



YEDITEPE UNIVERSITY
Institutes of Educational Sciences
Curriculum and Instruction Department

**The Effect of the Differentiated Thinking Skills Curriculum on
Fifth Grade Students' Cultural Quotient and Critical Thinking Skills**

By

Esra MUTLU

Doctoral Thesis

Advisor: Prof. Dr. Yelkin Diker Coşkun

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LIST OF ABBREVIATIONS

CEFR	: Common European Framework of Reference for Languages: Learning, Teaching And Assessment
CIS	: The Council of International Schools
CTSS	: Critical Thinking Skills Scale
CQ	: Cultural Quotient
CQS	: Cultural Quotient Scale
DI	: Differentiated Instruction
EQ	: Emotional Quotient
IAL	: Imagination, Activity and Life Lesson
IB	: International Baccalaureate
IQ	: Intelligence Quotient
MoNE	: Ministry of National Education
OECD	: Organization for Economic Co-operation and Development
PISA	: Programme for International Student Assessment
PYP	: Primary Years Program
ToK	: Theory of Knowledge
TSC	: Thinking Skills Curriculum
TQP	: Turkish Qualifications Framework

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I would like to add my heartfelt wishes that this work can contribute to the establishment of a democratic learning environment and the promotion of high-quality skill teaching. May the findings and insights gained from this study serve as a catalyst for educational practices that prioritize inclusivity, active participation, critical thinking and the development of essential skills among students. It is my hope that this research will inspire educators, policymakers and stakeholders to strive for educational systems that empower learners, foster creativity and prepare individuals for the challenges of the future.

SUMMARY

The Effect of the Differentiated Thinking Skills Curriculum on Fifth Grade Students' Cultural Quotient and Critical Thinking Skills

Mutlu, Esra

Advisor: Prof. Dr. Yelkin Diker Coşkun

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This doctoral thesis examines the impact of the Differentiated Thinking Skills Curriculum on fifth-grade students' cultural quotient and critical thinking skills. The study aims to contribute to the field of education by providing insights into effective instructional approaches that promote cross-cultural competence in line with the demands of contemporary society. The research findings have the potential to inform educational practices, empower educators with evidence-based strategies and enhance students' intellectual growth and ability to engage with cultural diversity. The thesis explores the elements related to cultural quotient and critical thinking skills in the curriculum, highlighting the need for explicit inclusion of these elements beyond the narrow confines of standards. The study employs mixed methods, including experimental research, content analysis and survey studies, to evaluate the curriculum's effectiveness. The results demonstrate a significant increase in critical thinking and cultural quotient scores among students in the experimental group, highlighting the efficacy of the curriculum in promoting these skills (CQ; $t(47)=3.46$, $p<.01$) (CTS; $t(47)=21.36$, $p<.01$). The opinions of teachers and students further support the positive impact of the curriculum on teaching and learning. The thesis concludes by suggesting future directions, such as the development of assessment tools, comprehensive evaluation methods, and the integration of critical thinking and cultural quotient instruction across educational levels.

Keywords: Critical thinking skills, cultural quotient, differentiated instruction, thinking skills, curriculum development.

ÖZET

Farklılaştırılmış Düşünme Becerileri Öğretim Programının Beşinci Sınıf Öğrencilerinin Kültürel Zeka ve Eleştirel Düşünme Becerilerine Etkisi

Mutlu, Esra

Danışman: Prof. Dr. Yelkin Diker Coşkun

Haziran 2023, 325 s.

Bu doktora tezi, farklılaştırılmış düşünme becerileri öğretim programının beşinci sınıf öğrencilerinin kültürel zeka ve eleştirel düşünme becerilerine etkisini incelemektedir. Çalışma, çağdaş toplumun talepleri doğrultusunda kültürlerarası yeterliliği teşvik eden etkili öğretim yaklaşımlarına ilişkin içgörüler sunarak eğitim alanına katkıda bulunmayı amaçlamaktadır. Araştırma bulguları, eğitim uygulamalarını bilimsel kanıtlarla destekleyen stratejilerle öğretmenlerin süreçlerini zenginleştirerek öğrencilerin zihinsel gelişimini ve kültürel çeşitlilikle etkileşime girebilme yeteneklerini geliştirmeyi hedeflemektedir. Tez, öğretim programda kültürel zeka ve eleştirel düşünme becerileri ile ilgili unsurları incelemekte ve bu unsurların standartların dar sınırlarının ötesinde açık bir şekilde dahil edilmesi gerekliliğine dikkat çekmektedir. Çalışma, deneysel araştırma, içerik analizi ve anket çalışmaları da dahil olmak üzere karma yöntemler kullanarak tasarlanan farklılaştırılmış öğretim programının etkinliğini değerlendirmektedir. Sonuçlar, deney grubundaki öğrenciler arasında eleştirel düşünme ve kültürel zeka puanlarında önemli bir artış olduğunu göstererek (KZ; $t(47)=3.46$, $p<.01$) (EDB; $t(47)=21.36$, $p<.01$) öğretim programının bu becerileri teşvik etmedeki etkililiğini vurgulamaktadır. Deneye katılan öğretmenler ve öğrencilerin görüşleri, müfredatın öğretim ve öğrenme üzerindeki olumlu etkisini desteklemektedir. Tez, ileriye dönük yönelimler olarak, değerlendirme araçlarının geliştirilmesi, kapsamlı değerlendirme yöntemlerinin kullanılması ve eleştirel düşünme ile kültürel zeka öğretiminin eğitimin farklı basamakları arasında entegrasyonunu önermektedir.

Anahtar Sözcükler: Eleştirel düşünme becerisi, kültürel zeka, farklılaştırılmış öğretim, düşünme becerileri, program geliştirme.

CHAPTER I

INTRODUCTION

Statement of the Problem

In the contemporary world, characterized by rapid change and increasing interconnectivity, the significance of cultivating students' critical thinking skills and cultural intelligence has become paramount. As educators strive to prepare students for a future that demands adaptability, creativity, and global awareness, there arises a pressing need for innovative educational interventions that foster these skills. Of particular importance is the fifth-grade stage, which represents a pivotal period in students' academic journey, as it is a formative phase where fundamental cognitive abilities are refined and cultural perspectives are shaped. Hence, it becomes imperative to explore effective strategies that promote the growth of critical thinking skills and cultural quotient (CQ) among fifth-grade students.

The primary aim of this doctoral thesis is to investigate the impact of the Differentiated Thinking Skills Curriculum on the cultural quotient and critical thinking skills of fifth-grade students. The Differentiated Thinking Skills Curriculum, an emerging instructional approach, underscores the significance of personalized learning experiences tailored to the diverse learning needs, interests and cultural backgrounds of students. By leveraging this curriculum, educators seek to enhance students' capacity for critical thinking and their ability to navigate diverse cultural contexts, thereby equipping them with the essential skills required to thrive in an increasingly globalized society.

This research seeks to examine the effect of the Differentiated Thinking Skills Curriculum on students' cultural quotient, also known as cultural intelligence, which pertains to an individual's capacity to function effectively and adaptively in multicultural environments. Cultural quotient encompasses various dimensions, including cultural knowledge, cultural awareness and intercultural skills. By integrating cultural intelligence development into the curriculum, educators aim to foster students'

understanding of different cultures, promote empathy and facilitate effective communication across cultural boundaries.

Moreover, this study aims to assess the impact of the Differentiated Thinking Skills Curriculum on students' critical thinking skills. Critical thinking, a crucial component of higher-order cognitive abilities, involves the analysis, evaluation and synthesis of the information to form reasoned judgements and make informed decisions. Through the implementation of instructional strategies that encourage critical thinking, educators aspire to cultivate students' ability to question assumptions, evaluate evidence and engage in independent and reflective thinking.

To comprehensively examine the impact of the Differentiated Thinking Skills Curriculum on fifth-grade students' cultural quotient and critical thinking skills, a research design encompassing pre- and post-intervention assessments, observations and surveys will be employed. The findings of this study will contribute valuable insights to the field of education, informing instructional practices and curriculum development aimed at enhancing students' intellectual growth and cross-cultural competence. Ultimately, this research endeavors to empower educators with evidence-based strategies that can better equip students with the skills needed to thrive in a complex and interconnected world.

Furthermore, the growing significance of cultural quotient stems from its recognition as a fundamental skill for effectively managing disagreements and conflicts arising from cultural differences. Cultural quotient, also referred to as CQ, denotes an individual's ability to function and adapt proficiently in culturally diverse environments. It necessitates the development of cognitive, affective, behavioral and motivational foundations, as managing and adapting to cultural differences are not arbitrary capabilities. Individuals often face challenges in navigating cultural differences, making it strategically important for cultural quotient to be acquired through education rather than relying solely on incidental experiences. The prominence of cultural differences in social and individual interactions has amplified the relevance of cultural quotient, prompting the exploration of ways to develop this skill in various

domains, including management, economics and tourism. Within the field of education, the increase in cultural diversity within heterogeneous classrooms has accentuated the responsibility of teachers to cater to students' academic diversity. In this context, differentiated instruction, which aims to meet the diverse needs of all students, has emerged as a potential solution for fostering the development of cultural quotient.

