participation in the activity and on the language used during the activity.

Final Product

A mini presentation or poster creation

Accommodations/Modifications

-If time allows, the pronunciation of regulars will be covered /id/ /t/ and /d/

Reflection/Self-Assessment	
- Students evaluate their performance and reflect on their learning process by filling in a can-do statement.	
Assignment	
Flooding assignment	
Assessment	
Oral assessment – group discussion recorded on zoom. Teacher gives individual written feedback on students’ homework performance by using the Oral Assessment criteria which was designed based on Bachman’s modal of language competence	
Teacher Reflections	
What worked? And what needs to be worked on? - Students were able to integrate alternative expressions for agreeing and disagreeing. - Introducing a limited number of turn-taking strategies was useful. One of them (agreeing & disagreeing) was a way they were already familiar with. - Some students had difficulty creating complex cause and effect sentences using “because, since and as” <i>ACTION: A worksheet on cause and effect language has been assigned</i> - There was a misunderstanding regarding the meaning of the concept “critical thinking”. <i>ACTION: The next lesson will start with discussing what it is.</i>	Changes? 4 minutes were left at the end of the lesson, and teacher asked students to stay another 5 minutes to study the pronunciation of regular verbs. A real-life scenario was assigned for further practice.

Lesson Plan 3

Course: Speaking Course	Topic: Zero Hunger – Lesson 3
Approx. Time: 3 hours (50 minutes class time + 10 minutes break)	
Learning Outcomes	Students will be able to ... - use key vocabulary related to zero hunger, and food security. - discuss zero hunger and related issues. - express their ideas and opinions on zero hunger and related issues. - identify and analyze problems related to zero hunger. - propose possible solutions to problems related to zero hunger. - present their group's proposed solutions to the class, using clear and concise language.
Teaching Objectives	-Teacher introduces key vocabulary and concepts. Teacher makes sure that students understand and can use terms like "zero hunger," "food security," "malnutrition," and "food waste" in context. - Teacher presents a short but engaging video on zero hunger to provide relevant information on zero hunger and food security issues. - Teacher facilitates group discussions and encourages students to discuss their ideas and opinions related to zero hunger. Teacher guides them to use the target vocabulary and language structures accurately and fluently - collocations. - The teacher assists students in finding issues related to zero hunger, creating potential solutions, and assessing whether their ideas are realistic and effective (mostly open-ended questions). This promotes critical thinking and problem-solving abilities. - Teacher observes students during group activities, providing guidance and feedback on their language use, problem-solving strategies, and collaborative skills.
Teaching methods and techniques	
Problem-based learning, role play, guided inquiry, research, brain-storming, presentation	
Prior Knowledge	
- Students are able to use a variety of expressions for agreeing and disagreeing with someone. - Students are able to formulate affirmative and negative sentences, wh- questions and Yes/No questions in Present Simple, Present Continuous, Past Simple, Future Simple and Present Perfect tense. They can formulate both object and subject questions. - Students are able to formulate sentences cause and effect linkers (because, since, as, therefore, so) - Students are able to formulate sentences using “may” and “might” to discuss possible situations that may happen in present or future.	
Problem Scenario	
Ahmet is a 10-year-old boy who lives in a poor community in Egypt. His family can't give him enough healthy food, so he's often hungry and not healthy. Ahmet's situation has bad effects on his body and mind. He's often tired and can't concentrate in class, so he falls behind. He feels bad and gets frustrated. Ahmet's friends are having the same problems as him, and they can't get enough food either. They go to a school that doesn't have meals, and they can't afford to bring food from home. Think about the problems that their community faces, like not having enough resources or good infrastructure, and make a plan that can last a long time and solve the problem. Present your plan to the United Nations.	

Required Materials

- Vocabulary – gap-fill exercise
- Projector and computer to facilitate the presentation of materials and activities
- Role Play scenario
- Problem-based Learning task sheet
- Problem scenario
- Students' mobile phones/tablets/computers for research
- Internet Access

Process of the Lesson

LESSON 1

1. PRETEACH

Teacher greets the learners.

Teacher starts the class by discussing what critical thinking means – power point presentation (8 minute)

Teacher introduces a role-play activity, hands out the roles. Lady Gaga, Zimbabwe Minister of Agriculture, and Romy, a school boy (12 minutes – 3 minutes for thinking and 9 minutes for role-play).

Provide vocabulary exercises related to zero hunger. Students fill in the gaps with words related to zero hunger. (10 minutes)

Presents a short video on zero hunger: <https://www.fao.org/sustainable-development-goals/goals/goal-2/en/>

Students watch the video twice. First, they watch and listen. Second, they answer the following questions which are handed out by teacher (10 minutes).

1. What was the main aim to end world hunger and malnutrition by 2030?
2. How did COVID-19 affect the number of people facing hunger in 2020 compared to 2019?
3. In which two continents are most of the world's undernourished people found?
4. How many children under 5 were affected by stunting in 2020?
5. What factors did the narrator mention negatively affecting food security and nutrition?

Ask students about personal experiences with the topic (5 minutes).

Think – Pair – Share: In pairs, students discuss “which one is important: providing access to healthy diets or ensuring people have enough food? (5 minutes)”

LESSON 2

1. EXPLORE THE PROBLEM SCENARIO

Put students into teams of three.

Teacher hands out the Problem-based Learning Task sheet and the scenario.

Students read the scenario and study the picture. In their groups, they examine and define the problem.

Teacher may ask students the following questions to check their understanding of the problem

1. How old is Ahmet and where does he live?
2. What is the main problem that Ahmet's family and others in his community are facing?
3. How does not having healthy food affect Ahmet's health?
4. What happens to Ahmet's school performance because of his poor health?
5. Do Ahmet's friends have similar problems? If they do, what are they?
6. What is the food situation like at Ahmet's school?
7. How does do you think the lack of food at school affect Ahmet and his friends' performance at school?
8. What are some of the challenges that Ahmet's community is dealing with?

Teacher reminds students that there is no single correct answer to the problem.

2. STATE WHAT IS KNOWN

Students identify what they already know about the problem

3. STATE WHAT IS UNKNOWN

Students identify learning issues about the problem to make a presentation to UN members or create a poster.

Students write up questions to which they need to find answers to.

Teacher elicits information from students by asking open-ended questions to help them generate questions for their research. Since this is the third PBL activity, if needed, teacher guides the students and offers the following questions and raises an awareness on the cause and effect relationship.

1. What are zero hunger?
2. What are the reasons for zero hunger?
3. Why is it a problem?
4. What are the effects of zero hunger on children and society?
5. What can governments and individuals do to prevent zero hunger?

Students decide on the resources they can use.

Teacher observes students, take notes and provide feedback on student participation in the activity and on the language they use during the activity.

4. DISTRIBUTE THE ROLES

Students decide on their roles and divide up the work among themselves.

5. RESEARCH THE KNOWLEDGE

Students, independently, research to collect data and answer their questions.

Teacher makes sure that students are aware of the resources that are available to them.

Teacher observe students, take notes and provide support as needed.

LESSON 3

6. SHARE FINDINGS

Students come together to share their findings and co-construct knowledge.

7. SOLUTION AND THE FINAL PRODUCT

Students generate possible solutions to the problem. Teams do a mini presentation to other groups who are supposed to be UN members or design a poster on their findings related to zero hunger.

8. REFLECTION ON PERFORMANCE

Students fill in the can-do statement to reflect on their learning process.

Real-World Connection

Sustainable Development Goal 2 aims to create a world free of hunger by 2030. However, in 2020, between 720 million and 811 million people worldwide were suffering from hunger, and 2.4 billion people lacked regular access to adequate food. The COVID-19 pandemic has worsened these issues.
<https://www.un.org/sustainabledevelopment/hunger/>

Independence Level

Independent

Students work independently in the research and reflection stages. (STAGES 5 & 9)

Paired

There is think-pair-share activity in the pre-teach section.

Teamed

Students work in teams of three in role play and 1, 2, 3, 5, 7 and 8 stages.

Lessons/Teacher Guidance

- Critical thinking quiz and discussion
- Vocabulary teaching
- Video activity

- Teacher observes students, takes notes and provides feedback on student participation in the activity and on the language used during the activity.	
Tasks to be Completed	
Teacher provides a problem-based learning task sheet where students can follow the process and the tasks on the sheet are broken down as a checklist.	
Final Product	
Presenting a 2-minute presentation to UN members or designing a poster	
Accommodations/Modifications	
-Depending on time, the think-pair-share activity could be omitted.	
Reflection/Self-Assessment	
- Students evaluate their performance and reflect on their learning process by filling in a can-do statement.	
Assignment	
Zero hunger problem scenario	
Assessment	
Oral assessment – group discussion recorded on zoom. Teacher gives individual written feedback on students' homework performance by using the Oral Assessment criteria which was designed based on Bachman's modal of language competence	
Teacher Reflections	
What worked? And what needs to be worked on? 1. The presentation of the term "critical thinking" was beneficial. 2. Some students had difficulty identifying the difference between the results of zero hunger and the effects of zero hunger. They seemed to think that results and effects always mean the same thing. <i>ACTION: Teacher explains the difference between "result" and "effect" and gives an example.</i> <i>CAUSE: People living in poverty often lack the resources to buy or produce sufficient food for themselves and their families.</i> <i>RESULT: Malnutrition in children can lead to poor brain development</i> <i>EFFECT: Poor brain development affect their ability to learn and concentrate. They become unsuccessful individuals. Also bad for the government.</i>	Changes? Due to time constraints, the think-pair-share activity was omitted.

Lesson Plan 4

Course: Speaking Course	Topic: Good Health and Well-being – Lesson 4
Approx. Time: 3 hours (50 minutes class time + 10 minutes break)	
Learning Outcomes	Students will be able to ... - participate in discussions and express their ideas and opinions, and ask questions of their peers about health and well-being. - practice key vocabulary and expressions related to health and well-being, such as nutritious, balanced, processed foods. - identify and analyze health and well-being problems. - brainstorm potential solutions using problem-based learning principles. - evaluate the benefits and drawbacks of different solutions to health and well-being problems.
Teaching Tips for Teachers	- Teacher introduces and provides context for “Good Health and Well-being” Whole-class brainstorming on its importance. - Teacher presents the problem scenario concerning health and well-being. - Teacher teaches key vocabulary and expressions related to the scenario and practice them through gap-fill exercises. - Teacher encourages discussion and debate among the learners. - Teacher encourage learners to think critically about health and well-being by asking - wh questions - Teacher facilitates effective group and pair work, and encourage learners to collaborate. - Create a positive learning environment that fosters learner participation and engagement and supports their growth and development. - Teacher provides opportunities for reflection.
Teaching methods and techniques	
Problem-based learning, role play, guided inquiry, research, brain-storming, presentation	
Prior Knowledge	
- Students are able to use a variety of expressions for agreeing and disagreeing with someone. - Students are able to formulate affirmative and negative sentences, wh- questions and Yes/No questions in Present Simple, Present Continuous, Past Simple, Future Simple and Present Perfect tense. They can formulate both object and subject questions. - Students are able to formulate sentences cause and effect linkers (because, since, as, therefore, so) - Students are able to formulate sentences using “may” and “might” to discuss possible situations that may happen in present or future. - Students are able to construct sentences in present simple passive and past simple passive.	
Problem Scenario	
Tanika is a 28-year-old woman. She in a rural area with limited access to healthcare services. She is pregnant with her third child. Unfortunately, Tamara's first child died during childbirth due to complications because of poor maternal health. Her second child missed out on important vaccinations because there is no access to healthcare services. Tamara is not alone in her struggles, and many other women in her community face similar challenges. Poor maternal health during pregnancy can have serious results for both the mother and the baby. Prepare a presentation for a UN conference or design a poster to explain why this is happening and create solutions that can help improve the health of pregnant women living in low-income communities.	

Required Materials

- Vocabulary – gap-fill exercise
- Projector and computer to facilitate the presentation of materials and activities
- Role Play scenario
- Problem-based Learning task sheet
- Problem scenario
- Students' mobile phones/tablets/computers for research
- Internet Access

Process of the Lesson**LESSON 1****1. PRE-TEACH**

Teacher greets the learners and they, in pairs, talk about their experiences in learning English by answering the question of “What do you like most about learning to speak English? Is there anything you do not like?” (3 minutes)

Teacher informs them that the lesson will adopt problem-based learning approaches to assist them in enhancing their speaking abilities while also investigating topics related to Goal 3 – Good Health and Well-being (1 minute). Teacher introduces a discussion activity where students in groups of three talk about the following questions (12 minutes for thinking and 9 minutes for the discussion). The discussion questions are below:

1. What are the main causes of death in the world?
2. Is everyone healthy in the world? Why? / Why not?
3. Can everyone access healthcare systems in the world? Why? / Why not?
4. What do you do to be healthy?

Present key vocabulary and expressions related to the problem scenario. "nutritious, balanced, processed foods" Practice the vocabulary and expressions with the learners through gap-fill, and sentence completion activities (20 minutes)

Teacher asks students to reflect on their health goals and challenges, and share them with their teammates. (What are your current health goals, both short-term and long-term? What motivated you to set these health goals? What specific challenges or obstacles have you experience in trying to achieve your health goals? (10 minutes).

Think – Pair – Share: In pairs, students discuss “Is it better to spend money on healthcare or on other things such as education and jobs?” (5 minutes)

LESSON 2**1. EXPLORE THE PROBLEM SCENARIO (10 minutes)**

Put students into teams of three.

Teacher hands out the Problem-based Learning task sheet and present the problem scenario related to health and well-being that the learners can discuss in teams of 3. In their groups, they examine and define the problem.

Teacher asks learners questions to check their understanding of the problem:

1. Who is Tamara, and where does she live?
2. How many children does Tamara have, and what happened to her first child?
3. Why was Tamara's second child not vaccinated?
4. What challenges do many women in Tamara's community face regarding maternal health?
5. Why is poor maternal health during pregnancy a serious concern for both the mother and the baby?

Teacher reminds students that there is no single correct solution to the problem.

2. STATE WHAT IS KNOWN (10 minutes)

Students identify what they already know about the problem.

3. STATE WHAT IS UNKNOWN (10 minutes)

Students identify learning issues about the problem to discuss their finding in a debate.

Students write up questions to which they need to find answers to.

Teacher elicits information from students by asking open-ended questions to help them generate questions for their research. If needed, teacher guides the students and offers the following questions and raises an awareness on the cause-and-effect relationship.

1. Why is healthcare not good in some poor countries?
2. How does not having enough money affect healthcare?
3. Why are there not enough doctors and nurses in some places?
4. Why is it important to have clean water for health?
5. What can be done to stop people from getting sick?
6. How can we make healthcare better in poor countries?
7. How can other countries help with healthcare in poor places?

Students use reliable online resources.

Teacher observes students, take notes and provide feedback on student participation in the activity and on the language they have used during the activity.

4. DISTRIBUTE THE ROLES (2 minutes)

Students decide on their roles and divide up the work among themselves.

5. RESEARCH THE KNOWLEDGE (20 minutes)

Students, independently, research to collect information and answer their questions.

Teacher makes sure that students use reliable sources.

Teacher observes students, take notes and provide support as needed.

If the research stage is not finished, students can continue their research (10 minutes)

LESSON 3

6. SHARE FINDINGS (10 minutes)

Teacher asks students to discuss the problem scenario with their teammates using the target vocabulary and expressions they have learned. Students share their findings and co-construct knowledge. Teacher encourages students to express their opinions and ideas and to ask questions to each other.

7. SOLUTION AND THE FINAL PRODUCT (20 minutes)

Students generate possible solutions to the problem.

Teacher regroups the students and organizes a debate where three teams argue for or against the given debate questions. Teacher encourages students to defend their ideas.

Debate Questions:

Debate 1: Is it important for rich countries to help poor countries with their healthcare? Explain by giving examples and evidence.

Debate 2: Can we solve healthcare problems in poor countries or is it too difficult? Explain by giving examples and evidence.

Debate 3: Is it fair for some countries to have better healthcare while others have worse healthcare? Explain by giving examples and evidence.

8. REFLECTION ON PERFORMANCE (10 minutes)

Students fill in the can-do statement to reflect on their learning process and the lesson.

Provide feedback and encourage learners to give feedback to their peers if possible.

Real-World Connection		
Goal 3 focuses on ensuring healthy lives and promoting well-being for all, at all ages. It addresses major health priorities, such as reproductive, maternal, newborn, child and adolescent health, communicable and non-communicable diseases, universal health coverage, and access to safe, effective, quality, and affordable medicines and vaccines. The goal aims to prevent needless suffering and premature death by targeting key areas that boost overall population health, with priority given to regions with the highest burden of disease and neglected population groups. Goal 3 also calls for investments in research and development, health financing, and health risk reduction and management. https://data.unicef.org/sdgs/goal-3-good-health-wellbeing/		
Independence Level		
Independent Students work independently in the research and reflection stages. (STAGES 5 & 9)	Paired There is think-pair-share activity in the pre-teach section	Teamed Students work in teams of three in role play and 1, 2, 3, 4, 6, 7 and 8 stages
Lessons/Teacher Guidance		
- Vocabulary teaching – gap-fill exercises - Role-play, discussion, debate - Teacher observes students, takes notes and provides feedback on student participation in the activity and on the language they have used during the activity.		
Tasks to be Completed	Roles of Members	
Teacher provides a problem-based learning task sheet where students can follow the process, and the tasks on the sheet are broken down as a checklist.		
Final Product		
Three separate debates involving two distinct groups in each		
Accommodations/Modifications		
No modifications expected.		
Reflection/Self-Assessment		
- Students evaluate their performance and reflect on their learning process by filling in a can-do statement.		
Assignment		
Direct and indirect effects of COVID-19 on children’s health		
Assessment		
Oral assessment – group discussion recorded on zoom. Teacher gives individual written feedback on students’ homework performance by using the Oral Assessment criteria which was designed based on Bachman’s modal of language competence.		

Teacher Reflections

What worked?

- Some students had difficulty formulating present simple passive and past simple passive sentence. *ACTION: A worksheet on passives in present and past simple was assigned.*
- Discussion activity in the first lesson was not very engaging and interesting for the students. *ACTION: As in previous first lessons, only role-play activities will be presented.*
- Three students informed the researcher that they wanted to learn tag question. *ACTION: An activity could be planned on tag questions. Planning could be contingent on time.*

Changes?

No changes were necessary in the lesson map.

Lesson Plan 5

Course: Speaking Course	Topic: Goal 12. Responsible Consumption and Production – Lesson 5
Approx. Time: 3 hours (50 minutes instruction + 10 minutes break)	
Learning Outcomes	Students will be able to ... - recognize, understand, and use key vocabulary related to responsible consumption and production, such as "sustainability," "recycling," "waste reduction," "upcycling," "resource management," "energy efficiency," and "carbon footprint." - comprehend spoken and written information related to responsible consumption and production. - express/articulate their thoughts, ask questions, and engage in conversations with peers and the teacher about responsible consumption and production using appropriate grammar and vocabulary - analyze and evaluate different solutions and strategies for promoting responsible consumption and production - work effectively in pairs or small groups, sharing ideas, listening to others, and building on each other's contributions. - recognize and appreciate diverse perspectives on responsible consumption and production from different countries, cultures, and socioeconomic backgrounds. - relate the topic of responsible consumption and production to their own lives, identifying ways they can contribute to more sustainable practices in their daily routines. - present their ideas and solutions related to responsible consumption and production, using appropriate language.
Teaching Tips for teachers	Teacher hands out the can-do statement at the beginning of the lesson. Teacher explains key concepts and vocabulary related to responsible consumption and production in a clear, concise, and accessible manner, using visuals, examples, and real-life problem scenarios. Teacher creates a learning environment where students feel comfortable and motivated to actively participate in discussions, ask questions, share ideas, and collaborate with their peers. Teacher scaffolds students in analyzing and evaluating different strategies for responsible consumption and production, as well as in developing their own ideas and solutions to address the problem. Teacher provides timely and specific feedback on students' language use, ideas, and contributions to discussions, helping them to improve and develop their skills. Teacher encourages students to explore different perspectives on responsible consumption and production from various countries, cultures, and socioeconomic

	backgrounds, and to appreciate the importance of cultural context in addressing global issues. Teacher encourages students to reflect on their learning experiences, identify areas for improvement, and set goals for their future language and critical thinking development. Teacher evaluates students' progress towards the learning objectives by observing class participation. Teacher encourages students to view mistakes as opportunities for learning and growth, and promote the belief that their language skills and critical thinking abilities can improve with practice and effort.
Teaching methods and techniques	
Problem-based learning, role play, guided inquiry, research, brain-storming, presentation	
Prior Knowledge	
- Students are able to use a variety of expressions for agreeing and disagreeing with someone. - Students are able to formulate affirmative and negative sentences, wh- questions and Yes/No questions in Present Simple, Present Continuous, Past Simple, Future Simple and Present Perfect tense. They can formulate both object and subject questions. - Students are able to formulate sentences cause and effect linkers (because, since, as, therefore, so) - Students are able to formulate sentences using “may” and “might” to discuss possible situations that may happen in present or future. - Students are able to construct sentences in present simple passive and past simple passive. Students have content knowledge about human rights, climate change, zero hunger, good health and well-being.	
Problem Scenario	
Olivia is a 16-year-old girl in the US. She likes going to shopping malls to shop for the latest fashion trends. She buys clothes, shoes, and accessories without thinking about how they affect the environment. Olivia's family worries about her habits and how they harm the environment. They want her to learn about sustainable consumption, which is one of the United Nations' goals for protecting the planet. Her family has asked your group to talk to her and inform her about the consequences of her actions.	
Required Materials	
- Vocabulary – gap-fill exercise - Projector and computer to facilitate the presentation of materials and activities - Role Play scenario - Problem-based Learning task sheet - Problem scenario - Students’ mobile phones/tablets/computers for research - Internet Access -	
Process of the Lesson	
LESSON 1 – PRE-TEACHING (50 minutes)	
Teacher greets the learners and they, in pairs, talk about their experiences in learning English by answering the question of “What do you think you can do to improve your speaking skills?” (3 minutes) Teacher introduces a role-play activity, hands out the roles (12 minutes – 3 minutes for thinking and 9 minutes to talk). Teacher asks students about personal experiences about responsible consumption. Students discuss the following question: “Can you give an example of responsible consumption in your daily life?” (5 minutes)	

Provide vocabulary exercises related to responsible consumption and production (20 minutes).
 Think – Pair – Share: In pairs, students discuss “What can we do at home to use less and recycle more? (5 minutes)”
 Whole-class feedback on the question (5 minutes).

LESSON 2

1. EXPLORE THE PROBLEM SCENARIO

Put students into teams of three.

Teacher hands out the Problem-based Learning task sheet and the scenario.

Students read the scenario and study the picture. In their groups, they examine and define the problem.

Ask students questions to check their understanding of the problem:

1. How old is Olivia, and where does she live?
2. What activity does Olivia enjoy doing at shopping malls?
3. What types of items does Olivia buy without considering their environmental impact?
4. What is the concern of Olivia's family regarding her shopping habits?
5. What does Olivia's family want her to learn about helping the environment?
6. What task has Olivia's family assigned to your group?

Teacher reminds students that there is no single correct answer to the problem.

2. STATE WHAT IS KNOWN

Students identify what they already know about the problem

3. STATE WHAT IS UNKNOWN

Students identify learning issues about the problem to talk to a 16-year-old girl who consumes without considering the consequences of her actions.

Students write up questions to which they need to find answers to.

Teacher elicits information from students by asking open-ended questions to help them generate questions for their research. If needed, teacher guides the students and offers the following questions and raises awareness on the cause-and-effect relationship.

1. Why do people use too much and waste things in our society?
2. What do you think are the causes of irresponsible consumption?
3. Where do people buy and use things without thinking about the consequences?
4. How can irresponsible consumption affect the environment? Can you give examples?
5. How does responsible consumption, such as reducing, reusing, and recycling, contribute to less waste?
6. What are the positive effects of reusing and recycling?

Students decide on the resources they can use.

Teacher observes students, take notes and provide feedback on student participation in the activity and on the language they have used during the activity.

4. DISTRIBUTE THE ROLES

Students decide on their roles and divide up the work among themselves.

5. RESEARCH THE KNOWLEDGE

Students, independently, research to collect information and answer their questions.

Teacher makes sure that students are aware of the resources that are available to them.

Teacher observe students, take notes and provide support as needed.

LESSON 3

6. SHARE FINDINGS

Students come together to share their findings and co-construct knowledge.

7. SOLUTION AND THE FINAL PRODUCT

Students generate possible solutions to the problem. Teams do a mini presentation to other groups.

8. REFLECTION ON PERFORMANCE

Students fill in the can-do statement to reflect on their learning process.

Real-World Connection

Sustainable consumption and production patterns are crucial to maintaining the livelihoods of both current and future generations. When consumption and production patterns are unsustainable, it leads to the triple planetary crises of climate change, biodiversity loss, and pollution. These crises along with environmental degradation pose a major threat to human well-being and the achievement of Sustainable Development Goals. Therefore, it is the responsibility of governments and all individuals to collaborate and work towards improving resource efficiency, reducing waste and pollution, and developing a circular economy. <https://www.un.org/sustainabledevelopment/sustainable-consumption-production/>

Independence Level

Independent

Students work independently in the research and reflection stages. (STAGES 5 & 9)

Paired

There is a think-pair-share activity in the pre-teach section

Teamed

Students work in teams of three in role play and 1, 2, 3, 4, 6, 7 and 8 stages

Lessons/Teacher Guidance

- Vocabulary teaching
- Teacher observes students, takes notes, and provides feedback on student participation in the activity and on the language used during the activity.

Tasks to be Completed

Teacher provides a problem-based learning task sheet where students can follow the process. The tasks on the sheet are broken down as a checklist.

Final Product

Preparing a presentation or a poster to convince Olivia about the consequences of irresponsible consumption.

Accommodations/Modifications

-No modifications are expected

Reflection/Self-Assessment

- Students evaluate their performance and reflect on their learning process by filling in a can-do statement.

Assignment

Picture scenarios assignment – Teacher shares 4 different pictures related to irresponsible consumption. Students are assigned to

- go through the first 8 stages of the PBL process
- create a short public service announcement video that highlights the issue of irresponsible consumption and promotes their proposed solutions
- be creative with their storytelling, using techniques like humor, emotion, or surprise to engage the audience.

Assessment	
Oral assessment – group discussion recorded on Zoom. Teacher gives feedback on students' homework performance by using the Oral Assessment criteria which was designed based on Bachman's modal of language competence.	
Teacher Reflections	
What worked? What didn't work? - Sharing the can-do statements at the beginning of the lesson was useful because students were able to evaluate their progress throughout three lessons rather than spending a limited time at the end of the third lesson. - Students related to the topic of consumption since it has been relevant to their daily lives. - Some students approached passive structure as a formula and had difficulty using them in their spoken language.	Changes? No changes were made.

Lesson Plan 6

Course: Speaking Course	Topic: Goal 4. Quality Education – Lesson 6
Approx. Time: 3 hours (50 minutes instruction + 10 minutes break)	
Learning Outcomes	Students will be able to ... - recognize, understand, and use key vocabulary collocation related to quality education (equality X inequality, gender inequality, poverty, upward social mobility, to be out of school, access to (quality) education, educational infrastructure, lifelong learning, education for all) - comprehend spoken and written information related to quality education. - express/articulate their thoughts, ask questions, and engage in conversations with peers and the teacher about quality education using appropriate grammar and vocabulary - analyze and evaluate different solutions and strategies for promoting quality education around the world - work effectively in pairs or small groups, sharing ideas, listening to others, and building on each other's contributions. - relate the topic of education inequality to the society/country they live in.
Teaching Tips for teachers	Teacher hands out the can-do statement at the beginning of the lesson. Teacher explains key concepts and vocabulary related quality education in a clear, concise, and accessible manner, using visuals, examples, and real-life problem scenarios. Teacher creates a learning environment where students feel comfortable and motivated to actively participate in discussions, ask questions, share ideas, and collaborate with their peers. Teacher scaffolds students in analyzing and evaluating different strategies for quality education, as well as in developing their own ideas and solutions to address the problem. Teacher provides timely and specific feedback on students' language use, ideas, and contributions to discussions, helping them to improve and develop their skills. Teacher encourages students to explore different conditions related to quality education in different countries. Teacher encourages students to reflect on their learning experiences, identify areas for improvement, and set goals for their future language and critical thinking development. Teacher evaluates students' progress towards the learning objectives by observing class participation.

	Teacher encourages students to view mistakes as opportunities for learning and growth, and promote the belief that their language skills and critical thinking abilities can improve with practice and effort.
Teaching methods and techniques	
Problem-based learning, role play, guided inquiry, research, brain-storming, presentation	
Prior Knowledge	
- Students are able to use a variety of expressions for agreeing and disagreeing with someone. - Students are able to formulate affirmative and negative sentences, wh- questions and Yes/No questions in Present Simple, Present Continuous, Past Simple, Future Simple and Present Perfect tense. They can formulate both object and subject questions. - Students are able to formulate sentences cause and effect linkers (because, since, as, therefore, so) - Students are able to formulate sentences using “may” and “might” to discuss possible situations that may happen in present or future. - Students are able to construct sentences in present simple passive and past simple passive. Students have content knowledge about human rights, climate change, zero hunger, good health and well-being.	
Problem Scenario	
Kübra is a 12-year-old girl who lives in a poor village in Turkey. Her parents can't afford to send her to a good school in the closest city, and the one near her home is overcrowded, and under-resourced. There is only one teacher who teaches all the subjects. Kübra dreams of being a doctor, but unfortunately, she's not getting the proper education she needs to reach her goal. In addition, her parents tell her that she may marry as soon as she turns 18. Kübra is not alone. Many children face these same issues worldwide. One of the biggest problems that needs to be addressed is inequality in particularly in poorer countries. If children kids don't get a good education, they often stay trapped in poverty. The situation could be worse for girls. Prepare a presentation about this problem to Bill Gates and persuade him to start worldwide campaign.	
Required Materials	
- Vocabulary – gap-fill exercise - Projector and computer to facilitate the presentation of materials and activities - Role Play scenario - Problem-based Learning task sheet - Problem scenario - Students' mobile phones/tablets/computers for research - Internet Access -	
Process of the Lesson	
LESSON 1 – PRE-TEACHING (50 minutes)	
Teacher greets the learners and they, in pairs, talk about their experiences in learning English by answering the question of “Do you feel anxious or nervous when you speak English?” (3 minutes) Teacher introduces a role-play activity, hands out the roles (12 minutes – 3 minutes for thinking and 9 minutes to talk). Teacher asks students about personal experiences about inequality education. Students discuss the following question: “Can you provide an example of education inequality from your country?” (5 minutes) Provide vocabulary and collocation exercises related to quality education (20 minutes). Think – Pair – Share: In pairs, students discuss “Have you received quality education when you were in high-school? Explain by giving examples.” (5 minutes) Whole-class feedback on the question (5 minutes).	

LESSON 2

1. EXPLORE THE PROBLEM SCENARIO

Put students into teams of three.

Teacher hands out the Problem-based Learning task sheet and the scenario.

Students read the scenario and study the picture. In their groups, they examine and define the problem.

Ask students questions to check their understanding of the problem:

1. How old is Kübra, and where does she live?
2. How does her parents' economic situation affect her education life?
3. What does she want to study at university?
4. What are her parents' future plans for her?

Teacher reminds students that there is no single correct answer to the problem.

2. STATE WHAT IS KNOWN

Students identify what they already know about the problem

3. STATE WHAT IS UNKNOWN

Students identify learning issues about the problem to talk to Kübra who experienced difficulties in her education due to educational inequality.

Students write up questions to which they need to find answers.

Teacher elicits information from students by asking open-ended questions to help them generate questions for their research. If needed, teacher guides the students and offers the following questions and raises awareness on the cause-and-effect relationship.

1. What are the factors that cause inequality education?
2. Why do some students have better access to quality education than others in your country?
3. What can governments do to provide equal education for all?
4. Are there any gender-related inequalities in your country? Why?

Teacher observes students, takes notes and provides feedback on student participation in the activity and on the language they have used during the activity.

4. DISTRIBUTE THE ROLES

Students decide on their roles and divide up the work among themselves.

5. RESEARCH THE KNOWLEDGE

Students, independently, research to collect information and answer their questions.

Teacher makes sure that students are aware of the resources that are available to them.

Teacher observe students, take notes, and provide support as needed.

LESSON 3

6. SHARE FINDINGS

Students come together to share their findings and co-construct knowledge.