In recent years, there has been a growing recognition of the significance of cultural quotient in managing cultural differences and promoting harmonious coexistence. As cultural diversity becomes more prominent in various fields of work, including management, economics and tourism, the development of cultural quotient has emerged as a key focus. However, its application in the field of education remains a subject of inquiry. As classrooms become more diverse, it becomes imperative for teachers to address students' academic diversity and promote cultural understanding and acceptance.

UNESCO's Global Education Monitoring Report (2020), which addresses issues of equity, inclusion and quality in education, highlights the importance of promoting intercultural understanding, combating stereotypes and fostering inclusive education that values cultural diversity. While not explicitly focusing on cultural quotients, these reports emphasize the significance of developing students' cultural awareness and promoting inclusive practices within the educational context.

Furthermore, the OECD PISA Global Competence Framework explores the concept of global competence, encompassing intercultural understanding and cultural sensitivity. It emphasizes the need for educators to foster students' cultural intelligence to effectively navigate and thrive in a globalized world. By integrating cultural intelligence development into the curriculum, educators aim to equip students with the necessary skills to engage with diverse cultures, challenge stereotypes and promote inclusive and respectful communication.

In conclusion, this doctoral thesis seeks to examine the impact of the Differentiated Thinking Skills Curriculum on fifth-grade students' cultural

quotient and critical thinking skills. By investigating the effectiveness of this curriculum, valuable insights can be gained to inform instructional practices and curriculum development, facilitating the growth of students' intellectual capacities and cross-cultural competence. The research findings will contribute to the broader field of education, providing evidence-based strategies for educators to cultivate students' cultural intelligence and critical thinking skills, preparing them for success in a globalized and diverse society.

Moreover, the findings of this research will contribute to the existing body of knowledge on cultural quotient and its application in educational settings. By examining the impact of the Differentiated Thinking Skills Curriculum on students' cultural quotient and critical thinking skills, this study aims to shed light on the effectiveness of innovative instructional approaches in promoting cross-cultural competence. The results can inform educators, policymakers and curriculum developers in designing interventions that effectively address the diverse needs of students and foster their cultural intelligence.

It is worth noting that the cultural quotient is a multifaceted construct that encompasses cognitive, affective, behavioral and motivational dimensions. While individuals' experiences and environment play a role in shaping their cultural quotient, education emerges as a strategic avenue for intentional development. As cultural differences continue to shape social and individual relationships, the importance of cultural intelligence becomes even more prominent, requiring deliberate efforts to cultivate this competence within educational contexts.

In conclusion, this doctoral thesis investigates the effect of the Differentiated Thinking Skills Curriculum on fifth-grade students' cultural quotient and critical thinking skills. The study aims to contribute to the field of education by providing insights into the effectiveness of instructional approaches that promote cross-cultural competence. By equipping students with the necessary skills to navigate diverse cultural contexts and think critically, educators can prepare them for success in an interconnected and globalized world. The findings of this research have the potential to explain

educational practices, empower educators with evidence-based strategies and ultimately enhance students' intellectual growth and ability to engage with cultural diversity.

Aim and Significance of the Study

With this study, it is planned to design a differentiated Thinking Skills Curriculum (TSC) for 5th-grade students. The effect of the eight weeks curriculum to be prepared will be determined by the cultural quotient and critical thinking skills levels of students. This curriculum development study is important because of the increasing interest in cultural quotient and needs globally and it is important also because of the lack of an example in the national sense.

A revision study has been initiated on secondary education in our country's curriculum by the Ministry of National Education (MoNE). Two radical changes planned to be implemented in the high school programs as of the 2020-2021 academic year have been shared with the public. One of these is “Imagination, Activity and Life” (IAL) and the other is “Theory of Knowledge”(ToK) courses. In IAL activities, it is planned to carry out high-impact studies in which students can transform the knowledge gained in workshops and/or out-of-school environments into social value. It is not possible to say that today's societies are homogeneous both in terms of individuals and social groups (Mercan, 2016, p. 3). Therefore, cultural quotient will take its place as an important determinant within the scope of the works that will turn into social value. Although general expressions included in the definition of IAL activities do not constitute a clear framework in terms of content, cultural quotient studies can be considered within the scope of expressions of “studies with high social impact and value”. On the other hand, in the explanation of the Theory of Knowledge course, it is stated that it will enable students to make inquiries about the relationship between theory and evidence, reasoning and reality. This definition specifically points to critical thinking skills with regard to investigation. In primary education, there has not yet been a national study on the preparations for the infrastructure of these two compulsory courses planned to be included in the secondary education curriculum. TSC can be a step up for this requirement. Considering the global,

national and social needs, it is thought that the content of the study subject to this thesis may be directed to the specified need.

The reason for the decision to shape the curriculum to be developed in the research on the differentiated instruction axis is that it is appropriate for the nature of the cultural quotient and critical thinking skill that will be included in the study as independent variables. The understanding of differentiated instruction by designing curriculum by keeping the individual differences of the students at the center is considered appropriate for both cultural quotient and critical thinking skill. In theory, one of the supports of differentiated instruction is that the individuals can develop their own potential when they encounter studies that challenge them if they can take guidance from someone who is more skilled in this subject, in accordance with Vygotsky's zone of proximal development. For this reason, students are pushed forward in the area of independence under the guidance of a teacher or peer (Tomlinson, et al., 2003, p. 126). It is also in accordance with the nature of skill education that the individual develops his skills by challenging. In addition, while creating the support of differentiated instruction; current brain studies have taken their place in the principles of design (Tomlinson, et al., 2003, p. 126). Considering the intelligence types and learning styles of individuals in the preparation phase of the instructional design in differentiated instruction, can be considered as a proof of this situation.

Research Question

The aim of this research is whether the students who are exposed to the differentiated curriculum for ten weeks develop their cultural quotient and critical thinking skills. The main question of the research is whether the differentiated curriculum to be prepared will improve fifth grade students' cultural quotient, and critical thinking skills and how the opinions of the teachers and students about the program are. The sub-research question of this study is as follows:

1. Is there a significant difference between students' pre and post-test results in terms of Cultural Quotient Scale scores?

2. Is there a significant difference between students' pre and post-test results in terms of Critical Thinking Skills scale scores?
3. What are the teacher's views on the differentiated curriculum to be implemented?
4. What are the students' views on the differentiated curriculum to be implemented?

Assumptions

This study posits the assumption that uncontrolled variables exert comparable effects on both the experimental and control groups over the duration of the 8-week experimental period. Moreover, it assumes that all participants, including the students and the teacher, provided sincere and precise information while completing the researcher-developed scale and during the interview sessions.

Limitations

The research will be limited by the 2020-2021 academic year with 120 5th grade students in a private school in Istanbul. In addition to this limitation, the scores used in the research will be limited by the scope measured with the scales to be prepared.

LITERATURE REVIEW

Differentiated Instruction (DI)

Individuals differ from each other in terms of cognitive skills and abilities, learning styles, readiness, learning pace, learners' value of learning, learners' confidence in learning (Heacox, 2002, pp. 7-10), physical characteristics, personality traits, experiences, learning preferences and social development (Gregory & Chapman, 2013, p. 1). It seems unlikely that individuals with different characteristics can achieve the same outcome by going through the same stages in the same classroom. Adapted learning tasks and the provision of personalized introductory and concluding activities allow differentiated instruction to enable all students to reach their goals in the same classroom (Watts-Taffe et al., 2012, p. 304).

To understand the philosophy of differentiated instruction, we can summarize its different aspects compared to traditional instruction as follows.

In differentiated instruction, the aim is to organize learning experiences according to individuals' cognitive skills and abilities, learning styles, readiness, learning pace, learners' value of learning, learners' confidence in learning, physical characteristics, personality traits, experiences, learning preferences and social development. It recognizes and accommodates the diverse needs of students by personalizing their learning environments and experiences.

Differentiated instruction allows each student to develop their full potential. Teachers have the opportunity to identify students' strengths, support their weaknesses and provide them with appropriate learning strategies. This increases students' motivation to learn, makes learning experiences more meaningful and enhances their achievements.

When compared to traditional instruction, differentiated instruction differs in several ways. In traditional instruction, all students are presented with the same content and learning materials, whereas in differentiated instruction, students are offered customized tasks that meet their individual learning needs.

In traditional instruction, students progress at the same pace, while in differentiated instruction, students' learning rates are taken into account, allowing them to progress at their own pace.

It is important to note that differentiated instruction aims to create inclusive learning environments that promote equal opportunities for all students, regardless of their diverse characteristics and learning needs.

Considering the different aspects of DI from traditional teaching to understand its philosophy, it can be summarized as follows:

- Individual differences are considered as an element that guides the instructional design.
- Assessment is an ongoing process to take into account the needs of individuals.
- It requires us to focus on multiple intelligence types, learning profiles.
- Individuals' access to the target is ensured by taking into account the difference in individual starting points.
- Students are guided to make learning choices.
- Various teaching arrangements are made.
- Student readiness, interest and learning profile shape instructional design.
- It focuses on using the skills necessary to understand the basic concepts and principles, instead of focusing on concepts and principles.
- Tasks, homework, assessments and materials are diversified.
- Time is used flexibly.
- Students are directed to thinking with multiple perspectives, problem solving and self-confidence.

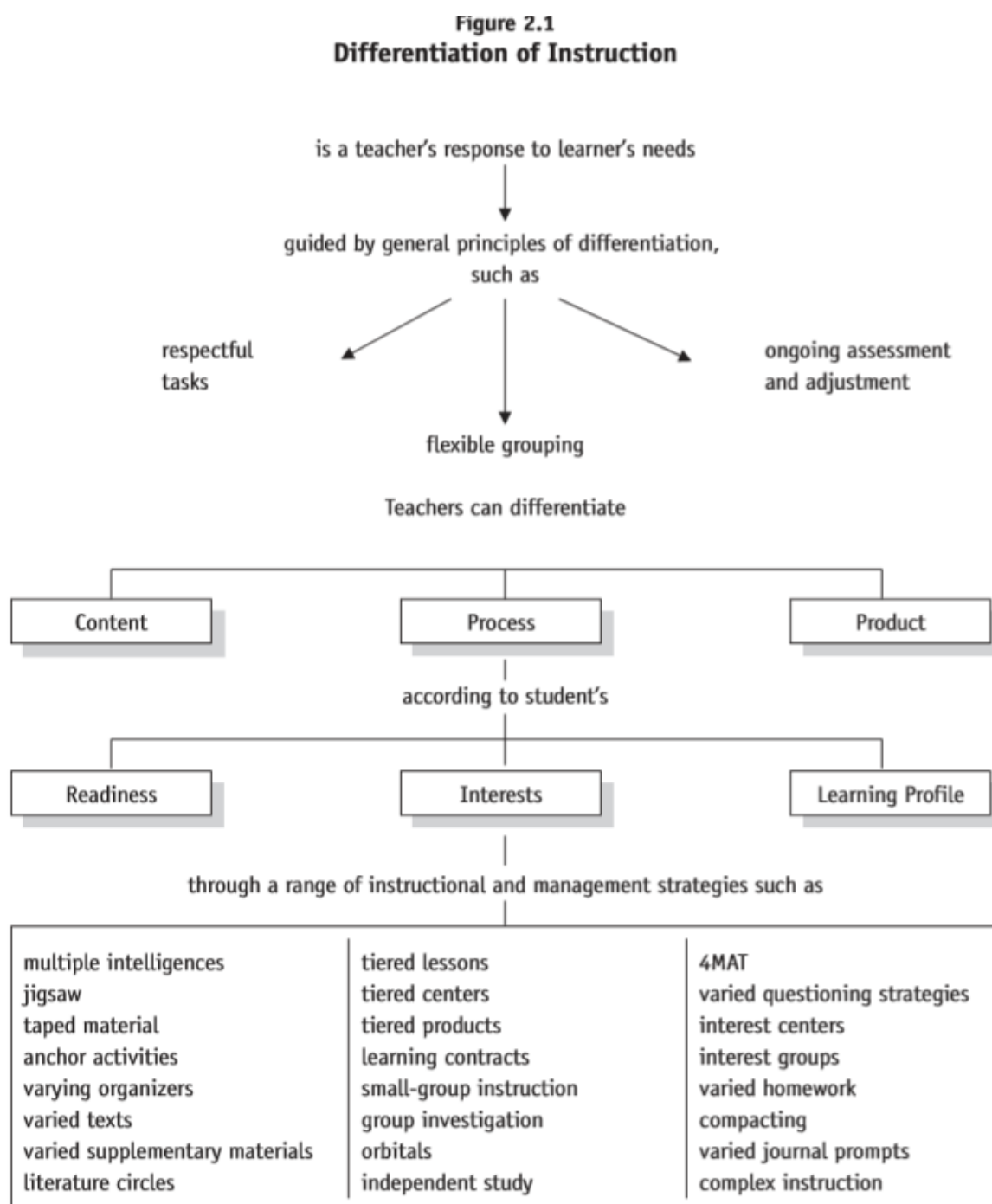
- Students take responsibility for both their individual development and the development of the class (Tomlinson, et al., 2003, p. 16).

Although the philosophy on which the idea of differentiated teaching is based on previous research, it is recent that it is shaped and started to be expressed as a theory. Even when talking about differentiated instruction, Tomlinson, who is considered to be the founder of this method, wrote in her book that DI had a history as old as parenting (Tomlinson & Imbeau, 2011, p. 8). DI accepting different individual characteristics such as interest, prerequisite knowledge and learning styles of students is a method that aims to improve students' self-regulation, problem solving, communication and metacognitive skills in the learning process by offering designs that comply with these features and by giving each individual the opportunity to succeed (Heacox, 2002, p. 5). In this definition learning styles refers to a student's preferred mode of learning and it can be affected by lots of variables such as intelligence preference, gender, culture etc. (Tomlinson, et al., 2003, p. 129).

As can be seen in Figure 1 in DI, differentiation can be made in content, process or product. In differentiated instructions, the teacher tries to address the different characteristics of the students in terms of age, skill, areas of interests and culture by applying various flexible learning activities. That means, in order to qualify the practices developed as sensitive to the qualifications of children as differentiated learning, all children need to carry out meaningful studies in line with their own competencies and qualifications (Tomlinson, 2014, p. 12). It is sensitive to what point each student is in the learning process (what (s)he knows) and what (s)he needs to learn and supports his/her teaching accordingly. It attaches importance to each student to decide how to learn and in which ways (s)he shows what they have learned. In addition to these, each student has different choices in getting information, making sense and expressing what they have learned. Briefly, DI means creating multiple paths so that students of different abilities, interests and learning needs, experience equally appropriate ways to learn. According to a new paradigm of curriculum, by bringing differentiated and individualized examples to the student with technology; teachers, demonstrate that both technology and humans perform best for complex human learning behavior

(Prensky, 2017, p. 137). DI provides deep and lasting learning while increasing the personal qualities of individuals (Arzhanik, Chernikova, & Karas, 2015, p. 290). Figure 1 summarizes the elements of differentiated classrooms.

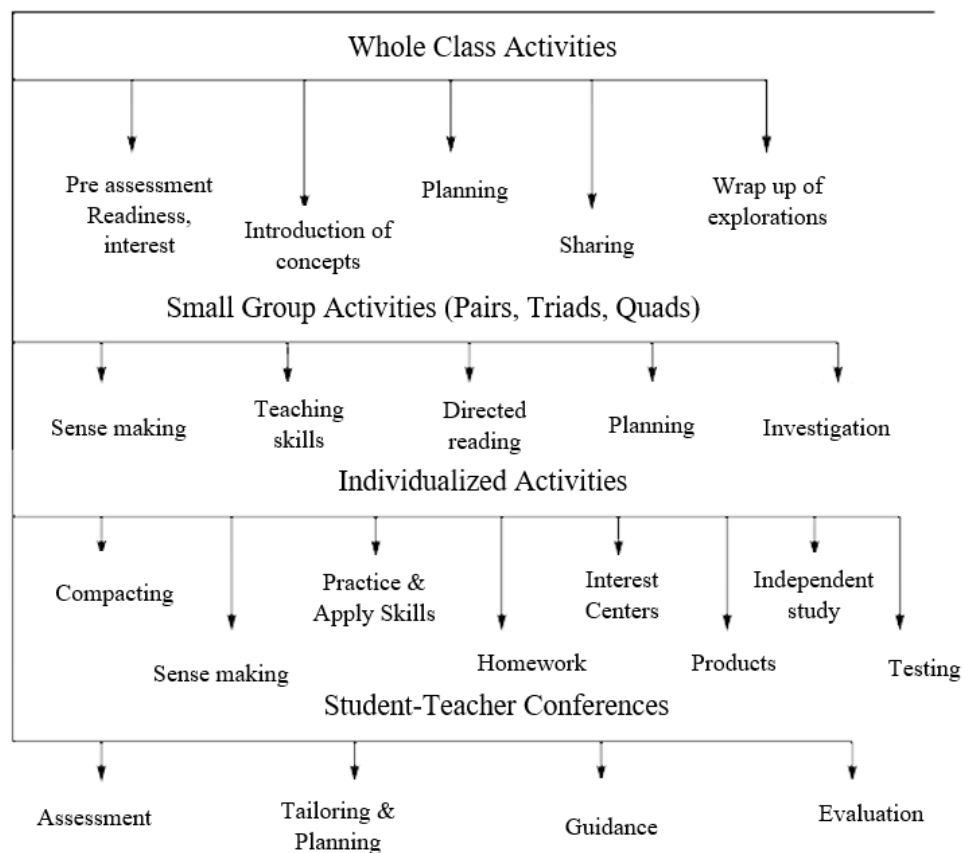
Figure 1. Elements of Differentiated Classroom



(Tomlinson, 1999, p. 15).

While designing in DI, whole class, group and individual activities need to be diversified, blended and integrated organically. This situation brings a rich material preparation as well as careful planning in the implementation of differentiated instruction. In instructional design, whole class, group and individual activities have a rhythm within the classroom (Tomlinson C. A., 2001, p. 6). Whole-class first shares their ideas about the subject and then individually works with different materials depending on their learning style or readiness. After this work, they come together to share their information or ask their question and then they complete tasks that are individually tailored to their level or pace. After individual tasks, students who come together with the whole class to share their key ideas, work with small groups they have created, to solve a problem designed in the subject area. The progress of this process in a natural and smooth rhythm, it depends on the quality of the preliminary preparation of instructional design. Figure 2 can guide planning the whole class, group and individual activities in a rhythm.