7. SOLUTION AND THE FINAL PRODUCT

Students generate possible solutions to the problem. Teams prepare a presentation or poster to share the solutions that they have come up with for Kübra.

8. REFLECTION ON PERFORMANCE

Students fill in the can-do statement to reflect on their learning process.

Real-World Connection		
Sustainable consumption and production patterns are crucial to maintaining the livelihoods of both current and future generations. When consumption and production patterns are unsustainable, it leads to the triple planetary crises of climate change, biodiversity loss, and pollution. These crises along with environmental degradation pose a major threat to human well-being and the achievement of Sustainable Development Goals. Therefore, it is the responsibility of governments and all individuals to collaborate and work towards improving resource efficiency, reducing waste and pollution, and developing a circular economy. https://www.un.org/sustainabledevelopment/sustainable-consumption-production/		
Independence Level		
Independent Students work independently in the research and reflection stages. (STAGES 5 & 9)	Paired There is a think-pair-share activity in the pre-teach section.	Teamed Students work in teams of three in role play and 1, 2, 3, 4, 6, 7 and 8 stages.
Lessons/Teacher Guidance		
- Vocabulary teaching - Teacher observes students, takes notes, and provides feedback on student participation in the activity and on the language used during the activity.		
Tasks to be Completed		
Teacher provides a problem-based learning task sheet where students can follow the process. The tasks on the sheet are broken down as a checklist.		
Final Product		
Preparing a presentation or a poster to offer solutions for Kübra's situation.		
Accommodations/Modifications		
-No modifications are expected		
Reflection/Self-Assessment		
- Students evaluate their performance and reflect on their learning process by filling in a can-do statement.		
Assignment		
Two schools in a small village in Turkey scenario is assigned.		
Assessment		
Oral assessment – group discussion recorded on Zoom. Teacher gives feedback on students' homework performance by using the Oral Assessment criteria which was designed based on Bachman's modal of language competence.		
Teacher Reflections		
What worked? What didn't work? - Students have gotten used to the PBL instruction and are able to complete the stages with less scaffolding. Repeating the PBL stages as assignments has been beneficial to speed up their adaptation. - Due too COVID-19 measurements, classes will be held online as of next week, which means that we will have the last 2 PBL classes online.		Changes? No changes were made.

Lesson Plan 7

Course: Speaking Course	Topic: Goal 10. Reduced Inequalities – Migration & Refugees – Lesson 7
Approx. Time: 3 hours (50 minutes instruction + 10 minutes break)	
Learning Outcomes	Students will be able to ... - recognize, understand, and use key vocabulary collocation related to peace, justice, and migration - comprehend spoken and written information related to peace and justice. - express/articulate their thoughts, ask questions, and engage in conversations with peers and the teacher about peace and justice using appropriate grammar and vocabulary - analyze and evaluate different solutions and strategies for promoting peace and justice around the world - work effectively in pairs or small groups, sharing ideas, listening to others, and building on each other's contributions.
Teaching Tips for teachers	Teacher shares the can-do statement at the beginning of the lesson via email. Teacher explains key concepts and vocabulary related to peace and justice in a clear, concise, and accessible manner via a presentation on Zoom. Teacher arranges breakout rooms where students can actively participate in discussions, ask questions, share ideas, and collaborate with their peers. Teacher scaffolds students in analyzing and evaluating different strategies for quality education, as well as in developing their own ideas and solutions to address the problem. Teacher provides timely and specific feedback on students' language use, ideas, and contributions to discussions, helping them to improve and develop their skills. Teacher encourages students to reflect on their learning experiences, identify areas for improvement, and set goals for their future language and critical thinking development. Teacher evaluates students' progress by joining in breakout rooms.
Teaching methods and techniques	
Problem-based learning, role play, guided inquiry, research, brain-storming, presentation	
Prior Knowledge	
- Students are able to use a variety of expressions for agreeing and disagreeing with someone. - Students are able to formulate affirmative and negative sentences, wh- questions and Yes/No questions in Present Simple, Present Continuous, Past Simple, Future Simple and Present Perfect tense. They can formulate both object and subject questions. - Students are able to formulate sentences cause and effect linkers (because, since, as, therefore, so) - Students are able to formulate sentences using “may” and “might” to discuss possible situations that may happen in present or future.	

- Students are able to construct sentences in present simple passive and past simple passive. Students have content knowledge about human rights, climate change, zero hunger, good health and well-being and quality education.
Problem Scenario Anna is a 20-year-old university student who left Ukraine with her mother when the war started. Her brother and father stayed in Ukraine to join the army. Anna and her mother went to Holland to find safety and a place to stay. They were lucky to find a temporary place to live on a cruise ship which became a refugee camp. However, they had to find a place to stay because the Dutch government allowed them to stay for 90 days. Also, they have many difficulties adjusting to their new environment. Explore the specific difficulties Anna and her mother have encountered as refugees in another country.
Required Materials - Vocabulary – gap-fill exercise - Projector and computer to facilitate the presentation of materials and activities - Role Play scenario - Problem-based Learning task sheet - Problem scenario - Students’ mobile phones/tablets/computers for research - Internet Access
Process of the Lesson LESSON 1 – PRE-TEACHING (50 minutes) Teacher greets the learners and they, in pairs, talk about their experiences in learning English by answering the question of “What kind of learning activities do you like for your speaking lessons?” (3 minutes) Teacher introduces a role-play activity, and shares the roles (12 minutes – 3 minutes for thinking and 9 minutes to talk). Teacher asks students about personal experiences about peace and justice. Students discuss the following question: “Can you provide an example of peace-related and/or justice-related issues from your country?” (5 minutes) Provide vocabulary and collocation exercises related to peace and justice (20 minutes). Think – Pair – Share: In pairs, students discuss “Why are peace and justice important? Explain by giving examples.” (5 minutes) Whole-class feedback on the question (5 minutes). LESSON 2 1. EXPLORE THE PROBLEM SCENARIO Put students into teams of three. Teacher hands out the Problem-based Learning task sheet and the scenario. Students read the scenario and study the picture. In their groups, they examine and define the problem. Ask students questions to check their understanding of the problem: 1. How old is Anna, and where is she now? 2. Is her family with her? Why / Why not? 3. Why do you think the Dutch government allowed Anna and her mother 90 days to stay? 4. What do you think are her plans in the future? Teacher reminds students that there is no single correct answer to the problem. 2. STATE WHAT IS KNOWN Students identify what they already know about the problem

3. STATE WHAT IS UNKNOWN

Students identify learning issues about the problem to talk about Anna and her mother who experienced difficulties due to a war in their countries.

Students write up questions to which they need to find answers.

Teacher elicits information from students by asking open-ended questions to help them generate questions for their research. If needed, teacher guides the students and offers the following questions and raises awareness on the cause-and-effect relationship.

1. What are the factors that can disrupt peace between countries?
2. How do you think war affects individuals, including children and families?
3. What are some ways that countries can avoid going to war and solve their disagreements peacefully?
4. How can international organizations like the United Nations contribute to preventing wars and conflicts?
5. Discuss the role of education in promoting peace, understanding, and justice among people.

Teacher observes students, takes notes, and provides feedback on student participation in the activity and on the language they have used during the activity.

4. DISTRIBUTE THE ROLES

Students decide on their roles and divide up the work among themselves.

5. RESEARCH THE KNOWLEDGE

Students, independently, research to collect information and answer their questions.

Teacher makes sure that students are aware of the resources that are available to them.

Teacher observe students, take notes, and provide support as needed.

LESSON 3

6. SHARE FINDINGS

Students come together to share their findings and co-construct knowledge.

7. SOLUTION AND THE FINAL PRODUCT

Students generate possible solutions to the problem. Teams prepare a presentation to offer solutions to Anna and her mother

8. REFLECTION ON PERFORMANCE

Students fill in the can-do statement to reflect on their learning process.

Real-World Connection

SDG 10, aims to lessen inequality and is part of the 17 Sustainable Development Goals formed by the United Nations in 2015. Its primary objective is to "Reduce inequality" within and among countries. This goal comprises ten targets set to be accomplished by 2030, assessed by specific indicators. The first seven targets focus on outcomes, such as reducing income disparities, ensuring inclusive opportunities, ending discrimination, implementing policies that support equality, regulating global financial systems, representing developing countries in financial institutions, and managing migration responsibly. The other three targets involve actions to support implementation: giving special treatment to developing nations, promoting aid and investment in the least developed countries, and reducing costs associated with migrant remittances.

<https://sdgs.un.org/goals/goal10>

Independence Level		
Independent Students work independently in the research and reflection stages. (STAGES (5 & 9))	Paired – Breakout Rooms There is a think-pair-share activity in the pre-teach section	Teamed – Breakout Rooms Students work in teams of three in role play and 1, 2, 3, 4, 6, 7 and 8 stages
Lessons/Teacher Guidance		
- Vocabulary teaching - Teacher observes students, takes notes, and provides feedback on student participation in the activity and on the language they have used during the activity.		
Tasks to be Completed		
Teacher provides a problem-based learning task sheet where students can follow the process. The tasks on the sheet are broken down as a checklist.		
Final Product		
Preparing a presentation to offer solutions for Anna and her mother.		
Accommodations/Modifications		
-No modifications are expected		
Reflection/Self-Assessment		
- Students evaluate their performance and reflect on their learning process by filling in a can-do statement.		
Assignment		
Two pictures showing the migration crises at the Poland-Belarus border		
Assessment		
Oral assessment – group discussion recorded on Zoom. Teacher gives individual written feedback on students' homework performance by using the Oral Assessment criteria which was designed based on Bachman's modal of language competence		
Teacher Reflections		
What worked? What didn't work? - It was difficult to evaluate students' soft skills. - Students were not motivated as they were in face-to-face classes. - There was limited non-verbal communication, leading to communication breakdowns. - Students experienced digital fatigue which reduced their engagement and motivation. - Some students experienced unstable Internet access, affecting their motivation and performance level.		Changes? No changes were made.

Lesson Plan 8

Course: Speaking Course	Topic: Goals 14. Life below water & Goal 15. Life on land
Approx. Time: 3 hours (50 minutes instruction + 10 minutes break)	
Learning Outcomes	Students will be able to ... - recognize, understand, and use key vocabulary and collocations related to life on land and below water. - comprehend spoken and written information related to life on land and below water. - express/articulate their thoughts, ask questions, and engage in conversations with peers and the teacher about life on land and below water using appropriate grammar and vocabulary - analyze and evaluate different solutions and strategies for fostering life on land and below water - work effectively in pairs or small groups, sharing ideas, listening to others, and building on each other's contributions.
Teaching Tips for teachers	Teacher shares the can-do statement at the beginning of the lesson via email. Teacher explains key concepts and vocabulary related to ecosystems on land and below water in a clear, concise, and accessible manner via a presentation on Zoom. Teacher arranges breakout rooms where students can actively participate in discussions, ask questions, share ideas, and collaborate with their peers. Teacher scaffolds students in analyzing and evaluating different strategies for life on land and below water, as well as in developing their own ideas and solutions to address the problem. Teacher provides feedback on students' language use, ideas, and contributions to discussions, helping them to improve and develop their skills. Teacher encourages students to reflect on their learning experiences, identify areas for improvement, and set goals for their future language and critical thinking development. Teacher evaluates students' progress by joining in breakout rooms.
Teaching methods and techniques	
Problem-based learning, role play, guided inquiry, research, brain-storming, presentation	
Prior Knowledge	
- Students are able to use a variety of expressions for agreeing and disagreeing with someone. - Students are able to formulate affirmative and negative sentences, wh- questions and Yes/No questions in Present Simple, Present Continuous, Past Simple, Future Simple and Present Perfect tense. They can formulate both object and subject questions. - Students are able to formulate sentences cause and effect linkers (because, since, as, therefore, so) - Students are able to formulate sentences using “may” and “might” to discuss possible situations that may happen in present or future.	

- Students are able to construct sentences in present simple passive and past simple passive. Students have content knowledge about human rights, climate change, zero hunger, good health and well-being.

Problem Scenario

Anatolian leopards are animals that are in danger of disappearing. They live in the mountains of Turkey. The number of Anatolian leopards has been decreasing for several reasons. The situation is really bad because Anatolian leopards might go extinct. You are a group of conversationalists who want to save the Anatolian leopards. You are working with the Turkish government to make a plan to protect the Anatolian leopards and their homes. You also want to help the villagers who live in the same area as the leopards. You'll present your plan to Turkish government officials.

Required Materials

- Vocabulary – gap-fill exercise
- Projector and computer to facilitate the presentation of materials and activities
- Role Play scenario
- Problem-based Learning task sheet
- Problem scenario
- Students' mobile phones/tablets/computers for research
- Internet Access

Process of the Lesson

LESSON 1 – PRE-TEACHING (50 minutes)

Teacher greets the learners and they, in pairs, talk about their experiences in learning English by answering the question of “If speaking in English is a type of fruit, what would it be? Why?” (3 minutes)

Teacher introduces a role-play activity, and shares the roles (12 minutes – 3 minutes for thinking and 9 minutes to talk).

Teacher asks students about personal experiences about life on land and below water. Students discuss the following question: “Can you name some animals that have gone extinct in recent history? What factors contributed to their extinction?” (5 minutes)

Provide vocabulary and collocation exercises related to life on land and below water (20 minutes).

Think – Pair – Share: In pairs, students discuss “Imagine a world without some of your favorite animals. How would it impact ecosystems and human culture? Explain by giving examples.” (5 minutes)

Whole-class feedback on the question (5 minutes).

LESSON 2

1. EXPLORE THE PROBLEM SCENARIO

Put students into teams of three.

Teacher hands out the Problem-based Learning task sheet and the scenario.

Students read the scenario and study the picture. In their groups, they examine and define the problem.

Ask students questions to check their understanding of the problem:

1. Which species may go extinct in the future?
2. Why do conversationalists want to help villagers?
3. Besides the government, who can help stop the extinction of Anatolian leopards?
4. What can Turkish government do to prevent extinction?

Teacher reminds students that there is no single correct answer to the problem.

2. STATE WHAT IS KNOWN

Students identify what they already know about the problem

3. STATE WHAT IS UNKNOWN

Students identify learning issues about the problem to talk about the Anatolian leopards Turkey. Students write up questions to which they need to find answers.

Teacher elicits information from students by asking open-ended questions to help them generate questions for their research. If needed, teacher guides the students and offers the following questions and raises awareness of the cause-and-effect relationship.

1. How do human activities, such as habitat destruction and poaching, impact the survival of animal species?
2. Why is it important to prevent animals from going extinct? What are the consequences of losing a species?
3. What role do organizations play in protecting endangered animals from extinction?
4. Are there any success stories where endangered animals have been brought back from the brink of extinction?
5. Discuss the role of zoos and captive breeding programs in preserving endangered species. Are there any ethical concerns with these approaches?

4. DISTRIBUTE THE ROLES

Students decide on their roles and divide up the work among themselves.

5. RESEARCH THE KNOWLEDGE

Students, independently, research to collect information and answer their questions. Teacher makes sure that students are aware of the resources that are available to them. Teacher observes students, takes notes, and provides support as needed.

LESSON 3

6. SHARE FINDINGS

Students come together to share their findings and co-construct knowledge.

7. SOLUTION AND THE FINAL PRODUCT

Students generate possible solutions to the problem. Teams prepare a presentation to offer solutions to the situation of Anatolian leopards in Turkey.

8. REFLECTION ON PERFORMANCE

Students fill in the can-do statement to reflect on their learning process.

Real-World Connection

Goal 14 is about conserving and sustainably using the oceans, seas and marine resources. Healthy oceans and seas are essential to human existence and life on Earth. Goal 15 is about conserving life on land. It is to protect and restore terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation, and stop biodiversity loss. <https://www.un.org/sustainabledevelopment/biodiversity/>

Independence Level

Independent

Students work independently in the research and reflection stages. (STAGES (5 & 9))

Paired – Breakout Rooms

There is a think-pair-share activity in the pre-teach section

Teamed – Breakout Rooms

Students work in teams of three in role play and 1, 2, 3, 4, 6, 7 and 8 stages

Lessons/Teacher Guidance

- Vocabulary teaching – gap-fill exercises
 - Role-play, discussion, debate
- Teacher observes students, takes notes and provides feedback on student participation in the activity and on the language they have used during the activity.