Figure 2. *Classroom Instructional Arrangements*



(Tomlinson C. A., 2001, p. 25).

In today's diverse and dynamic educational landscape, educators face the challenge of meeting the unique learning needs of every student in their classrooms. One approach that has gained recognition and popularity is differentiated instruction. Differentiated instruction is a teaching framework that acknowledges and accommodates the diverse learning styles, abilities, interests and cultural backgrounds of students. It involves tailoring instruction to meet individual students' needs and providing multiple pathways for learning and assessment.

At its core, differentiated instruction is rooted in the belief that all students can learn and succeed, but they may require different levels of support, pacing and content to reach their full potential. By embracing differentiation, educators can create inclusive learning environments that celebrate diversity and foster a culture of equity and excellence.

One of the key advantages of differentiated instruction is that it promotes student engagement and motivation. By designing instruction that aligns with students' interests and preferences, educators can tap into their intrinsic motivation, making learning more meaningful and enjoyable. When students feel valued and supported, they are more likely to take ownership of their learning and become active participants in the educational process.

Another advantage of differentiated instruction is its ability to address students' diverse learning needs. Every student has a unique set of strengths, challenges and prior knowledge. Differentiation allows educators to customize instruction to meet students where they are and provide appropriate scaffolding or extension activities. This approach helps prevent student disengagement or frustration that can arise from a "one size fits all" teaching approach. By providing targeted instruction, educators can support struggling students, challenge high achievers and ensure that all students make progress.

Furthermore, differentiated instruction enhances critical thinking and problem-solving skills. By offering students a range of learning experiences, such as hands-on activities, cooperative learning, or independent research projects, educators encourage higher-order thinking and foster creativity and innovation. Students are encouraged to think independently, analyze

information and solve complex problems, preparing them for the demands of the 21st-century workforce.

In today's interconnected world, differentiated instruction is increasingly essential for educators. Classrooms are becoming more diverse, with students from various cultural, linguistic and socio-economic backgrounds. Differentiated instruction allows educators to recognize and value this diversity, promoting inclusivity and cultural responsiveness. By incorporating students' cultural backgrounds and experiences into instruction, educators can create a learning environment that respects and celebrates diversity, fostering cross-cultural understanding and empathy among students.

Moreover, differentiated instruction aligns with the needs of students with diverse abilities and learning profiles, including students with disabilities or exceptionalities. By providing appropriate accommodations, modifications and individualized support, educators can ensure that all students have equitable access to education and opportunities for success.

In conclusion, differentiated instruction is a powerful instructional approach that recognizes the individuality of students and promotes inclusive, engaging and rigorous learning experiences. By tailoring instruction to meet students' diverse needs, educators can foster student engagement, support academic growth and cultivate critical thinking and problem-solving skills. In today's world, where diversity is the norm, differentiated instruction is crucial for educators to create meaningful and equitable learning environments that prepare students for success in a rapidly changing society.

Differentiation in Education for Effective Learning

Differentiation is a crucial approach in education that recognizes the diverse needs, abilities and learning styles of students. It aims to create inclusive learning environments that promote equal opportunities for all learners to succeed and thrive. By tailoring instruction to meet individual students' needs, differentiation supports their unique strengths, interests and challenges, ultimately enhancing their learning outcomes (Tomlinson, 2017).

One of the key reasons why differentiation is important in every kind of education is its ability to address learner variability. Students come to classrooms with different backgrounds, prior knowledge, learning styles and readiness levels (Tomlinson & Allan, 2000). By employing differentiated instructional strategies, educators can adapt their teaching methods and materials to accommodate this variability, ensuring that every student can engage meaningfully in the learning process.

Differentiation, the practice of tailoring instruction to meet the diverse needs of students, has been found to not only promote academic achievement but also enhance student engagement and motivation. Research indicates that when students perceive that their individual needs and interests are taken into account, they are more inclined to actively participate in their own learning (Tomlinson, 2014). Offering students choices, incorporating their interests into the curriculum and providing various learning pathways are key components of differentiation that empower learners to assume responsibility for their education and cultivate self-directed learning skills (Hattie, 2012).

Studies have shown that student engagement and motivation are positively influenced by differentiation. For instance, Tomlinson (2014) emphasizes that when educators differentiate instruction, students are more likely to experience a sense of belonging and ownership in the classroom, leading to increased engagement. This notion aligns with the self-determination theory, which suggests that when students perceive autonomy, competence and relatedness in their learning environment, their intrinsic motivation and engagement are heightened (Deci & Ryan, 2000).

Furthermore, Hattie (2012) emphasizes the significance of differentiation in fostering self-directed learning. By providing choices and various learning pathways, students are encouraged to explore their own interests and take charge of their educational journey. This approach aligns with the constructivist perspective, which posits that learners construct knowledge actively through their experiences and interactions (Vygotsky, 1978). When students are given opportunities to personalize their learning based on their interests and preferences, they become active participants in

constructing their understanding, leading to increased motivation and engagement.

In conclusion, differentiation not only supports academic achievement but also enhances student engagement and motivation. By considering students' individual needs and interests and providing choices and diverse learning pathways, educators can empower learners to become active participants in their education, fostering a sense of ownership and self-directed learning. These findings highlight the importance of implementing differentiation strategies to create inclusive and engaging learning environments.

Furthermore, differentiation supports the principles of equity and inclusivity in education. It acknowledges that students have diverse backgrounds, abilities, experiences and strives to create an equitable learning environment where every student has access to quality education (Banks, 2015). By recognizing and valuing students' unique perspectives, abilities, differentiation helps to promote a culture of respect, acceptance and appreciation for diversity within the classroom (Tomlinson, 2017).

Research has shown the positive impact of differentiation on student achievement and overall learning outcomes. A meta-analysis conducted by Hattie (2012) found that differentiation strategies have a significant effect size on student learning, indicating their effectiveness in promoting academic growth. By tailoring instruction to meet individual needs, differentiation helps students reach their full potential and achieve higher levels of mastery in various subjects (Tomlinson, 2014).

In conclusion, differentiation is a vital approach in education as it recognizes and responds to the diverse needs of learners. By adapting instruction, providing choices and promoting inclusive practices, differentiation creates a supportive and engaging learning environment that values the uniqueness of each student. Through its focus on individualized learning, differentiation enhances student motivation, promotes equity and improves overall academic achievement. Implementing differentiation in

every kind of education ensures that all students have equal opportunities to succeed and reach their fullest potential.

Intelligence

Intelligence Quotient (IQ)

Intelligence, as a multifaceted construct, has long captivated the interest of researchers, psychologists and educators. Its measurement through Intelligence Quotient (IQ) tests has traditionally been associated with a fixed and immutable attribute. However, a growing body of research now supports the notion that intelligence is a highly nuanced and individualistic quality that can be nurtured and developed. By exploring the unique characteristics of individuals, we can unlock the potential for growth and harness the power of personal development.

Intelligence is not a singular entity but rather a complex interplay of cognitive processes, encompassing abilities such as reasoning, problem-solving, memory and creativity. Moreover, it extends beyond traditional notions of academic achievement and encompasses diverse forms of intelligence, including emotional intelligence, social intelligence and practical intelligence.

One crucial aspect to acknowledge is the inherent uniqueness of each individual's intelligence profile. No two individuals possess the exact same combination of strengths and weaknesses. This inherent diversity highlights the need to move beyond a standardized, one-size-fits-all approach to intelligence assessment and education. Embracing this uniqueness allows us to appreciate the wide range of talents and abilities that exist within our society.

IQ tests have historically been used as a means to quantify intelligence and provide a snapshot of an individual's cognitive abilities. While these tests can offer insights into certain cognitive domains, it is essential to recognize their limitations. IQ scores provide a general indication of an individual's cognitive abilities at a specific point in time, but they do not fully capture the breadth and depth of human intelligence.

Moreover, the belief that IQ is a fixed and unchangeable trait is outdated. The emerging field of neuroplasticity has demonstrated that the brain possesses an incredible capacity to adapt, rewire and develop throughout one's lifespan. This finding challenges the notion that intelligence is a static quality and opens up a realm of possibilities for personal growth and development.

Recognizing intelligence as a malleable and personal quality is empowering for individuals and educators alike. It shifts the focus from a fixed mindset to a growth mindset, highlighting the potential for continuous learning and improvement. By fostering a growth mindset, individuals can embrace challenges, persist in the face of setbacks and develop strategies to enhance their cognitive abilities.

Educational systems play a pivotal role in nurturing and developing intelligence. By adopting instructional practices that promote personalized learning experiences, educators can tap into the unique strengths and interests of each student. Through differentiated instruction, educators tailor teaching methods and content to accommodate individual needs, fostering the growth of various cognitive abilities.

Furthermore, providing opportunities for enriched and stimulating environments encourages the development of intelligence. Engaging in intellectually challenging activities, such as problem-solving tasks, critical thinking exercises and creative endeavors, cultivates cognitive flexibility and expands intellectual horizons.

When we look at the studies about intelligence, it can be said that the common point since the first studies is to try to understand the structure of intelligence. When these studies are listed chronologically, two main distinctions that are believed to be, one general intelligence and then multi-factor intelligence are noteworthy.

When the first studies on intelligence were started in the early 1960s, intelligence was considered as a single-factor structure and was called the “g factor” (comes from the first letter of the word “general”). Galton, who defines intelligence as learning power or sensory acuity, Binet, who defines reasoning

and even Piaget, who defines it as an adaptation to the environment on the basis of problem solving, handled intelligence in one dimension. All these researchers are making efforts to develop different tools to measure intelligence and turn it into a numerical score. Binet's numerical calculations between calendar age and intelligence age emerged with the aim of separating children with learning difficulties and others.

Spearman, Thorndike, Thurstone, Guilford, Cattell, Sternberg and Gardner are among the multi-factor intelligence advocates born as a critique of the single-factor structure of intelligence. Realizing that the intelligence tests they use while examining individuals are sufficient at certain points, but insufficient to explain some mental activities, these researchers explain the mental power needed as a special ability or “s factor” apart from the general mental ability (comes from the first letter of the word “special”). It is observed that these researchers, who use factor analysis to explain the multi-factor structure of the intelligence, classify the structure of the intelligence by addressing the special ability in different numbers and names. Thorndike's works are important in terms of addressing social intelligence for the first time outside of the cognitive domain (abstract intelligence and mechanical intelligence). Later, he pioneered the execution of detailed studies in the field of social intelligence. In order to serve the subject of this study, it is discussed in detail in the next title. Catell's work is also important for analyzing fluid and crystalline intelligence. In the thinking system, which Gardner thinks might be called social utopia, he foresees that each individual will be involved in life, serving the distant purpose of contributing to social well-being with maximum participation. Therefore, he advises to move away from monotonous educational curriculum with verbal and numerical intelligence, which were generally accepted before him. Although he believes that the main structure in the definition of intelligence like his predecessors is biological potential, in the theory of multiple intelligence, he argues that intelligence should be removed from the uniformization. In his first articles, he improved his intelligence, which he classified as seven types, as an attempt to regulate his intense knowledge about intelligence with his friends, in his later works. All their classifications include skills that are considered productive in a particular

cultural setting. In other words, it is possible to define the philosophy of Gardner's basic intelligence work as the ability to be productive in a certain cultural environment (Gardner, 1988, p. 57). However, the age we are in has led to the absence of an area that keeps itself away from globalization thanks to the developments in transportation and communication technologies. Therefore, being able to be talented in a certain cultural field may be insufficient in social relations where global relations are concerned. Although it is stereotyped, the world has become a global village and it is not enough to be equipped with the skills that can be considered as a talent in only one culture in this global village. This competence, born out of the unity of different cultures, is in the subject of the study of cultural quotients.

The notion of intelligence as a fixed and unchangeable attribute is increasingly being replaced by a more nuanced understanding of individuality and the potential for growth. Embracing the uniqueness of each person's intelligence profile enables us to celebrate diversity and appreciate the myriad of talents that contribute to our society. By recognizing intelligence as a personal quality that can be developed, we empower individuals to strive for growth and unlock their full potential. As educators, researchers and lifelong learners, let us embrace the power of personal development and create environments that foster the growth of intelligence in all its multifaceted forms.

Social Intelligence

We are still trying to answer the questions asked by Thorndike in his article titled "Intelligence and Its Use" when talking about social intelligence. Starting from the fact that some people who are successful in life are not able to score high in the intelligence tests applied in the laboratory environment. Thorndike has started to produce assumptions on the structure of intelligence that will be considered radical for its time. When understanding based on cognitive intelligence is dominant, social intelligence, although progress has been made about it since it was first mentioned among the types of intelligence, it is still among the difficult topics to study. There are a wide variety of answers in the literature on whether social intelligence is different from general intelligence, if it is different, what are its sub-dimensions and

how to measure it. Many researchers have examined the sub-dimensions of social intelligence, in which interpersonal relationships, empathy, understanding and managing individuals are included and no single dimension has been reached. Thorndike (1920, p. 231) states that we will notice the reflections of intelligence in real events and through life connected to a real situation. Recent studies justify this situation and reveal that people with high social intelligence are effective in adapting to society and communicating (İbiş, 2018, p. 26).

As we delve into the concept of social intelligence, we find ourselves grappling with the timeless questions posed by Thorndike in his seminal article titled "Intelligence and Its Use." These inquiries, particularly concerning the puzzling phenomenon of certain individuals achieving great success in life despite not excelling in traditional laboratory intelligence tests, ignited a paradigm shift in our understanding of intelligence. Thorndike's audacious conjectures challenged the prevailing cognitive-centric perspective and shed light on the enigmatic realm of social intelligence. Although considerable progress has been made in unraveling its intricacies since its initial mention among the various forms of intelligence, social intelligence remains a complex and elusive topic of investigation.

In the vast expanse of literature, a multitude of perspectives have emerged regarding the nature of social intelligence and its relationship to general intelligence. Scholars have engaged in rigorous exploration to discern whether social intelligence stands distinct from general cognitive abilities and if so, what specific sub-dimensions constitute its essence, as well as how it can be effectively measured. Countless researchers have diligently examined the facets of social intelligence, encompassing domains such as interpersonal relationships, empathy and the aptitude to comprehend and navigate the intricacies of human interaction. However, despite these efforts, a definitive singular dimension of social intelligence has remained elusive.

In line with Thorndike's insights from nearly a century ago, where he astutely noted that the manifestations of intelligence are most evident in real-life situations and practical contexts, recent studies continue to reinforce

this perspective. Indeed, they affirm that individuals possessing heightened social intelligence exhibit remarkable proficiency in adapting to societal norms and effectively communicating with others (İbiş, 2018, p. 26).

The complexity of social intelligence necessitates a nuanced exploration that goes beyond the confines of traditional intelligence assessments. It calls for a deeper appreciation of the multifaceted nature of human interaction and the diverse cognitive processes that underpin our social behaviors. By embracing a broader conceptualization of intelligence, one that encompasses social dimensions, we unlock the potential to better understand and harness the power of social intelligence in both individual and collective contexts.

In conclusion, Thorndike's inquiries into social intelligence continue to inspire and challenge contemporary researchers. While progress has been made in delineating its sub-dimensions, the elusive nature of social intelligence persists, underscoring its intricacy as a construct. Yet, recent research affirms the profound impact of social intelligence on an individual's ability to navigate social landscapes and adapt to various societal dynamics. As we strive to unravel the mysteries of social intelligence, it is imperative that we continue our scholarly pursuits, fostering a deeper understanding of this complex facet of human cognition.

Emotional Quotient (EQ)

Emotional Quotient (EQ), also known as emotional intelligence, has garnered significant attention in recent years, recognizing its vital role in human behavior, interpersonal relationships and overall well-being. Unlike traditional measures of intelligence, EQ delves into the intricate realm of emotions, highlighting the uniqueness and differences among individuals.

Emotional intelligence is defined as a subset of social intelligence. It is defined as monitoring, discriminating and guiding one's own and others' feelings in his/her cognitive and behavioral processes (Salovey & Mayer, 1990, p. 187). Therefore, all questions asked for social intelligence have been the subject of direct emotional intelligence research. First of all, answering the question of whether emotional intelligence differs from general intelligence or

not; it is suggested that emotional intelligence differs from general intelligence in terms of its mechanisms and manifestations. Mayer and Salovey in their article “The Intelligence of Emotional Intelligence” (1993, p. 439) stated that they regard emotional intelligence as a skill related to general intelligence, but its mechanisms and manifestations are different from general intelligence. Goleman gives one of the clearest examples of this difference. While Goleman talks about a math exam that he enters with negative emotions, he compares his behavior in this exam to the freezing of an animal that has stuck a poison arrow (Goleman, 2019, p. 116). In his example, the author describes his mental process as a partial paralysis and explains that he is affected by his negative emotions. Thanks to this example, it is clear that the emotional dimension of intelligence occurs from time to time, varying unlike the cognitive dimension and needs to be regulated and managed to adapt to the environment. Considering its effect on all abilities, it would be appropriate to call emotional intelligence a meta talent (Goleman, 2019, p. 65).

We emphasized that the sub-dimensions of social intelligence are another question that researchers in this field are interested in. This question, which is also valid for emotional intelligence, has been answered by Salovey and Mayer (1990, p. 190) in their articles called “Emotional Intelligence”; according to them, emotional intelligence consists of appraisal and expression, regulation and utilization of emotions. Emotional intelligence is not only one's own emotions, but also others' emotions and working on others' emotions (getting to know, regulate and manage them) is just as important as working on one's own emotions.

Emotional intelligence encompasses a set of skills and abilities related to perceiving, understanding and managing emotions effectively. It recognizes that individuals possess diverse emotional profiles, shaped by their unique experiences, personality traits and socio-cultural backgrounds. By acknowledging and celebrating these differences, we gain a deeper appreciation for the rich tapestry of human emotions and the way they shape our thoughts, behaviors and interactions.

Just as cognitive intelligence varies among individuals, emotional intelligence exhibits remarkable diversity. EQ encompasses domains such as self-awareness, self-regulation, empathy and social skills. Each person possesses a unique combination of strengths and weaknesses within these domains, influencing their overall emotional intelligence profile. Recognizing and valuing this diversity is crucial in developing comprehensive strategies for enhancing EQ.