Tasks to be Completed	
Teacher provides a problem-based learning task sheet where students can follow the process. The tasks on the sheet are broken down as a checklist.	
Final Product	
Preparing a presentation to offer solutions for the Anatolian leopards and the villagers who live in the same area as the leopards.	
Accommodations/Modifications	
-No modifications are expected	
Reflection/Self-Assessment	
- Students evaluate their performance and reflect on their learning process by filling in a can-do statement.	
Assignment	
Presenting three pictures which depict the threat of ghost nets to marine animals in the ocean.	
Assessment	
Oral assessment – group discussion recorded on Zoom. Teacher gives individual written feedback on students' homework performance by using the Oral Assessment criteria which was designed based on Bachman's modal of language competence	
Teacher Reflections	
What worked? What didn't work? - Similar concerns related to the previous week online class challenges this week as well.	Changes? No changes were made.

APPENDIX J: LESSON PLANS – CONTROL GROUP

Lesson Plan 1: Human Rights (3 Hours)	
Learning Outcomes:	Students will be able to articulate their thoughts and knowledge of human rights.
Materials:	Handouts with vocabulary words and definitions Reading two texts on the Magna Carta and Declaration of Human Rights 1. Magna Carta Adapted from https://kids.kiddle.co/Magna_Carta 2. Declaration of Human Rights Adapted from <i>What is the Universal Declaration of Human Rights?</i> https://www.amnesty.org.uk/universal-declaration-human-rights-UDHR Reading comprehension questions Projector or whiteboard for displaying materials
Lesson 1 (50 minutes)	
Introduction (20 minutes)	
1. Greeting: Teacher greets the students and engages in a brief warm-up conversation to create a friendly classroom environment. 2. Setting the Context: Teacher introduces the topic of Human Rights by sharing a YouTube video https://www.youtube.com/watch?v=iFUFFUb5W4w and initiates a discussion by asking what the problem is in the video.	
Vocabulary Practice (30 minutes)	
3. Vocabulary Introduction: Teacher presents a list of words related to the topic on the whiteboard. The list includes words like “discrimination”, “freedom of speech”, “equality”, “justice”, “freedom”, “discrimination”, “tolerance”, “civil rights”, “dignity”, and “political rights.” Teacher has students practice the pronunciation of the target vocabulary and explains each word's meaning. Vocabulary Activity: Teacher hands out a worksheet where students put the target vocabulary in the gap in the sentences. Vocabulary Discussion: Teacher leads a whole-class discussion where the students share their answers in the gaps.	
Lesson 2 (50 minutes)	
Reading Activity (50 minutes)	
4. Reading Passage: Teacher provides students with two reading texts Human Rights (Magna Carta and Universal Declaration of Human Rights) and their comprehension questions. As a whole class activity, teacher and students check their answers.	
Lesson 3 (50 minutes)	
Group Discussion (30 minutes)	

5. Speaking Activity: Teacher divides the class into groups of three.

Discussion Questions: Teacher provides each group with three discussion questions related to the topic of Human Rights.

1. What is a basic human right that you think is important?

- Right to safety and protection from harm
- Right to have enough food and clean water
- Right to go to school and get an education
- Right to express your thoughts and opinions

2. Do you agree with this statement? Why? / Why not?

“My silence has not protected me. Your silence will not protect you.”- Audre Lorde

3. Do you think all people should be treated the same, no matter where they come from or what they believe? Why or why not?

Group Discussion: Teacher allocates 5 minutes for thinking and note-taking, and 9 minutes for groups to discuss these questions and encourages students to use the vocabulary and ideas they've learned during the lesson.

Wrap-up (15 minutes)

6. Group Presentations: Teacher asks each group to summarize their key discussion points and share their insights with the whole class (5 minutes)

Teacher gives feedback to each group about their performance.

7. Final Thoughts (2 minutes): Teacher initiates a class discussion about the importance of human rights and encourages students to share their thoughts and think about how they can help human rights.

8. Homework Assignment (3 minutes): Teacher regroups students and assigns the speaking task below on human rights. Teacher regroups students and assigns the speaking task below on climate change. Students are assigned to think for 5 minutes and discuss the following questions in 9 minutes on Zoom. Then the host shares the recording with their teachers for feedback.

Assignment - Discussion Questions

1. What are some of the reasons contributing to the human rights problems?

- Not knowing or caring about human rights
- Those in charge using their power unfairly
- Treating some people differently because of their background
- Laws not being strong or enforced

2. Do you agree with the following statement? Why? / Why not?
Money is more important than human rights.

3. How can you make sure you treat people's human rights well?

Lesson Plan 2: SDG 13 - Climate Change (3 Hours)	
Learning Outcomes:	Students will be able to articulate their thoughts and knowledge of climate change.
Materials:	Handouts with vocabulary words and definitions Reading two texts on Climate Change 1. Upsula Glacier: Our Changing Plant 2. Causes of Deforestation and Its Effects on the Natural Environment Both texts are Adapted from Westbrook, C., (2014), <i>Unlock Reading and Writing Skills 3. CUP, Dubai</i> Reading comprehension questions Projector or whiteboard for displaying materials
Lesson 1 (50 minutes)	
Introduction (20 minutes)	
1. Greeting: Teacher greets the students and engages in a brief warm-up conversation to create a friendly classroom environment.	
2. Setting the Context: Teacher introduces the topic of Climate Change by sharing a YouTube video: What is Climate Change? https://www.youtube.com/watch?v=dcBXmj1nMTQ	
Vocabulary Practice (30 minutes)	
3. Vocabulary Introduction: Teacher presents a list of words related to the topic on the whiteboard. The list includes words like “erosion”, “environment”, “fires”, “crops”, “effects”, “deforestation”, “decade”, “habitats”, “protected”, “livestock”, “absorb”, “flooding”, “drought”, “biodiversity” and “logging”. Teacher has students practice the pronunciation of the target vocabulary and explains each word's meaning.	
Vocabulary Activity: Teacher hands out a worksheet where students put the target vocabulary in the gap in the sentences.	
Vocabulary Discussion: Teacher leads a whole-class discussion where the students share their answers in the gaps.	
Lesson 2 (50 minutes)	
Reading Activity (50 minutes)	
4. Reading Passage: Teacher provides students with two reading texts Climate Change (Upsula Glacier: Our Changing Plant and Causes of Deforestation and Its Effects on the Natural Environment) and their comprehension questions. As a whole class activity, teacher and students check their answers.	
Lesson 3 (50 minutes)	
Group Discussion (30 minutes)	
5. Speaking Activity: Teacher divides the class into groups of three.	

Discussion Questions: Teacher provides each group with three discussion questions related to the topic of Climate Change.

1. What are some causes of climate change?

- Greenhouse Gas Emissions
- Deforestation
- Transportation (vehicle emissions)
- Energy Production (fossil fuels)

2. Do you agree with this statement? Why? / Why not?

Individual actions, such as reducing waste and conserving energy, can make a significant impact on the environment.

3. What role do you believe governments should play in combating climate change?

Group Discussion: Teacher allocates 5 minutes for thinking and note-taking, and 9 minutes for groups to discuss these questions and encourages students to use the vocabulary and ideas they've learned during the lesson.

Wrap-up (15 minutes)

6. Group Presentations: Teacher asks each group to summarize their key discussion points and share their insights with the whole class (5 minutes)

Teacher gives feedback to each group about their performance.

7. Final Thoughts (2 minutes): Teacher initiates a class discussion about the dangerous impacts of climate change and encourages students to share their thoughts and think about how they can stop climate change.

8. Homework Assignment (3 minutes): Teacher regroups students and assigns the speaking task below on climate change. Students are assigned to think for 5 minutes and discuss the following questions in 9 minutes on Zoom. Then the host shares the recording with their teachers for feedback.

Assignment – Discussion Questions

1. What are the effects of climate change?

- Stronger and more extreme weather
- Changes in nature and wildlife
- Trouble growing food
- People moving from their homes

2. Do you agree with the following statement? Why? / Why not?

Producing food is more important than environmental problems.

3. How can you ensure that you treat the environment well?

Lesson Plan 3: SDG 2 - Zero Hunger (3 Hours)	
Learning Outcomes:	Students will be able to express their thoughts and understanding of zero hunger.
Materials:	Handouts with vocabulary words and definitions Reading two texts on zero hunger: 1. Poor Diets Damaging Children’s Health, Warns UNICEF Adapted from https://www.unicef.org/timorleste/press-releases/poor-diets-damaging-childrens-health-worldwide-warns 2. Why is World Hunger Still A Problem? Adapted from https://wonderopolis.org/wonder/why-is-world-hunger-still-a-problem Reading comprehension questions Projector or whiteboard for displaying materials
Lesson 1 (50 minutes)	
Introduction (20 minutes)	
1. Greeting: Teacher greets the students and engages in a brief warm-up conversation to create a friendly classroom environment. 2. Setting the Context: Teacher introduces the topic of Zero Hunger by sharing a YouTube video: Zero Hunger SDG 2 Sustainable Development Goals for Kids https://www.youtube.com/watch?v=ifCQ4LqT8G8&t=74s	
Vocabulary Practice (30 minutes)	
3. Vocabulary Introduction: Teacher presents a list of words related to the topic on the whiteboard. The list includes words hunger such as “malnutrition, poverty, food insecurity, sustainable agriculture, nutrition, food distribution, food waste, food security, agricultural development, community gardens, food resilience, nutrition education, and food aid.” Teacher has students practice the pronunciation of the target vocabulary and explains their meaning. Vocabulary Activity: Teacher hands out a worksheet where students match the words with their definitions and then they put the target vocabulary in the gap in the sentences. Vocabulary Discussion: Teacher leads a whole-class discussion where the students share their answers in the gaps.	
Lesson 2 (50 minutes)	
Reading Activity (50 minutes)	
4. Reading Passage: Teacher provides students with two reading texts Zero Hunger (Poor Diets Damaging Children’s Health and Why is World Hunger Still A Problem?) and their comprehension questions. As a whole class activity, teacher and students check their answers.	
Lesson 3 (50 minutes)	
Group Discussion (30 minutes)	
5. Speaking Activity: Teacher divides the class into groups of three. Discussion Questions: Teacher provides each group with three discussion questions related to the topic of Zero Hunger.	

1. What are the factors or causes that lead to the goal of achieving zero hunger?

- Poverty
- Conflict and War
- Climate Change and natural disasters
- Lack of Access to Education
- Global Economic Inequality

2. Do you agree with this statement? Why? / Why not?

It is not our responsibility to ensure that no one goes hunger

3. Do you believe that zero hunger is an achievable goal, and if so, what steps do you think we need to take to get there?

Group Discussion: Teacher allocates 5 minutes for thinking and note-taking, and 9 minutes for groups to discuss these questions and encourages students to use the vocabulary and ideas they've learned during the lesson.

Wrap-up (15 minutes)

6. Group Presentations: Teacher asks each group to summarize their key discussion points and share their insights with the whole class (5 minutes)

Teacher gives feedback to each group about their performance.

7. Final Thoughts (2 minutes): Teacher initiates a class discussion about the dangerous impacts of zero hunger and encourages students to share their thoughts and think about how they can end zero hunger.

8. Homework Assignment (3 minutes): Teacher regroups students and assigns the speaking task below on zero hunger. Students are assigned to think for 5 minutes and discuss the following questions in 9 minutes on Zoom. Then the host shares the recording with their teachers for feedback.

Assignment – Discussion Questions

1. What are the effects of achieving zero hunger?

- Healthier Eating and fewer People Die from Hunger
- Less Poverty
- Better Learning
- A Happier Life for Everyone

2. Do you agree with the following statement? Why? / Why not?

It is not realistic to aim to achieve zero hunger.

3. How can we help our neighbors and those in need in our community when it comes to food security?

Lesson Plan 4: SDG 3 - Good Health and Well-being (3 Hours)	
Learning Outcomes:	Students will be able to express their thoughts and understanding of good health and well-being.
Materials:	Handouts with vocabulary words and definitions Reading two texts on Good Health and Well-being 1. Prominent Global Health Issues to be Aware of – Adapted from https://www.sgu.edu/blog/medical/what-is-global-health/ 2. Good Health and Well-being -Adapted from https://turkiye.un.org/en/sdgs/3 Reading comprehension questions Projector or whiteboard for displaying materials
Lesson 1 (50 minutes)	
Introduction (20 minutes)	
1. Greeting: Teacher greets the students and engages in a brief warm-up conversation to create a friendly classroom environment. 2. Setting the Context: Teacher introduces the topic of Global Health and Well-being by sharing a YouTube video: SDG3: Health & Well-being https://www.youtube.com/watch?v=z_jjX-i45hU	
Vocabulary Practice (30 minutes)	
3. Vocabulary Introduction: Teacher introduces a list of words related to the topic on the whiteboard. The list includes words like “health, well-being, medicine, drug, patient, symptom treatment, prescription, vaccine, nutrition, exercise, mental health, physical health, health apps, telemedicine, online consultation, access to healthcare, global health, and healthcare systems” Teacher has students practice the pronunciation of the target vocabulary. Vocabulary Activity: Teacher hands out a worksheet where students match the words with their definitions and then put the target vocabulary in the gap in the sentences. Vocabulary Discussion: Teacher leads a whole-class discussion where the students share their answers in the gaps.	
Lesson 2 (50 minutes)	
Reading Activity (50 minutes)	
4. Reading Passage: Teacher provides students with two reading texts Good Health and Well-being (Prominent Global Health Issues to be Aware of and Good Health and Well-being) and their comprehension questions. As a whole class activity, teacher and students check their answers.	
Lesson 3 (50 minutes)	
Group Discussion (30 minutes)	
5. Speaking Activity: Teacher divides the class into groups of three.	

Discussion Questions: Teacher provides each group with three discussion questions related to the topic of Climate Change.

1. What are the key factors for maintaining good physical health? How can people stay physically healthy?

- Exercise regularly
- Eat a balanced diet
- Get 7-9 hours of sleep each night
- Avoid smoking and limit alcohol intake

2. Do you agree with this statement?

“The greatest wealth is health.” –Virgil

3. Do you think healthcare services should be free? Why? / Why not?

Group Discussion: Teacher allocates 5 minutes for thinking and note-taking, and 9 minutes for groups to discuss these questions and encourages students to use the vocabulary and ideas they've learned during the lesson.

Wrap-up (15 minutes)

6. Group Presentations: Teacher asks each group to summarize their key discussion points and share their insights with the whole class (5 minutes)

Teacher gives feedback to each group about their performance.

7. Final Thoughts (2 minutes): Teacher initiates a class discussion about the dangerous impacts of climate change and encourages students to share their thoughts and think about how they can stop climate change.

8. Homework Assignment (3 minutes): Teacher regroups students and assigns the speaking task below on good health and well-being. Students are assigned to think for 5 minutes and discuss the following questions in 9 minutes on Zoom. Then the host shares the recording with their teachers for feedback.

Assignment – Discussion Questions

1. What are the positive effects of good health?

- Stronger immune system and longer life expectancy
- Increased productivity
- Less burden on healthcare systems
- Increased happiness and life satisfaction

2. Do you agree with the following statement? Why? / Why not?

Producing food is more important than environmental problems.

3. What can governments do to ensure healthy lives and promote well-being for everybody at all ages?

Lesson Plan 5: SDG 12 - Responsible Consumption and Production (3 Hours)	
Learning Outcomes:	Students will be able to articulate their thoughts and knowledge on responsible consumption and production.
Materials:	Handouts with vocabulary words and definitions Reading two texts on irresponsible consumption 1. Is fast fashion taking over? Adapted from <i>Westbroke, C., (2019), Unlock Second Editon: Reading and Writing Skills 3. Cambridge, CUP</i> 2. Responsible and sustainable consumption for children: how can you teach them? (https://www.dogoodpeople.com/csr-trends/responsible-and-sustainable-consumption-for-children-how-can-you-teach-them/) Reading comprehension questions Audio recording for listening activity Projector or whiteboard for displaying materials
Lesson 1 (50 minutes)	
Introduction (20 minutes)	
1. Greeting: Teacher greets the students and engages in a brief warm-up conversation to create a friendly classroom environment. 2. Setting the Context: Teacher introduces the topic of "SDG Irresponsible Consumption" by sharing a YouTube video https://www.youtube.com/watch?v=fAf32-9wHhc and briefly explains the Sustainable Development Goals (SDGs) to provide context for the lesson.	
Vocabulary Practice (30 minutes)	
3. Vocabulary Introduction: Teacher presents a list of words related to the topic on the whiteboard. Include words like "consumption," "sustainability," "waste," "resources," and "environment." Pronounce and explain each word's meaning. Vocabulary Activity: Teacher hand out a worksheet to have students study the target words and definitions. Teacher asks the students to match the words to their meanings in pairs. Vocabulary Discussion: Teacher leads a whole-class discussion where the students share their answers and use the words in sentences.	
Lesson 2 (50 minutes)	
Reading Activity (30 minutes)	
4. Reading Passage: Teacher provides students with two reading texts on responsible and sustainable consumption. After answering the questions, they discuss their answers in groups of three.	
Listening Activity (20 minutes)	
5. Listening Exercise: Teacher plays a YouTube video "SDG 12: Responsible Consumption and Production" https://www.youtube.com/watch?v=cKlPNGZBrtI. Before the second listening, teacher distributes comprehension questions.	

Pair Share: Teacher asks students to discuss their answers with a partner, ensuring they understand the listening material.

Lesson 3 (50 minutes)

Group Discussion (30 minutes)

6. Speaking Activity: Teacher divides the class into groups of three.

Discussion Questions: Teacher provides each group with three discussion questions related to the topic of irresponsible consumption and its impact on the SDGs. For example:

1. What are the consequences of irresponsible consumption on the environment and society?
 - Environmental Degradation
 - Climate Change
 - Resource Depletion
 - Health Impacts
2. Do you agree with this statement? Why? / Why not?
Personal needs and desires are more important than the environment.
3. How can governments and individuals reduce their environmental footprint through responsible consumption?

Group Discussion: Teacher allocates 5 minutes for thinking and note-taking, and 9 minutes for groups to discuss these questions and encourages students to use the vocabulary and ideas they've learned during the lesson.

Wrap-up (15 minutes)

7. Group Presentations: Teacher asks each group to summarize their key discussion points and share their insights with the whole class (5 minutes)

Teacher gives feedback to each group about their performance.

8. Final Thoughts (2 minutes): Teacher has a class discussion about the importance of responsible consumption in achieving the SDG and encourages students to share their thoughts and opinions on how they can contribute to a more sustainable future.

9. Homework Assignment (3 minutes): Teacher regroups students and assigns the speaking task below on irresponsible consumption and production in Turkey. Students are assigned to think for 5 minutes and discuss the following questions in 9 minutes on Zoom. Then the host shares the recording with their teachers for feedback.

Assignment – Discussion Questions

1. What does it mean to shop responsibly in Turkey, and how do people feel about it?
 - Choosing eco-friendly products that do not harm the environment.
 - Reducing waste
 - Supporting local and sustainable businesses

2. Do you agree with the following statement? Why? / Why not?
The main purpose of producing products is for people to consume or use them.
3. How can the government help people make better shopping choices in Turkey?



Lesson Plan 6: SDG 4 – Quality Education (3 Hours)	
Learning Outcomes:	Students will be able to articulate their thoughts and understanding of quality education.
Materials:	Handouts with vocabulary words and definitions Reading a text and listening a TED talk on Quality Education 1. Sustainable Development Goal 2 https://en.wikipedia.org/wiki/Sustainable_Development_Goal_4 2. 2030- SDG 4- Quality Education- Ted talks https://www.youtube.com/watch?v=l61HgJn2ei0 Reading and listening comprehension questions Projector or whiteboard for displaying materials
Lesson 1 (50 minutes)	
Introduction (20 minutes)	
1. Greeting: Teacher greets the students and engages in a brief warm-up conversation to create a friendly classroom environment. 2. Setting the Context: Teacher introduces the topic of Quality Education by sharing a YouTube video: Understand Goal 4: Quality Education (Primary) https://www.youtube.com/watch?v=1wy1hwZgHdA	
Vocabulary Practice (30 minutes)	
3. Vocabulary Introduction: Teacher presents a list of words related to the topic on the whiteboard. The list includes the following words: “equality X inequality, gender inequality, poverty, upward social mobility, to be out of school, access to (quality) education, educational infrastructure, lifelong learning, education for all” Teacher has students practice the pronunciation of the target vocabulary. Vocabulary Activity: Teacher hands out a worksheet where students match the words with their definitions and put the target vocabulary in the gap in the sentences. Vocabulary Discussion: Teacher leads a whole-class discussion where the students share their answers in the gaps.	
Lesson 2 (50 minutes)	
Reading Activity (50 minutes)	
4. Reading Passage: Teacher provides students with one reading text on quality education (Sustainable Development Goal 4) and its comprehension questions. As a whole class activity, teacher and students check their answers. 5. Listening: Teacher provides students with a TED talk on quality education and its comprehension questions. Then they check their answers as a whole class activity.	
Lesson 3 (50 minutes)	
Group Discussion (30 minutes)	
6. Speaking Activity: Teacher divides the class into groups of three.	

Discussion Questions: Teacher provides each group with three discussion questions related to the topic of quality education.

1. What are some of the factors that contribute to inequality education?

- Geographic location
- Lack of sources (schools, teachers, books)
- Social norms and expectations
- Socioeconomic conditions

2. Do you agree with this statement? Why? / Why not?

Not every child needs to go to school.

3. Do you think education should be free for everyone? Why / why not?

Group Discussion: Teacher allocates 5 minutes for thinking and note-taking, and 9 minutes for groups to discuss these questions and encourages students to use the vocabulary and ideas they've learned during the lesson.

Wrap-up (15 minutes)

7. Group Presentations: Teacher asks each group to summarize their key discussion points and share their insights with the whole class (5 minutes)

Teacher gives feedback to each group about their performance.

8. Final Thoughts (2 minutes): Teacher initiates a class discussion about the quality of education and encourages students to share their thoughts and think about how they help to promote quality education.

9. Homework Assignment (3 minutes): Teacher regroups students and assigns the speaking task below on quality education. Students are assigned to think for 5 minutes and discuss the following questions in 9 minutes on Zoom. Then the host shares the recording with their teachers for feedback.

1. What skills and knowledge are most important for students to acquire in today's world?

- Critical thinking and problem solving
- Creativity
- Communication & Digital Literacy
- Collaboration (teamwork)

2. Do you agree with the following statement? Why? / Why not?

“Education is the most powerful weapon which you can use to change the world.”
Mandela

3. What is "lifelong learning." Why is it important? How can we continue learning throughout our lives?

Lesson Plan 7: SDG 10 – Reduced Inequalities (3 Hours)	
Learning Outcomes:	Students will be able to articulate their thoughts and knowledge of reduced inequalities.
Materials:	Handouts with vocabulary words and definitions Reading two texts on Reduced Inequalities 1. Global 10: Reduced inequalities within and among countries https://www.un.org/sustainabledevelopment/inequality/ 2. What challenges do Refugees and Migrants face? https://epimonia.com/blogs/news/challenges-refugees-face Reading comprehension questions Projector or whiteboard for displaying materials
Lesson 1 (50 minutes)	
Introduction (20 minutes)	
1. Greeting: Teacher greets the students and engages in a brief warm-up conversation to create a friendly classroom environment. 2. Setting the Context: Teacher introduces the topic of reduced inequalities by sharing two YouTube videos: 1. SDG 10: Reduced Inequalities ? https://www.youtube.com/watch?v=_z-lj-9PZeQ 2. Who is a Refugee? https://www.youtube.com/watch?v=GvzZGplGbL8	
Vocabulary Practice (30 minutes)	
Vocabulary Introduction: Teacher presents a list of words related to the topic on the whiteboard. The list includes the following words “inequality, equal, inclusive, discrimination, social justice, access, poverty, education, healthcare, opportunity, asylum, migrant, flee, home country, host country, integration, persecution, and resettlement”. Teacher has students practice the pronunciation of the target vocabulary. Vocabulary Activity: Teacher hands out a worksheet where students match the words with their definitions and put the target vocabulary in the gap in the sentences. Vocabulary Discussion: Teacher leads a whole-class discussion where the students share their answers in the gaps.	
Lesson 2 (50 minutes)	
Reading Activity (50 minutes)	
4. Reading Passage: Teacher provides students with two reading texts on reduced inequalities and refugees (Global 10: Reduced inequalities within and among countries and What challenges do Refugees and Migrants face?) and their comprehension questions. As a whole class activity, teacher and students check their answers.	
Lesson 3 (50 minutes)	
Group Discussion (30 minutes)	
5. Speaking Activity: Teacher divides the class into groups of three.	

Discussion Questions: Teacher provides each group with three discussion questions related to the topic of Climate Change.

1. What is the main reason why people have to leave their countries?
 - Wars
 - Violation of rights
 - Natural disasters
 - Poverty
2. Do you agree with this statement? Why? / Why not?
Leaving their country due to poor conditions isn't a problem for refugees.
3. How do you think governments should help refugees?

Group Discussion: Teacher allocates 5 minutes for thinking and note-taking, and 9 minutes for groups to discuss these questions and encourages students to use the vocabulary and ideas they've learned during the lesson.

Wrap-up (15 minutes)

6. Group Presentations: Teacher asks each group to summarize their key discussion points and share their insights with the whole class (5 minutes)
Teacher gives feedback to each group about their performance.

7. Final Thoughts (2 minutes): Teacher initiates a class discussion about the dangerous impacts of climate change and encourages students to share their thoughts and think about how they can reduce inequalities and improve conditions for refugees.

8. Homework Assignment (3 minutes): Teacher regroups students and assigns the speaking task below on refugees. Students are assigned to think for 5 minutes and discuss the following questions in 9 minutes on Zoom. Then the host shares the recording with their teachers for feedback.

Assignment – Discussion Questions

1. What is the main effect of refugees in a country?
 - Cultural diversity
 - Economic problems
 - Strain of services
2. Do you agree with the following statement? Why? / Why not?
Refugees are not seen or heard but they are everywhere.
3. What can individuals do to help refugees? Explain.

Lesson Plan 8: SDG 14 – Life Below Water & SDG 15 – Life on Land (3 Hours)	
Learning Outcomes:	Students will be able to articulate their thoughts and knowledge of sustainable use of lands, oceans, seas, and marine life.
Materials:	Handouts with vocabulary words and definitions Reading two texts on Life Below Water and Life on Land 1. Human impact on marine life Adapted from https://kids.kiddle.co/Human_impact_on_marine_life 2. Deforestation - Adapted from: https://kids.britannica.com/kids/article/deforestation/443116 Reading comprehension questions Projector or whiteboard for displaying materials
Lesson 1 (50 minutes)	
Introduction (20 minutes)	
1. Greeting: Teacher greets the students and engages in a brief warm-up conversation to create a friendly classroom environment. 2. Setting the Context: Teacher introduces the topic of sustainable management and protection of life below water and life on land by sharing three YouTube videos: 1. Understand Goal 14: Life Below Water https://www.youtube.com/watch?v=pMp2raQ3pww 2. Sustainability Goal #14: Life Below Water https://www.youtube.com/watch?v=T2YNhg9p-KM 3. Understand Goal 15: Life on Land https://www.youtube.com/watch?v=P-vXJ387FRY	
Vocabulary Practice (30 minutes)	
3. Vocabulary Introduction: Teacher presents a list of words related to the topic on the whiteboard. The list includes the following words: “wildlife, habitats, deforestation, planting, conservation, parks, ecosystems, overgrazing, land degradation, poaching, marine life resources, coral reefs, pollution, biodiversity, ecosystems, under threat, become extinct, extinction.” Teacher has students practice the pronunciation of the target vocabulary. Vocabulary Activity: Teacher hands out a worksheet where students match the words with their definitions and put the target vocabulary in the gap in the sentences. Vocabulary Discussion: Teacher leads a whole-class discussion where the students share their answers in the gaps.	
Lesson 2 (50 minutes)	
Reading Activity (50 minutes)	

4. Reading Passage: Teacher provides students with two reading texts life below water and life on land (Human Impact on Marine Life & Deforestation) and their comprehension questions. As a whole class activity, teacher and students check their answers.

Lesson 3 (50 minutes)

Group Discussion (30 minutes)

5. Speaking Activity: Teacher divides the class into groups of three.

Discussion Questions: Teacher provides each group with three discussion questions related to the topic of life below water.

1. How do human activities impact life below water? Explain.

- Overfishing
- Climate Change
- Pollution
- Tourism Impact

2. Do you agree with this statement? Why? / Why not?

Individuals can use marine resources for their personal benefit.

3. How can governments and communities collaborate to use marine resources sustainably?

Group Discussion: Teacher allocates 5 minutes for thinking and note-taking, and 9 minutes for groups to discuss these questions and encourages students to use the vocabulary and ideas they've learned during the lesson.

Wrap-up (15 minutes)

6. Group Presentations: Teacher asks each group to summarize their key discussion points and share their insights with the whole class (5 minutes)

Teacher gives feedback to each group about their performance.

7. Final Thoughts (2 minutes): Teacher initiates a class discussion about the dangerous impacts of human activities on marine life and encourages students to share their thoughts and think about how they can stop destruction of marine resources.

8. Homework Assignment (3 minutes): Teacher regroups students and assigns the speaking task below on life on land. Students are assigned to think for 5 minutes and discuss the following questions in 9 minutes on Zoom. Then the host shares the recording with their teachers for feedback.

Assignment – Discussion Questions

1. How do human activities impact life on land? Can you provide examples?

- Deforestation
- Overgrazing and land degradation
- Hunting and poaching
- Climate change

2. Do you agree with the following statement? Why? / Why not?

“The earth is the mother of all people, and all people should have equal rights upon it.”

- Chief Joseph

3. How can you contribute to protecting life on land in your daily lives?



APPENDIX K: ORAL ASSESSMENT 1 TASKS

ORAL ASSESSMENT 1

Task 1 - TOPIC: SOCIAL MEDIA

- You have 5 minutes to read the questions and think about them before the discussion starts.
 - Use the points below to help you. You do not have to discuss all of the points. You can use any other relevant points to develop your discussion.
 - You will have 9 minutes to talk about the topic.
1. What are some of the advantages of social networking? Explain by giving examples and/or evidence.
 - chatting with friends
 - sharing videos and photos
 - free advertising
 - learning about latest news
 2. Do you agree with the following statement? Why / Why not?

Social media makes people lonelier.
 3. What is your favorite social media activity? Why? Explain by giving examples and/or evidence.

ORAL ASSESSMENT 1

Task 2 - TOPIC: PROBLEMS

- You have 5 minutes to read the questions and think about them before the discussion starts.
- Use the points below to help you. You do not have to discuss all of the points. You can use any other relevant points to develop your discussion.
- You will have 9 minutes to talk about the topic.

1. How can parents and teachers help children become good problem solvers for their future? Explain by giving examples and/or evidence
 - modelling problem solving
 - giving feedback
 - creating challenges

2. Do you agree with the following idea? Why / Why not?

Every difficult situation can lead to a chance to learn and get better.

3. What kind of problems do you have in your personal or school life? Do you think that problems are opportunities in life? Why / Why not?

ORAL ASSESSMENT 1

Task 3 - TOPIC: TEENAGERS

- You have 5 minutes to read the questions and think about them before the discussion starts.
- Use the points below to help you. You do not have to discuss all of the points. You can use any other relevant points to develop your discussion.
- You will have 9 minutes to talk about the topic.

1. How do various factors interact to influence teenage behavior? Explain by giving examples and/or evidence.
 - Family & Peers
 - School
 - Society & Culture
 - Social media

2. Do you agree with the following statement? Why? Why not?

Being a teenager is great and horrible at the same time, it is a double-edged sword.

3. What is the best advice you could give to a teenager growing up in this culture? Why? Explain.

APPENDIX L: ORAL ASSESSMENT 2 TASKS

ORAL ASSESSMENT 2

Task 1 - TOPIC: SUCCESS

- You have 5 minutes to read the questions and think about them before the discussion starts.
 - Use the points below to help you. You do not have to discuss all of the points. You can use any other relevant points to develop your discussion.
 - You will have 9 minutes to talk about the topic.
1. What qualities are essential for achieving success? Explain by giving examples and/or evidence. You may use the following:
 - determination and hard work
 - support from family and friends
 - intelligence
 - creativity
 2. Do you agree with the following idea? Why / Why not?

Success is a journey not a destination.

3. Have you ever achieved something that made you feel really proud? What was it, and how did you accomplish it?

ORAL ASSESSMENT 2

Task 2 - TOPIC: STRESS

- You have 5 minutes to read the questions and think about them before the discussion starts.
- Use the points below to help you. You do not have to discuss all of the points. You can use any other relevant points to develop your discussion.
- You will have 9 minutes to talk about the topic.