Contrary to the notion that emotional intelligence is a fixed trait, research highlights its potential for development and growth. The brain's remarkable plasticity allows for the acquisition and refinement of emotional competencies throughout life. By actively engaging in self-reflection, seeking feedback and participating in targeted interventions, individuals can enhance their emotional intelligence.

Education systems play a pivotal role in nurturing emotional intelligence. Integrating social-emotional learning programs into curricula provides students with the tools and skills necessary to navigate their emotions effectively. These programs focus on enhancing self-awareness, self-regulation, empathy and social skills, empowering individuals to cultivate meaningful relationships and navigate complex social dynamics.

Emotional intelligence and traditional cognitive intelligence, measured by Intelligence Quotient (IQ), are interwoven in a complex relationship. Research suggests that individuals with higher emotional intelligence tend to demonstrate better cognitive abilities, including enhanced problem-solving, decision-making and creativity. The capacity to regulate emotions and manage stress positively influences cognitive functioning, allowing for improved focus, attention and information processing.

Furthermore, emotional intelligence plays a significant role in social skills development. A high EQ enables individuals to navigate social interactions with empathy, perspective-taking and effective communication. The ability to understand and manage one's emotions facilitates positive relationships, collaboration and conflict resolution. Consequently, individuals

with well-developed emotional intelligence often exhibit stronger social skills, fostering harmonious connections within personal and professional spheres.

Emotional Quotient (EQ) unveils the intricacies of human emotions and their impact on behavior, relationships and well-being. Recognizing and celebrating the uniqueness and differences among individuals' emotional intelligence profiles is essential. Moreover, understanding that emotional intelligence is a personal quality that can be developed empowers individuals to embark on a journey of growth and enhancement. By incorporating social-emotional learning programs and targeted interventions, education systems can foster the development of emotional intelligence in individuals.

The reciprocal relationship between emotional intelligence and cognitive abilities highlights the interconnectedness of these domains. Emotional intelligence enhances cognitive functioning and positively influences social skills, enabling individuals to navigate the complexities of personal and professional interactions. As we embrace the multifaceted nature of emotional intelligence, we unlock its transformative potential for personal growth, enriched relationships and enhanced overall well-being.

Learning and Culture

Vygotsky, a prominent researcher, posits that individual development is intricately intertwined with the environment and the cultural elements fostered by the people surrounding the individual (Vygotsky, 1985, p. 41). This developmental process encompasses psychological and cognitive dimensions, emphasizing the crucial role of the environment and culture in shaping the individual holistically. To illustrate, let us consider the significance of language within this context. Words, as fundamental elements of communication, derive their meaning from the cultural context in which they are embedded. As the individual interacts with their environment, they gradually internalize and make sense of each linguistic element, symbolizing a process of individual internalization. Hence, the social environment becomes the foundation and primary source of the individual's development.

Vygotsky illuminates the intricate relationship between cognitive development, language and culture, underscoring the pivotal role of the social

environment in learning. He highlights language as a powerful tool for the transmission and acquisition of cultural knowledge. According to Vygotsky, the development of both thought and speech originates from the social environment and progressively evolves into individual characteristics (Vygotsky, 1985, p. 41). This underscores his emphasis on the significant influence of the social aspect in the developmental process. Consequently, it becomes impossible to conceive of the individual independently from the social culture in which they exist.

The culture that individuals are immersed in while constructing meaning significantly shapes their perceptions. These perceptions form an integrated whole within the cultural fabric they are immersed in. However, when individuals encounter new cultural environments, their perceptions undergo transformation as they establish connections with the new cultural context. Therefore, an individual's openness to different cultural environments within their immediate surroundings can greatly impact their motivation to engage with novel cultural contexts. This motivation to explore and adapt to diverse cultural environments constitutes one of the sub-dimensions of cultural quotient.

Expanding on these ideas, it becomes evident that culture acts as a dynamic force in an individual's development, constantly influencing their cognition, perceptions and interactions. The interplay between culture and learning highlights the reciprocal relationship between the two domains. As individuals engage with their cultural milieu, they not only absorb cultural knowledge but also actively shape and reinterpret it through their own experiences and perspectives. This continuous interaction between individuals and their cultural environment fosters a mutual influence that shapes their cognitive processes and social behaviors.

Understanding the relationship between culture and learning is of paramount importance in education. Acknowledging the profound impact of culture on individual development necessitates creating inclusive and culturally responsive learning environments. By recognizing and valuing the diverse cultural backgrounds and experiences of learners, educators can tailor

instructional strategies to meet their unique needs. Moreover, promoting cultural awareness and sensitivity in education can empower individuals to navigate and appreciate the complexities of a multicultural society.

In conclusion, Vygotsky's insights emphasize the fundamental role of environment and culture in shaping an individual's development (Vygotsky, 1985, p. 41). Culture permeates every aspect of human existence, influencing cognition, perceptions and interactions. The interplay between culture and learning underscores the reciprocal nature of their relationship, where individuals both internalize cultural knowledge and actively shape it through their experiences. Understanding the significance of culture in education is crucial for fostering inclusive and culturally responsive learning environments. By nurturing cultural awareness and sensitivity, educators can empower individuals to navigate diverse cultural contexts with confidence and adaptability, thereby promoting their holistic development.

Interculturalism and the Changing Educational Paradigms

With globalization and migration, homogeneous structures of societies have become more heterogeneous. The perceptions of people about the concepts of the place they live are expanding day by day. Before the Industrial Revolution, the living spaces of the individuals were generally limited to the local government unit they were in or the most surrounding villages, towns and cities. Thanks to machine technologies after the Industrial Revolution and transportation technologies developed after the World Wars, the national mobility of individuals has started to increase. Mobility, which was intended to be close to the workplace and resulted in urbanization activities, nowadays has gained an aim to increase the living standards of individuals and moved from the national borders to the global borders. The source of this mobility is sometimes wars, sometimes brain drain and sometimes economic and ideological factors. Whatever the reason, global mobility, individual or massive, causes differentiation of the structure of societies. This differentiation has started to be known as the super diversity paradigm. As differentiation increases in a society, it will be harder to achieve integrity (Balay, 2004, p. 78) and the concept of interculturalism is offered against concerns about harmony and unity.

Interculturalism, by refusing all forms of discrimination arising from differences, is a concept that adopts peace and mutual relations (Wang, 2017, p. 311). Instead of only minority or majority groups, it emerged with a paradigm based on reconciliation and harmony with the view that there may be differentiation in all groups in the society. Interculturalism was born out of the need for a theory to respond to problems like race, ethnicity, gender, etc. arising from the paradigm based on minority and majority dilemma (Nagle, 2016, p. 46).

Although interculturalism starts with the passive acceptance of different cultures in the same society, it requires intercultural dialogue and interaction (Ibáñez & Sáñez, 2006, p. 15). Individuals are expected to have some ability for intercultural dialogue and interaction. Being respectful and tolerant of each other and free from prejudices are the values that are the basis of the intercultural theory. When looked at the big picture, dissemination of information technologies accelerated the flow of information, changed the perceptions of time, space and distance and showed up the way for the formation of global values, by accelerating the acculturation process (Yurdabakan, 2002, p. 63).

To create a society that embraces interculturalism as a response to global events and social paradigm shifts, it is crucial to reform institutional structures and policies. One essential aspect of fostering interculturalism is the cultivation of high cultural quotient (CQ) among individuals and communities. Having a high CQ enables individuals to navigate diverse cultural environments, understand different perspectives and adapt to global challenges.

Recent global political news provides examples of the importance of a high CQ. In a world where migration and globalization are prevalent, political leaders are increasingly recognizing the need to engage with diverse cultures and promote intercultural understanding. Diplomatic negotiations, international collaborations and peacekeeping efforts all require individuals with a high CQ who can bridge cultural differences and foster mutual respect.

For instance, in addressing global conflicts, diplomats with a high CQ can navigate cultural nuances, understand the underlying values and beliefs of different parties and facilitate productive dialogue. They can bridge gaps and build trust among diverse groups, contributing to peaceful resolutions.

Moreover, in the context of international trade and cooperation, leaders with a high CQ can effectively navigate cultural differences in negotiations, ensuring fair and mutually beneficial agreements. They can understand the cultural sensitivities of their counterparts, build strong relationships and foster successful collaborations.

In summary, as global events continue to shape our societies and necessitate intercultural understanding, the importance of cultivating a high cultural quotient becomes evident. It enables individuals to navigate diverse cultural landscapes, contribute to peaceful resolutions of conflicts and foster productive international collaborations. By prioritizing interculturalism and incorporating strategies to develop CQ into fundamental policies, societies can better adapt to the evolving global landscape and foster harmonious coexistence.

Interculturalism on Education

As social new lifestyles begin to be identified with the super diversity paradigm, a common understanding and understanding has begun to develop among the citizens of the world through education policies (Balay, 2004, p. 78). In order to regulate the paradigm change, changes are required in education policies and in curricula. To meet this requirement, some decisions are taken and implemented both nationally and globally. In his article titled “A New Paradigm of Curriculum”, Prensky (2017, p. 127) lists the concepts of effective thinking, effective action, effective relationships and effective accomplishment as four basic skills that need attention and focus in education; he adds that these skills necessitate ethics, culture, citizenship and preparation for a profession.

In the previous title, it was stated that interculturalism requires values such as respect, tolerance and purification from prejudice. Every step taken to gain these values to individuals, serves both the global paradigm changing and

also is as a result of the changing paradigm. Written determination of values in national curricula can be considered as a national effort to meet this need. The learner profiles (open-minded, reflective, etc.) of International Baccalaureate (IB) determined in the Primary Years Program (PYP) for 3-12 year old students, serve this purpose. The Council of International Schools (CIS) in the accreditation process, expects institutions to prove that they include school values and content that supports interculturalism in their instructional designs. This expectation is also intended to serve global citizenship.

In addition to the regulations in education policies and curricula, the objectives of the exams organized by international institutions are in a similar direction. In the International Student Assessment Program (PISA) of Organization for Economic Co-operation and Development (OECD), they state that they aim to measure skills such as global competence. To benefit from the regulatory effect of education on society (Tezcan, 2018, p. 48), institutions and organizations try with all these studies to produce educational policies. At the same time, joint educational policies formed with the contribution of international organizations can be counted among the positive effects of globalization.

The diversity in societies requires teachers as well as education politicians to be sensitive and experienced in interculturalism (Balay, 2004, p. 78). Raising individuals to the world of the future, on the one hand, enables them to be prepared as a cognitive, affective and psychomotor for the dynamic environment waiting for them and on the other hand, it requires being sensitive to the cultural past to which they belong.

Although cultural quotient and interculturalism overlap in various ways, there are also some features that differ from each other. That cultural quotient based on intelligence studies comes first among these differences. (Livermore, 2011, p. 32). Cultural quotient focuses on the characteristics of the individual. In cases where there is cultural diversity and a multicultural environment, it is defined as the ability of the person to be effective in different environments (Mercan, 2016, p. 4). Cultural quotient from another point of view, it also includes personality traits of people living in different

cultural environments with their ability to adapt and overcome in different intercultural environments (Brislin, Worthley, & Macnab, 2006, p. 42).

In our rapidly changing world, the direction of societal change is undeniably shifting towards multiculturalism. Globalization, technological advancements and increased migration have fostered unprecedented cultural diversity within societies worldwide. As cultural boundaries blur and interactions between individuals from different backgrounds become commonplace, the need for intercultural understanding and cooperation has become paramount. This profound shift towards multiculturalism has profound implications for education, as educational paradigms must adapt to meet the evolving needs of learners in this new global reality.

The recognition of multiculturalism as a prevailing reality has compelled educational systems to reevaluate their curricula and pedagogical approaches. Countries across the globe are embracing the principles of interculturalism, which advocate for the appreciation and celebration of diverse cultural perspectives. By integrating interculturalism into educational frameworks, nations strive to cultivate inclusive learning environments that prepare students to thrive in an interconnected world.

One notable example is Canada, renowned for its commitment to multicultural education. Canadian curricula incorporate content that emphasizes the contributions of diverse cultural groups and encourages intercultural dialogue. By promoting cultural awareness and respect, Canadian schools aim to foster social cohesion and equip students with the skills necessary to engage with people from different cultural backgrounds. Similarly, Australia has adopted an intercultural approach to education, acknowledging the importance of developing intercultural competence among students. The Australian curriculum seeks to nurture respect for cultural diversity, critical thinking about cultural issues and effective intercultural communication skills. By preparing students to navigate cultural differences, Australia aims to create a more inclusive society that values and understands diverse perspectives. In South Africa and Malaysia, where cultural diversity is a defining characteristic, educational curricula have been reshaped to reflect

the multicultural nature of their societies. These countries recognize the need to prepare students for a globalized world by creating inclusive learning environments. Through their curricula, they celebrate cultural diversity, foster cultural sensitivity and promote dialogue across different cultural groups. By doing so, South Africa and Malaysia seek to cultivate a sense of belonging and unity among their diverse student populations.

The shift towards multiculturalism in education extends beyond the mere inclusion of cultural content. It requires a fundamental transformation in teaching methods, classroom dynamics and pedagogical approaches. Educators must go beyond transmitting knowledge and focus on nurturing cultural sensitivity, empathy and intercultural communication skills. By embracing interculturalism, education equips students with the tools needed to navigate cultural differences, challenge stereotypes and build bridges across diverse communities.

The impact of multiculturalism on education is far-reaching. It prepares students to become global citizens, capable of engaging in respectful and meaningful interactions with people from different cultural backgrounds. By fostering an appreciation for diversity, education helps dismantle cultural barriers and promotes a sense of shared humanity. It instills in students the values of empathy, open-mindedness and critical thinking, enabling them to contribute positively to a multicultural society.

In conclusion, the global shift towards multiculturalism calls for a reevaluation of educational paradigms. The increasingly diverse nature of our societies necessitates the integration of interculturalism into curricula, pedagogical practices and school policies. By embracing multiculturalism in education, nations can foster inclusive and equitable learning environments that empower students to navigate the complexities of our interconnected world. Through intercultural education, we have the opportunity to build bridges of understanding and create a more harmonious and prosperous global community.

Cultural Quotient (CQ)

The exploration of the relationship between culture and intelligence has a long history within the field of intelligence research, indicating the enduring interest in understanding how cultural factors influence cognitive abilities. Early studies approached this relationship in a manner that can now be considered inappropriate by today's standards. Researchers conducted comparative studies across different cultures, using translated or adapted intelligence tests as their primary measurement tool. These studies aimed to assess intelligence differences between cultures and draw conclusions about the role of culture in shaping cognitive abilities.

However, more recent research, as highlighted by Yıldız and Deryakulu (2017, p. 44), recognizes the limitations of relying solely on standardized tests to examine the cultural dimensions of intelligence. They argue that the value of such studies lies in exploring how individuals utilize the resources available within their cultural contexts and the mechanisms they develop to adapt to their specific environments. Instead of focusing solely on intelligence measured by standardized tests, researchers should consider the ways in which individuals interact with and navigate their cultural surroundings, including their problem-solving strategies, social norms and cultural practices.

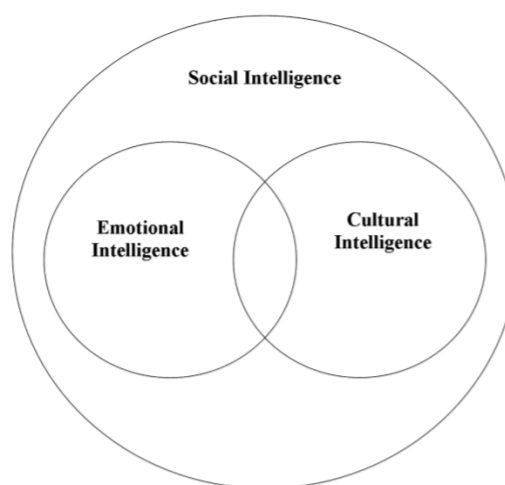
In addition to comparative studies, another line of research has emerged, seeking to explain the intricate relationship between culture and intelligence through the lens of learning. These studies delve into how cultural factors influence the process of knowledge acquisition and the ways in which individuals engage with and make meaning from their cultural environments. They emphasize the concept of culture transfer, which refers to the ways individuals absorb, internalize and utilize cultural knowledge and practices to shape their cognitive development.

By examining the interplay between culture and intelligence from the perspective of learning, researchers aim to shed light on the multifaceted dynamics that underlie the relationship. This approach acknowledges the reciprocal nature of the interaction, where cultural factors both shape and are

shaped by individuals' cognitive abilities and learning processes. Through this lens, researchers can gain a deeper understanding of how cultural contexts influence cognitive functioning and provide insights into the diverse ways in which individuals from different cultural backgrounds approach and engage with intellectual tasks and challenges.

With the introduction of cultural intelligence, the subject area of culture-intelligence research appears as a separate dimension. The fact that cultural intelligence, such as social and emotional intelligence, includes some affective structures (such as empathy) may indicate that these types of intelligence have intersections. However, the order in which these types of intelligence are brought into the literature can sometimes create ideas, as one is the extension of another. Although the emergence of cultural quotient occurs through studies that follow social and emotional intelligence, it would not be a correct approach to see these two types of intelligence as extensions (Earley & Ang, 2003, p. 48). According to Crowne (2009, p. 157) Emotional and cultural intelligence, which are seen as the sub dimensions of social intelligence, are thought to be completely independent from each other and then he states that there are some interesting points between them and used the diagram below to describe the relationship between these three types of quotients.

Figure 3. *Model of the relationships among social intelligence, cultural quotient and emotional intelligence*



(Crowne, 2009, p. 157).

Within the realm of emotional intelligence, individuals' understanding of their own emotions and the emotions of others serves as a valuable indicator of their emotional quotient (EQ). To delve further into the concept of EQ, it is essential to consider the environment in which individuals reside as an independent variable. As the environment undergoes changes, does the level of emotional intelligence also fluctuate? In other words, does EQ depend on the specific cultural and social context in which individuals live?

Acknowledging the cultural and social factors at play, it is important to recognize that certain emotional expressions, such as body language, tone of voice, gestures and facial expressions, may vary across different cultures. Consequently, an individual's level of emotional intelligence becomes shaped by the societal norms, values and expectations within their specific cultural milieu. The mere presence of high emotional intelligence within one's own culture does not necessarily imply that an individual possesses the ability to effectively utilize this skill in diverse cultural settings (Crowne, 2009, p. 155).