1. How do various factors influence an individual's experience of stress? Explain by giving examples and/or evidence. You might consider the following ideas:

- Work / Responsibilities
- Major life changes (changing job, moving to a new country)
- Social media
- Unhealthy lifestyle

2. Do you agree with the following idea? Why / Why not?

Stress isn't always a bad thing.

3. What strategies can you think of to manage stress in your daily life? Explain.

ORAL ASSESSMENT 2

Task 3 - TOPIC: EDUCATION

- You have 5 minutes to read the questions and think about them before the discussion starts.
- Use the points below to help you. You do not have to discuss all of the points. You can use any other relevant points to develop your discussion.
- You will have 9 minutes to talk about the topic.

1. What are the underlying causes of the problems in the education system? Explain by giving examples and/or evidence.

- Classrooms size
- Technology
- Quality of teachers
- Exams

2. Do you agree with the following statement? Why? Why not?

It is possible for individuals to be wealthy and successful without formal education.

3. Describe one of your interesting experiences related to

APPENDIX M: ROUTE 2 ORAL ASSESSMENT CRITERIA

ROUTE 2 ORAL ASSESSMENT CRITERIA

NAME: _____

SECTION: _____

	4	3	2	1	0
IDEA DEVELOPMENT	☐ Puts forward a variety of relevant ideas consistently , and appropriately develops them.	☐ Puts forward relevant ideas consistently and is often able to develop them.	☐ Puts forward some relevant ideas. Sometimes fails to develop them when necessary.	☐ Few or no relevant ideas put forward. Little attempt to develop ideas.	Unable to communicate or take part in the tasks, or is absent.
INTERACTION	☐ Initiates and maintains interaction by using a variety of appropriate communicative strategies.	☐ Uses an adequate range of appropriate communicative strategies with rare inappropriacies	☐ Uses some communicative strategies, which may include some inappropriacy.	☐ Limited and/or inappropriate use of communicative strategies. Little interaction is achieved.	
FLUENCY & COHERENCE	☐ Takes some longer turns, but fluency is achieved more in shorter turns. Any hesitation has little effect on coherence. Uses a variety of discourse markers with rare inappropriacies and/or inaccuracies.	☐ May attempt longer turns, but takes shorter turns which are complete . Hesitation and/or repetition may sometimes affect coherence. Uses an adequate range of discourse markers with occasional inappropriacies and/or inaccuracies.	☐ Takes short turns, which are sometimes incomplete . Hesitation and /or repetition affects coherence. Limited use and/or overuse of certain discourse markers with some inappropriacies and/or inaccuracies.	☐ Often produces short chunks and/or isolated words . Frequent breakdowns in coherence. Little attempt to link ideas.	
USE OF LANGUAGE	☐ Uses some complex and a variety of simple structures & a variety of vocabulary. Errors rarely impede communication.	☐ Attempts to use some complex structures but uses an adequate range of simple structures & vocabulary. Errors are few and sometimes obscure meaning.	☐ Limited range of structures & vocabulary. Errors are frequent and/or systematic and may obscure meaning.	☐ Little communication is achieved. Errors are frequent and often result in communication breakdown. *There isn't enough contribution to evaluate the overall linguistic competence.	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
6%	13%	19%	25%	31%	38%	44%	50%	56%	63%	69%	75%	81%	88%	94%	100%

Total: ____ /16
____ / %

R2- DETAILED EXPLANATIONS FOR OA DESCRIPTORS

IDEA DEVELOPMENT

- The students in Route 2 are expected to put forward topic related arguments consistently to be placed in Band 3 in this area. ‘**Consistently**’ means the speaker contributes with relevant ideas **throughout the whole discussion** (in contrast to e.g. speaking a lot only at the end). An idea is **fully** developed (band 4) when main idea/argument is clearly stated and when it’s supported with at least one authentic explanation and/or an example. The students may/may not use the information in the course book to support their arguments. Their contribution to each other’s ideas carries equal weight in their overall performance.
- *When/If students agree/disagree using appropriate language they are credited for this in the “interaction” area, however, when they provide any appropriate example/explanation/clarification for their discussion or partners’ ideas/arguments, this is also granted a grade in “idea development”

INTERACTION

- This area aims to test students’ communicative strategies, i.e. their abilities **to start a conversation (even asking the questions on their task sheet), take turns, give opinions, agree/disagree, interrupt, deal with interruption; ask/answer questions, make/respond to suggestions**. At Route 2 level, students are expected to use **at least 3 of these strategies effectively using appropriate language** to be awarded “4” in this area. Students can score a 3 if they use **3 or more strategies** but are using **some inaccurately**. Inaccuracy in such language e.g. “I am agree” should be tolerated here as long as the strategy works fine in the dialogue and as long as it doesn’t affect comprehension. Grammatical mistakes will be taken into consideration in “Fluency and Coherence” and “Use of Language” areas.

FLUENCY&COHERENCE

- A **long turn** is any utterance that is made up of **a view/argument/suggestion that is fully developed with a further detailed explanation/clarification and/or example**. Here, it sounds like idea development and in fact they are interrelated. However, what is more important here is whether we have the **evidence of students’ long speech samples** that would help us analyze their fluency and coherence. In band 4, students are expected to take **at least 3 long turns** as described above. **In shorter turns** that they may take, they might provide **less detailed explanations/clarification and/or examples; ask an authentic question; add to others’ views short comments or some further explanations; make suggestions, or simply agree/disagree with others**.
- Hesitation results from **repetition, pausing to search for words, language structures, ideas, or information**. **Do not penalize students for stopping to think of content/ideas**.
- At this level **some discourse markers should be used accurately and appropriately to add a point; to state differences /similarities; to express causes and effects; to emphasize a point; to exemplify a point**. To score a 4, students need to use **at least 3 different discourse markers accurately**. The **accuracy and appropriacy of such language is important** in this area and **mistakes related to discourse markers are penalized if they are repetitive and if they affect fluency clearly**.

USE OF LANGUAGE

- There are two descriptors in this area: one for the **range and accuracy of vocabulary**; the other for the **range and accuracy of grammar**. At this level the term “simple and complex structures” refer to some commonly used spoken structures such as below:
Simple/Basic sentence structure: subject+verb+ (object) in different verb tenses (active or passive), positive, negative and question forms; comparative and superlative adjectives, etc.
Complex/compound structures: Two simple sentences can be combined with the use of linkers and, *but, so, for, because*. Other complex structures: when/while/if/ clauses; gerund and infinitive; verb+that+ certain verbs e.g. I agree that...
- To be awarded “4” according to this criteria, students need to use **at least 3 different complex/compound structures and be fairly accurate in both their production of complex and simple structures**. They will be making **more errors in the complex structures than with their simple structures** and will be **comprehensible** at all times. If speakers are **making many basic mistakes** (subject verb agreement / tense mistakes), they can **score 2**. Fossilized errors refer to the errors like the use of Present tense instead of Past when the students talk about a past event.
- Regarding the range of vocabulary, in band **4**, students should be using a **variety of both general and topic related vocabulary mostly effectively**. **Wrong vocabulary rarely obscures meaning**.

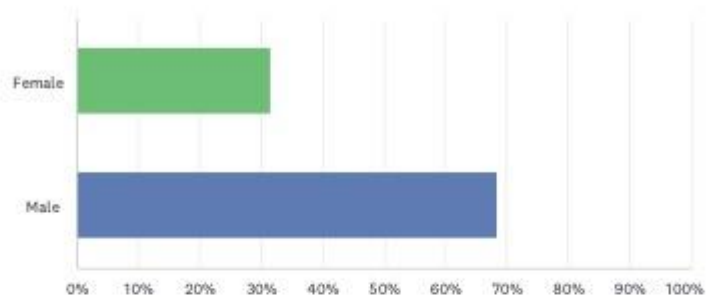
APPENDIX N: SURVEY RESULTS

SURVEY ON SPEAKING SKILLS

SurveyMonkey

S1 Gender:

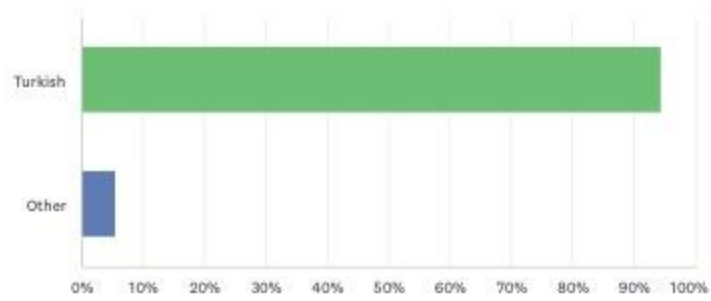
Yanıtlanan: 73 Atlanan: 0



YANIT SEÇENEKLERİ	YANITLAR	
Female	31.51%	23
Male	68.49%	50
Toplam Yanıtlayan: 73		

S2 Nationality:

Yanıtlanan: 73 Atlanan: 0



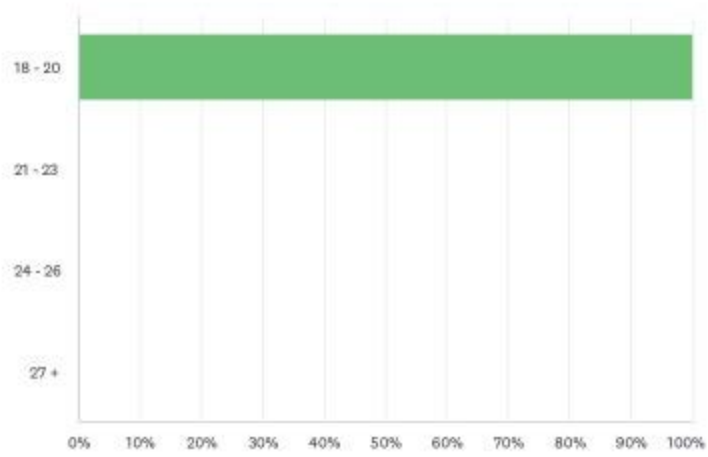
YANIT SEÇENEKLERİ	YANITLAR	
Turkish	94.52%	69
Other	5.48%	4
TOPLAM		73

SURVEY ON SPEAKING SKILLS

SurveyMonkey

S3 Age:

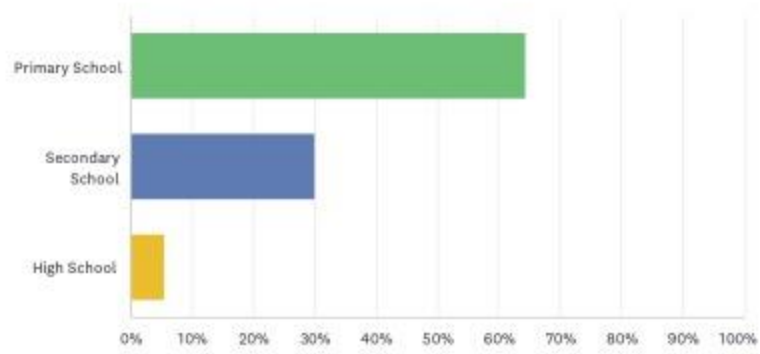
Yanıtlanan: 73 Atlanan: 0



YANIT SEÇENEKLERİ	YANITLAR	
18 - 20	100.00%	73
21 - 23	0.00%	0
24 - 26	0.00%	0
27 +	0.00%	0
TOPLAM		73

S4 When did you start learning English?

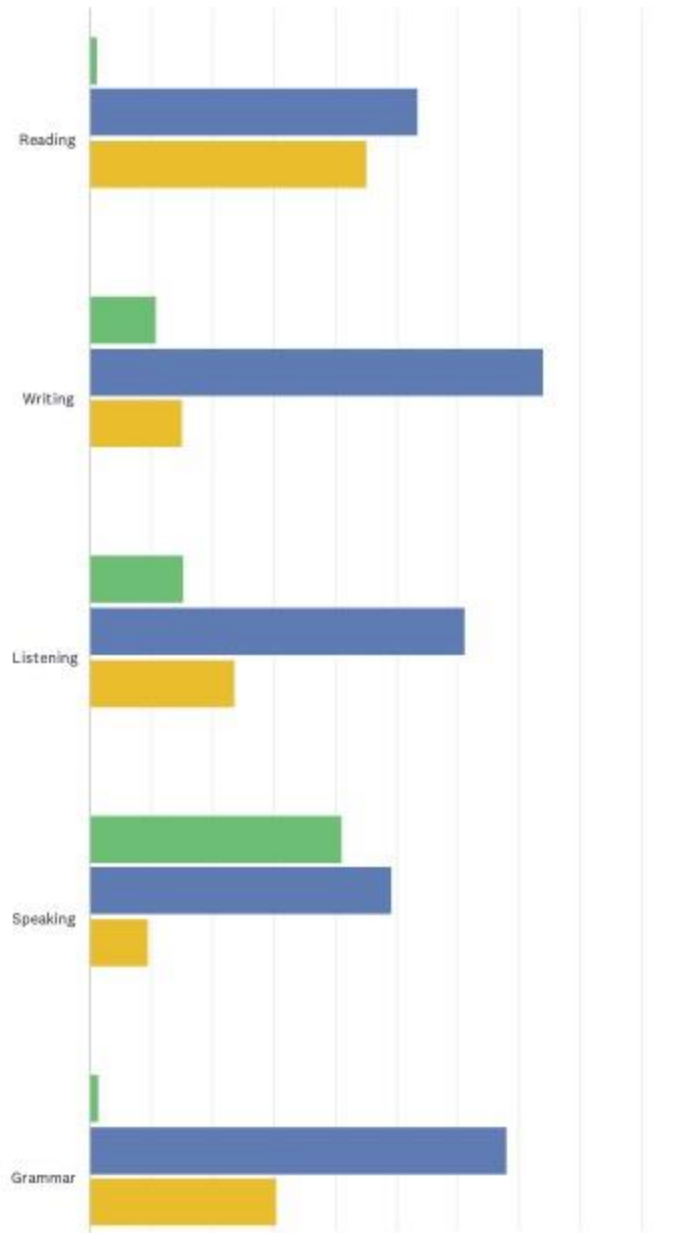
Yanıtlanan: 73 Atlanan: 0



YANIT SEÇENEKLERİ	YANITLAR	
Primary School	64.38%	47
Secondary School	30.14%	22
High School	5.48%	4
TOPLAM		73

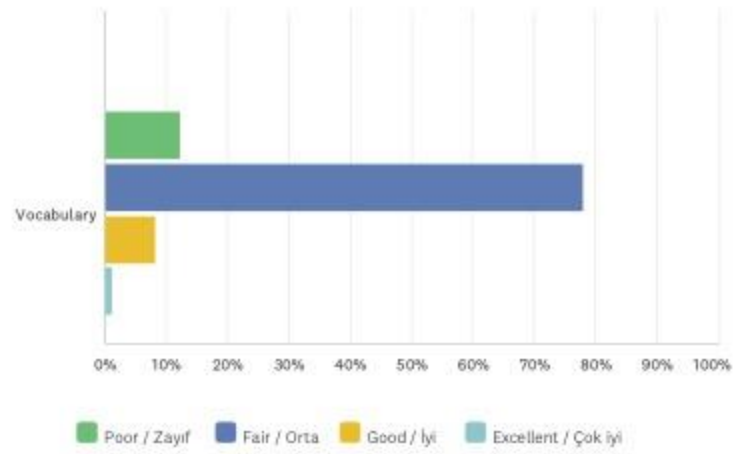
S5 Indicate your current proficiency level for each skill. / Her beceri için şu andaki yeterlik seviyenizi belirtiniz.

Yanıtlanan: 73 Atlanan: 0



SURVEY ON SPEAKING SKILLS

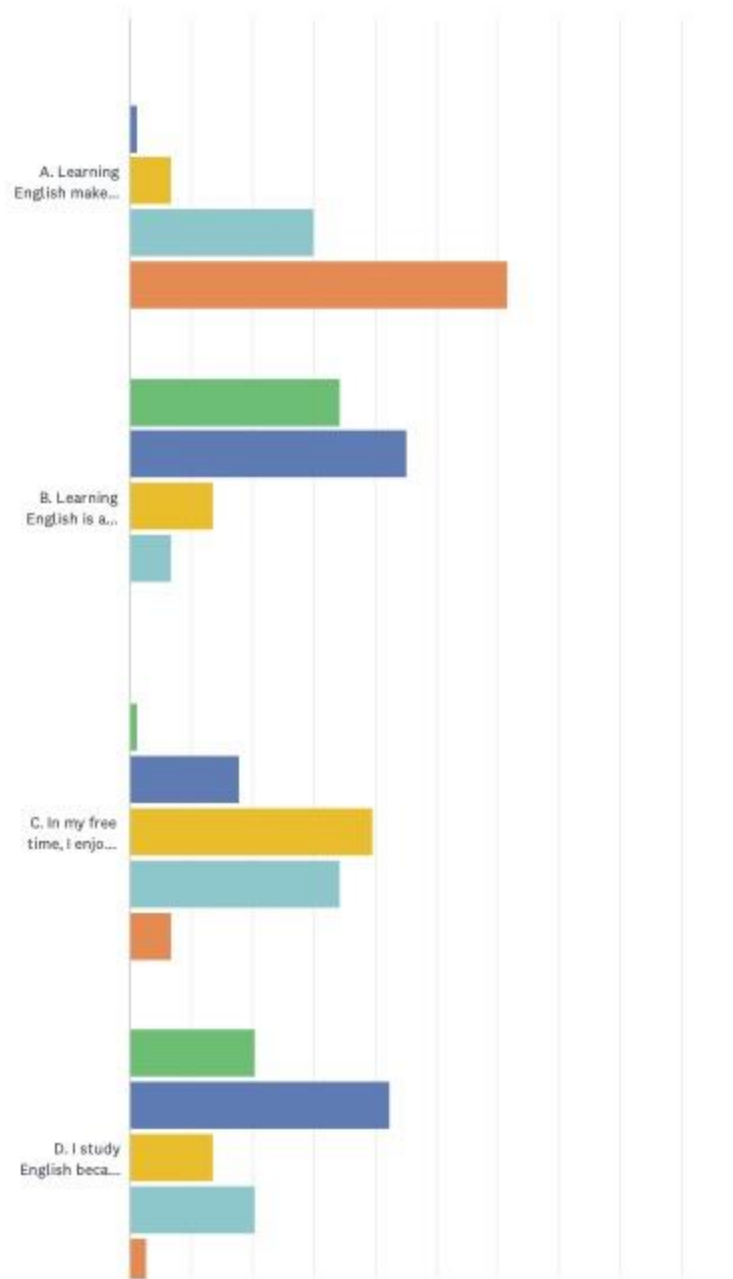
SurveyMonkey



	POOR / ZAYIF	FAIR / ORTA	GOOD / İYİ	EXCELLENT / ÇOK İYİ	TOPLAM	AĞIRLIKLİ ORTALAMA
Reading	1.37% 1	53.42% 39	45.21% 33	0.00% 0	73	2.44
Writing	10.96% 8	73.97% 54	15.07% 11	0.00% 0	73	2.04
Listening	15.28% 11	61.11% 44	23.61% 17	0.00% 0	72	2.08
Speaking	41.10% 30	49.32% 36	9.59% 7	0.00% 0	73	1.68
Grammar	1.39% 1	68.06% 49	30.56% 22	0.00% 0	72	2.29
Vocabulary	12.33% 9	78.08% 57	8.22% 6	1.37% 1	73	1.99

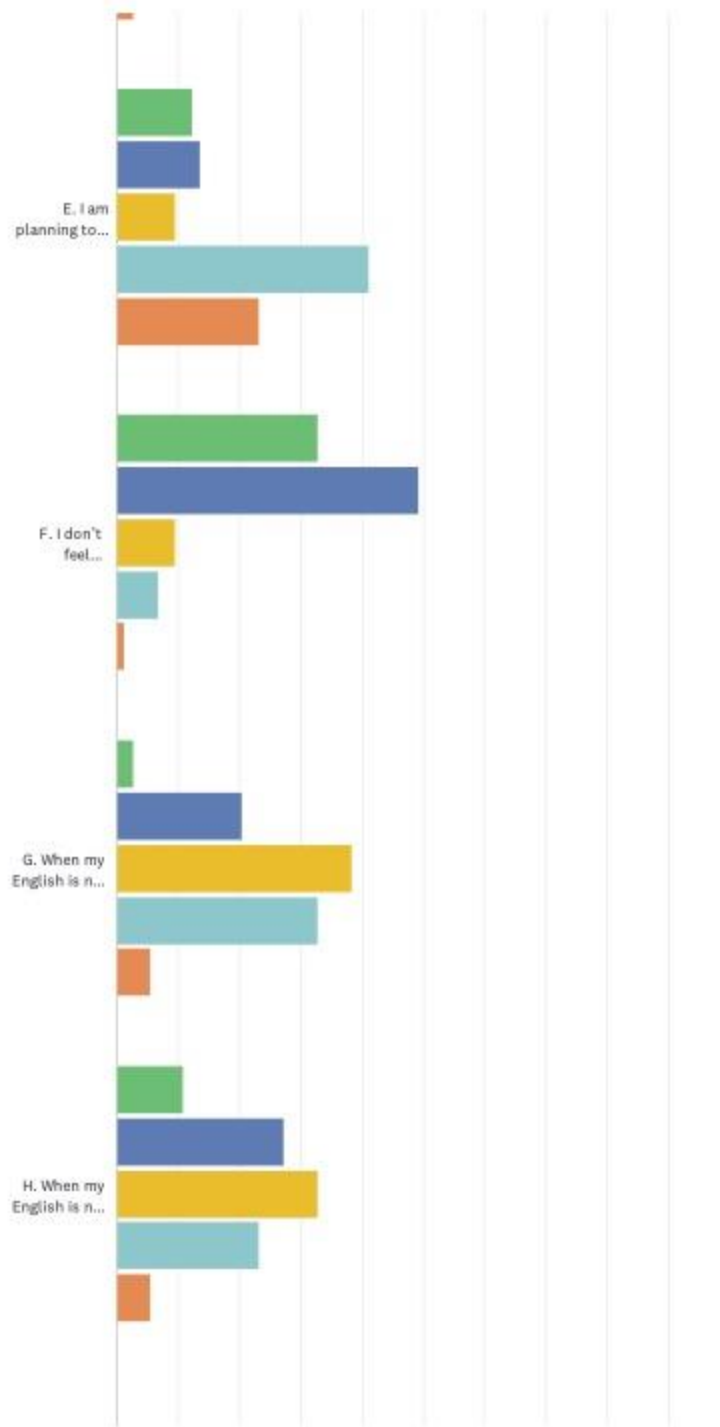
S7 Please indicate your answers./ Lütfen cevabınızı seçiniz.

Yanıtlanan: 73 Atlanan: 0



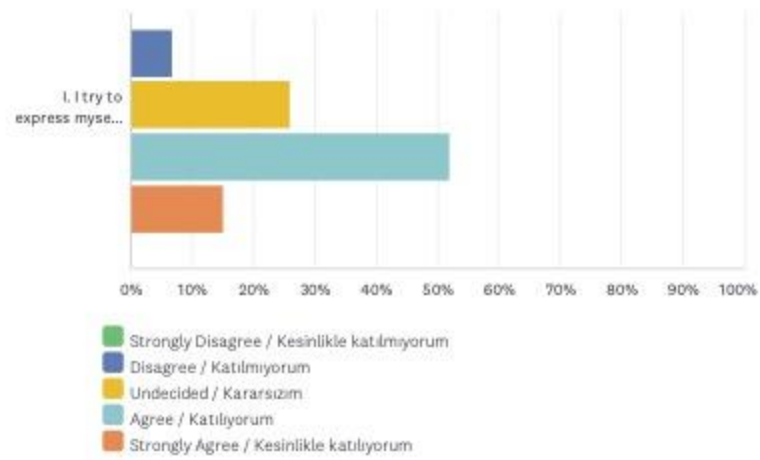
SURVEY ON SPEAKING SKILLS

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SURVEY ON SPEAKING SKILLS

SurveyMonkey



SURVEY ON SPEAKING SKILLS

SurveyMonkey

	STRONGLY DISAGREE / KESİNLİKLE KATILMIYORUM	DISAGREE / KATILMIYORUM	UNDECIDED / KARARSIZIM	AGREE / KATILYORUM	STRONGLY AGREE / KESİNLİKLE KATILYORUM	TOPLAM	AĞIRLIKLİ ORTALAMA
A. Learning English makes me happy. / İngilizce öğrenmek beni mutlu eder.	0.00% 0	1.37% 1	6.85% 5	30.14% 22	61.64% 45	73	4.52
B. Learning English is a burden for me. / İngilizce öğrenmek benim için bir yükür.	34.25% 25	45.21% 33	13.70% 10	6.85% 5	0.00% 0	73	1.93
C. In my free time, I enjoy studying English. / Boş zamanımda İngilizce çalışmayı severim.	1.37% 1	17.81% 13	39.73% 29	34.25% 25	6.85% 5	73	3.27
D. I study English because I have to. / Zorunda olduğum için İngilizce çalışırım.	20.55% 15	42.47% 31	13.70% 10	20.55% 15	2.74% 2	73	2.42
E. I am planning to study English before the exams. / Sınavlardan önce İngilizce çalışmayı planlıyorum.	12.33% 9	13.70% 10	9.59% 7	41.10% 30	23.29% 17	73	3.49
F. I don't feel comfortable in English lessons. / İngilizce derslerinde rahat hissetmiyorum.	32.88% 24	49.32% 36	9.59% 7	6.85% 5	1.37% 1	73	1.95
G. When my English is not enough to express what I want to say in class, I use Turkish. / Derslerde söylemek istediğim şeyi anlatmak için İngilizcem yeterli	2.74% 2	20.55% 15	38.36% 28	32.88% 24	5.48% 4	73	3.18

SURVEY ON SPEAKING SKILLS

SurveyMonkey

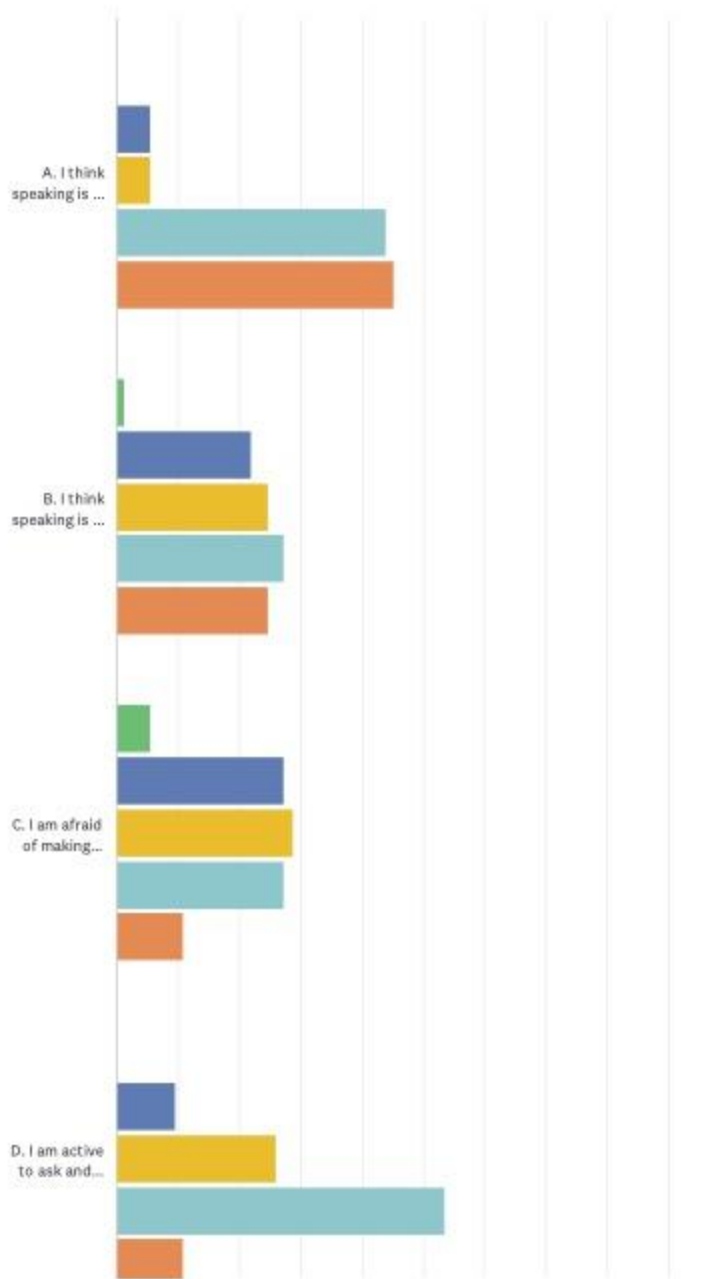
olmadığında
Türkçe
kullanırım.

H. When my English is not enough to express what I want to say in class, I prefer to be silent. / Söylemek istediğim şeyi anlatmak için İngilizcem yeterli olmadığıda sessiz kalmayı tercih ederim.	10.96% 8	27.40% 20	32.88% 24	23.29% 17	5.48% 4	73	2.85
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I. I try to express myself although my English is not enough to express what I want to say. / Söylemek istediğim şeyi anlatmak için İngilizcem yetersiz olsa bile kendimi anlatmak için çaba gösteririm.	0.00% 0	6.85% 5	26.03% 19	52.05% 38	15.07% 11	73	3.75
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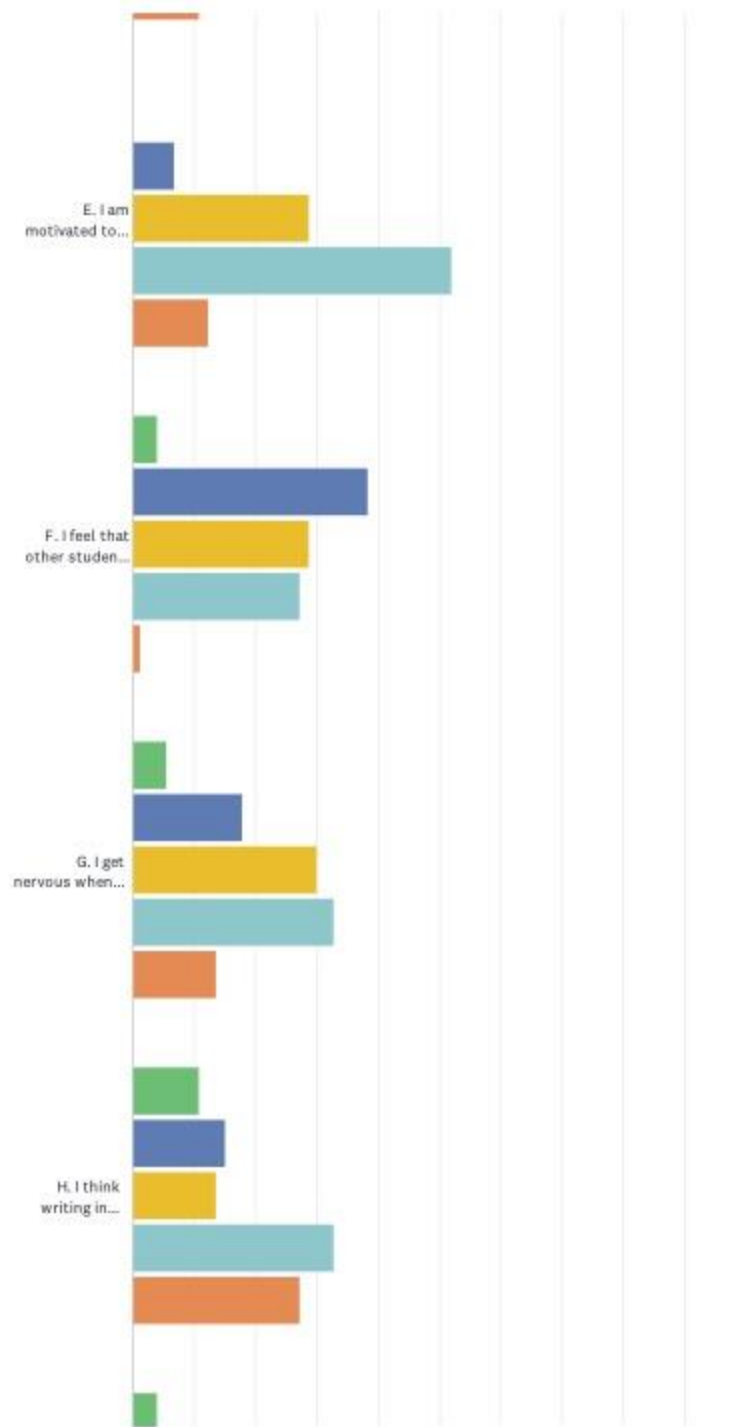
S8 Please indicate your answers. Lütfen cevabınızı belirtiniz.

Yanıtlanan: 73 Atlanan: 0



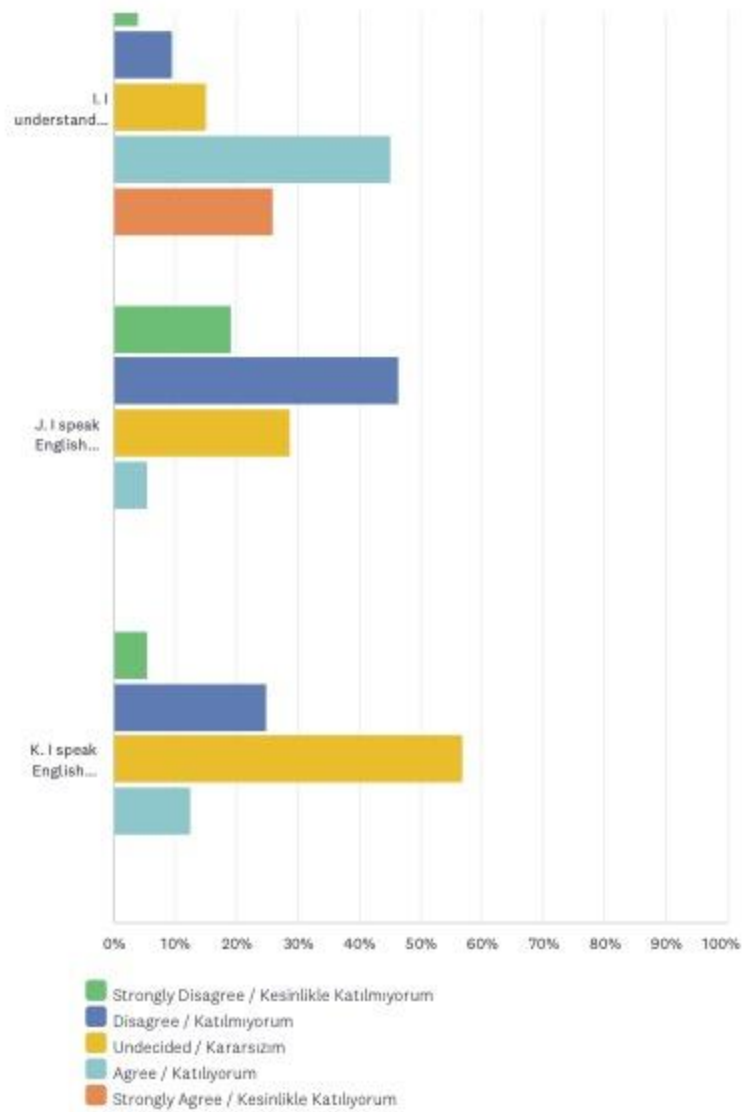
SURVEY ON SPEAKING SKILLS

SurveyMonkey



SURVEY ON SPEAKING SKILLS

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SURVEY ON SPEAKING SKILLS

SurveyMonkey

	STRONGLY DISAGREE / KESİNLİKLE KATILMIYORUM	DISAGREE / KATILMIYORUM	UNDECIDED / KARARSIZIM	AGREE / KATILIYORUM	STRONGLY AGREE / KESİNLİKLE KATILIYORUM	TOPLAM	AĞIRLIKLİ ORTALAM.
A. I think speaking is the most important skill. / Konuşma en önemli beceridir.	0.00% 0	5.48% 4	5.48% 4	43.84% 32	45.21% 33	73	4.2
B. I think speaking is the most difficult skill to acquire. / Konuşma kazanılması en zor beceridir.	1.37% 1	21.92% 16	24.66% 18	27.40% 20	24.66% 18	73	3.5
C. I am afraid of making mistakes when I speak in English. / İngilizce konuşurken hata yapmaktan korkuyorum.	5.48% 4	27.40% 20	28.77% 21	27.40% 20	10.96% 8	73	3.1
D. I am active to ask and answer my teachers and classmates' questions. / Aktif olarak öğretmenlerime ve sınıf arkadaşlarıma soru sorar ve onların sorularını cevaplarım.	0.00% 0	9.59% 7	26.03% 19	53.42% 39	10.96% 8	73	3.6
E. I am motivated to speak in English in class. / Sınıfta İngilizce konuşmak için motivasyonum vardır.	0.00% 0	6.85% 5	28.77% 21	52.05% 38	12.33% 9	73	3.7
F. I feel that other students in class speak English better than I do. / Sınıftaki diğer öğrencilerin benden daha iyi İngilizce konuştuğunu düşünürüm.	4.11% 3	38.36% 28	28.77% 21	27.40% 20	1.37% 1	73	2.8
G. I get nervous when the teacher asks questions which I haven't	5.48% 4	17.81% 13	30.14% 22	32.88% 24	13.70% 10	73	3.3

SURVEY ON SPEAKING SKILLS

SurveyMonkey

prepared in
advance. /
Cevabına daha
önceden
hazırlanmadığım
soruları
cevaplarken
heyecanlanırım.

H. I think writing in English is easier than speaking in English. / İngilizce yazı yazmak İngilizce konuşmaya göre daha kolaydır.	10.96% 8	15.07% 11	13.70% 10	32.88% 24	27.40% 20	73	3.5
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I. I understand English but I can't speak it well. / İngilizce konuşmaları anlarım ama ben iyi konuşamıyorum.	4.11% 3	9.59% 7	15.07% 11	45.21% 33	26.03% 19	73	3.7
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J. I speak English fluently. / Akıcı bir şekilde İngilizce konuşurum.	19.18% 14	46.58% 34	28.77% 21	5.48% 4	0.00% 0	73	2.2
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K. I speak English accurately. / Doğru bir şekilde İngilizce konuşurum.	5.56% 4	25.00% 18	56.94% 41	12.50% 9	0.00% 0	72	2.7
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SURVEY ON SPEAKING SKILLS

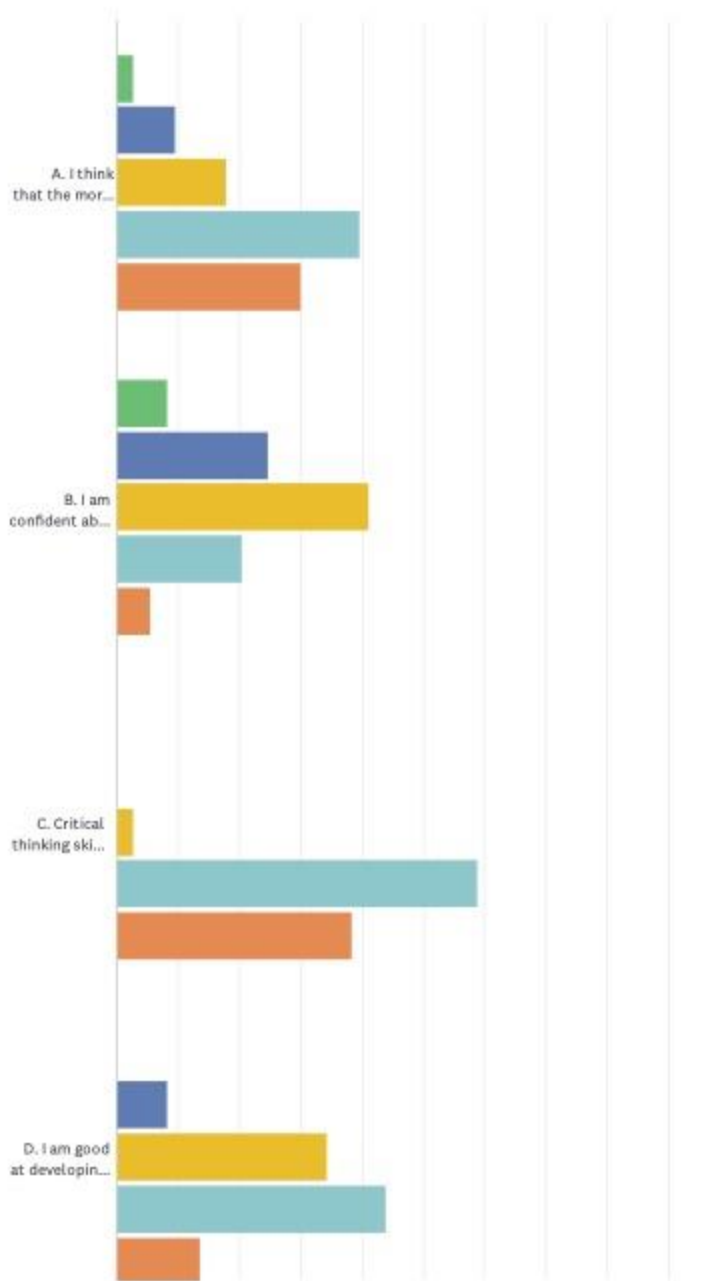
SurveyMonkey

S9 Please answer the question below. / Lütfen aşağıdaki soruyu cevaplayınız. If speaking in English is a kind of food, what would it be? Why? / İngilizce konuşma bir yiyecek olsaydı, sizce ne olurdu? Tadı neye benzerdi? Neden?

Yanıtlanan: 73 Atlanan: 0

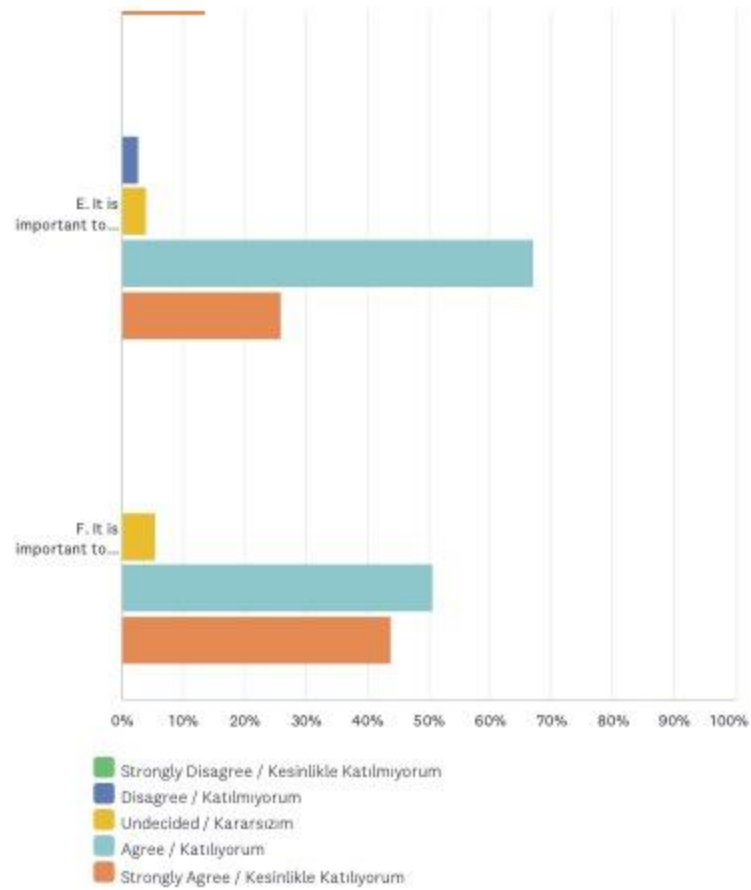
S10 Please indicate your answers. / Lütfen cevabınızı belirtiniz.

Yanıtlanan: 73 Atlanan: 0



SURVEY ON SPEAKING SKILLS

SurveyMonkey



SURVEY ON SPEAKING SKILLS

SurveyMonkey

	STRONGLY DISAGREE / KESİNLİKLE KATILMIYORUM	DISAGREE / KATILMIYORUM	UNDECIDED / KARARSIZIM	AGREE / KATILYORUM	STRONGLY AGREE / KESİNLİKLE KATILYORUM	TOPLAM	AĞIRLIKLİ ORTALAM.
A. I think that the more grammar and vocabulary I know, the better I speak. / Ne kadar çok İngilizce dilbilgisi ve kelime bilirsem o kadar iyi İngilizce konuşurum diye düşünüyorum.	2.74% 2	9.59% 7	17.81% 13	39.73% 29	30.14% 22	73	3.8
B. I am confident about talking about global issues such as human rights, democracy, refugees, hunger and etc. / İnsan hakları, demokrasi, mülteciler, açlık gibi dünya sorunları hakkında kendime güvenerek konuşurum.	8.22% 6	24.66% 18	41.10% 30	20.55% 15	5.48% 4	73	2.9
C. Critical thinking skill is necessary to develop ideas while speaking. / Konuşurken fikirlerimizi geliştirebilmemiz için eleştirel düşünme becerisi önemlidir.	0.00% 0	0.00% 0	2.74% 2	58.90% 43	38.36% 28	73	4.3
D. I am good at developing my ideas when I speak. / Konuşurken fikirlerimi geliştirmekte iyiyimdir.	0.00% 0	8.22% 6	34.25% 25	43.84% 32	13.70% 10	73	3.6
E. It is important to study and practice intelligible pronunciation and intonation in class. Derlerde telafuz ve tonlama	0.00% 0	2.74% 2	4.11% 3	67.12% 49	26.03% 19	73	4.1

SURVEY ON SPEAKING SKILLS

SurveyMonkey

çalışıp pratik
yapmak
önemlidir.

F. It is important to study and practice patterns of real interaction such as initiate, respond, follow-up, etc. Derslerde konuşmaya başlama, cevap verme, konuşmayı devam ettirme gibi gerçek etkileşim kalıplarını düzenli olarak çalışmak ve pratik yapmak önemlidir.	0.00%	0.00%	5.48%	50.68%	43.84%	73	4.3
	0	0	4	37	32		

APPENDIX O – CONSENT FORM

Sabancı University

Consent to Participate in a Research Study

Study Title: The Effect of Technology-Enhanced Problem-Centered Curriculum on Language Learner's Oral Communication Skills in Higher Education

Principle Investigator: Gökem Satak

The Purpose of This Study:

This research project aims to understand whether and to what extent technology-enhanced problem-centered curriculum affects language learners' oracy skills.

Description of the Study and Participant's Role:

- This study aims to improve your English-speaking skills.
- This study will take the form of a one-day class, lasting from 13:30 pm to 16:30 pm with two 10-minute breaks. The program will last for 10 weeks. It will be four hours a week. The class will include a maximum 18 students.
- Throughout the course, you will study, learn and talk about the global issues such as food, water, climate change, poverty, migration, democracy which have been addressed by the United Nations.
- Teamwork is an important aspect of this course. There will be tasks that you need to work on with your classmates. You will work in pairs and/or groups.
- You will be given various kinds of assignments such as reading texts, listening materials and speaking tasks regularly.
- Completion of the given assignments is very important for your success. Therefore, you will be expected to complete the assignments and come to class prepared.
- Throughout the course, you will be asked to complete surveys on a regular basis. In the surveys, there will be questions about your learning experiences and the effectiveness of the speaking course as well as some tasks that have been done in/outside class.
- There will be one oral assessment (OA) at the beginning and one OA at the end of the program to see your progress and to evaluate the effectiveness of this speaking course. In the OAs, you will be asked to participate in a group discussion. Your performance will be graded based on Route 2 OA criteria. However, please note that the grades that you will get in these exams will not be included in your overall course grade at the end of the semester.

- All the performances will be recorded only to analyze your idea development, fluency, coherence and cohesion, and use of English. The recordings will be kept strictly confidential and will never be shared with any other individual or organization.
- Your voluntary participation is crucial in order to pursue this study.
- Your participation will remain completely anonymous.
- The data collected will be analyzed by the researcher mentioned below and only for research purposes related to the effect of technology-enhanced problem-based curriculum on language learners' oral communication skills.

If you have any questions or concerns about the research, surveys, and interviews, please contact Gökem Satak.

If you believe that your rights have been violated in any way, please get in touch with Prof. Mehmet Yıldız, Chair of the Research Ethics Committee at Sabancı University.

By signing this consent form, you are indicating your consent to participate in this study.

Signature of the study participant

Date

Committee Members:

1. Prof. Dr. Gonca Kızılkaya Cumaoglu - Chairperson
2. Prof. Dr. Yelkin Diker Coşkun - Member
3. Assoc. Prof. Dr. Bengisu Koyuncu - Member
4. Assist. Prof. Dr. Öykü Dulun - Member
5. Assoc. Prof. Dr. Nur Akkuş Çakır - Member