In the contemporary globalized and multicultural society we inhabit, the capability to navigate and flourish in diverse cultural contexts has gained heightened significance. Within this context, Cultural Quotient (CQ), which emerges as an extension of the framework of Emotional Intelligence (EQ), offers a promising concept that equips individuals with the essential competencies to engage and interact effectively with different cultures. CQ, with its emphasis on cultural awareness, adaptability and sensitivity, provides individuals with the tools to develop cultural intelligence and successfully navigate the complexities of multicultural environments. By actively cultivating CQ, individuals can enhance their capacity to build meaningful relationships, collaborate across cultural boundaries and succeed in our interconnected and culturally diverse world.

In summary, while emotional intelligence provides insights into individuals' understanding and management of emotions, it is crucial to recognize that EQ is not a universally fixed trait but is influenced by the cultural and social context in which individuals exist. In the contemporary global landscape, the cultivation of Cultural Quotient (CQ) becomes

increasingly vital, empowering individuals to effectively engage with diverse cultures and navigate the intricacies of multicultural environments. By developing CQ, individuals can broaden their perspectives, appreciate cultural differences and foster harmonious relationships in our interconnected and culturally diverse world.

The increasing interconnectedness of our globalized world has ushered in an era where cultural diversity and cross-cultural interactions have become pervasive in various domains of life. In this context, individuals who possess a high level of Cultural Quotient (CQ) demonstrate the capacity to adapt, comprehend and effectively engage with individuals from diverse cultural backgrounds. CQ, akin to Emotional Quotient (EQ), encompasses a set of skills that can be developed and refined through conscious effort and experience. Understanding the commonalities shared between EQ and CQ provides valuable insights into the significance of cultural intelligence and its potential impact on individual and societal well-being.

EQ, as a concept, primarily focuses on the understanding and management of emotions within oneself and in social interactions. Similarly, CQ delves into the realm of social intelligence, placing emphasis on the importance of cultural awareness, adaptability and intercultural communication. Both EQ and CQ acknowledge the crucial role of empathy and understanding in building meaningful connections with others. While EQ primarily addresses emotional aspects, CQ expands the scope to encompass cultural nuances, enabling individuals to bridge gaps and foster inclusive relationships across cultures.

It is important to note that cultural intelligence, like other forms of intelligence, is not solely an innate trait but can be nurtured and developed. Cultivating CQ involves a combination of self-awareness, knowledge acquisition and firsthand intercultural experiences. Individuals can enhance their CQ by actively engaging in cultural immersion programs, actively seeking to learn about different cultural practices and actively seeking opportunities for cross-cultural interactions. By actively exploring and embracing cultural diversity, individuals can broaden their perspectives,

challenge their preconceptions and develop a heightened sensitivity to the intricacies of cultural nuances.

In summary, the contemporary global landscape necessitates the development of Cultural Quotient (CQ) alongside other forms of intelligence. Individuals with a high level of CQ are equipped to navigate the complexities of cultural diversity, adapt effectively to diverse contexts and foster inclusive and harmonious relationships with individuals from different cultural backgrounds. Through intentional cultivation of CQ, individuals can contribute to the promotion of intercultural understanding and the creation of a more cohesive and interconnected global society.

The recent and intensified discussion of cultural quotient in the literature can be attributed, in part, to the development of information and communication technologies. The widespread use of the internet, for instance, plays an active role in creating multicultural environments (İbiş, 2018, p. 21), while also accelerating the dissemination of knowledge related to the concept of cultural quotient. Transportation and communication technologies, on one hand, bring diverse cultures together and facilitate coexistence, while on the other hand, they lay the groundwork for potential conflicts that may arise from this union (Aksoy, 2015, p. 3). In order to effectively adapt to environments characterized by increased cultural interaction, the acquisition of cultural quotient becomes essential (Mercan, 2016, p. 2). Raising awareness of this necessity raises the question of how to proceed. To address this, it is necessary to define the scope of cultural quotient.

Cultural quotient encompasses all aspects of communication, ranging from discussing and exchanging ideas to making decisions and reaching compromises (Sadeghian, 2011, p. 403). Developing cultural quotient requires the functioning of all stages of communication in environments that differ from the individual's own cultural background. Making sense of individuals from cultures different from one's own and accepting their behaviors as if they were from one's own culture fall within the purview of cultural quotient (Earley & Ang, 2003, p. 489). It entails being aware of the cultural underpinnings behind a person's behavior while interpreting their actions.

Cultural awareness, therefore, can be regarded as a prerequisite for cultural quotient.

Cultural quotient is defined as the effective adaptation to new cultural contexts (Earley & Ang, 2003, p. 59). The phrase "adapting to new cultural contexts" in the definition of cultural quotient bears resemblance to the notions of environmental adaptation and problem-solving in cognitive intelligence approaches. However, due to the encompassing nature of culture, cultural quotient not only involves cognitive structures but also requires the integration of values and behavioral development. Therefore, cultural quotient serves as an ideal guide for enhancing the communities to which individuals belong (Aksoy, 2015, p. 7)

Questions similar to those posed in the domains of social and emotional intelligence have also emerged in the realm of cultural quotient. Like general intelligence, cultural quotient entails the analysis and resolution of problems within a cultural context. Furthermore, cultural quotient encompasses the abilities to understand, interpret and manage diversity (Vedadi, Kheiri, & Abbasalizadeh, 2010, p. 27).

When examining the sub-dimensions of cultural quotient, two main approaches come to the forefront. Initially, cultural quotient was defined in terms of cognitive, behavioral and motivational dimensions (Earley & Ang, 2003, p. 67). Subsequently, it was further delineated to include motivational, cognitive, metacognitive and behavioral dimensions (Livermore, 2011, p. 25). The specific scopes of these dimensions will be discussed in separate sections, with the most notable distinction being the addition of metacognitive dimension.

Despite the establishment of models and indicators, the need for experimental studies on the acquisition and development of cultural quotient remains fundamental (MacNab & Wortley, 2012, p. 62). This study aims to address this need.

In our increasingly globalized and interconnected world, the significance of cultural intelligence cannot be overstated. The capacity to navigate cultural differences effectively empowers individuals to engage in

successful collaborations, foster international partnerships and cultivate cross-cultural understanding. Cultural intelligence serves as a vital bridge, facilitating mutual respect and minimizing the potential for cultural misunderstandings. Moreover, cultural intelligence equips individuals with the adaptive mindset necessary to thrive in diverse environments, both personally and professionally.

In the contemporary globalized society, the pursuit of wellbeing has become intrinsically linked to the ability to navigate and thrive in diverse cultural contexts. Individuals with a high Cultural Quotient (CQ) are equipped with the cognitive, behavioral and emotional capacities necessary to effectively engage with and adapt to different cultures. Their elevated levels of cultural intelligence contribute to improved psychological and social wellbeing, as they possess the skills to navigate cultural challenges, exhibit greater empathy and adapt to the ever-changing dynamics of social interactions.

Cultural Quotient, as a subcategory of Emotional Intelligence (EQ), holds significant implications for personal and societal wellbeing. It encompasses a range of competencies, including cultural awareness, sensitivity, adaptability and intercultural communication skills. This multifaceted construct allows individuals to engage in meaningful interactions with people from diverse cultural backgrounds, foster cross-cultural understanding and contribute to the development of inclusive and harmonious environments.

By embracing cultural diversity and actively cultivating their CQ, individuals can enhance their overall wellbeing. They develop a deeper understanding of cultural differences, challenge their own biases and assumptions and cultivate a mindset of openness and curiosity towards diverse perspectives. This heightened cultural intelligence empowers individuals to navigate complex cultural dynamics with sensitivity and respect, ultimately leading to more successful and fulfilling personal and professional relationships.

Moreover, the positive impact of cultural intelligence extends beyond individual wellbeing to the broader societal context. Cultivating CQ among individuals fosters a more inclusive and harmonious society, where cultural differences are valued and celebrated. By bridging cultural gaps and promoting intercultural dialogue, individuals with high CQ contribute to the creation of environments that foster a sense of belonging and wellbeing for all members of society.

In light of the significant role played by cultural intelligence in promoting personal and societal wellbeing, it is imperative to emphasize the importance of education and training programs that nurture and develop CQ. Educational institutions and organizations can play a vital role in equipping individuals with the necessary skills and knowledge to effectively engage with diverse cultures, challenge cultural biases and foster intercultural understanding. By incorporating cultural intelligence into educational curricula and professional development programs, we can empower individuals to navigate the complexities of our multicultural world and contribute to a more harmonious and inclusive global society.

Development of Cultural Quotient

Cultural intelligence development and the implementation of teaching programs focused on enhancing cultural intelligence have emerged as paramount concerns in contemporary education. In light of the TALIS 2018 Report, which provides valuable insights into the state of education in Turkey, it has been discerned that teaching in multicultural environments and effective communication with individuals from diverse cultures are the primary areas where teachers in Turkey require significant professional development (Karip, 2019, p. 52). These findings not only shed light on the current educational landscape but also reveal an escalating demand for teacher education in these domains, as corroborated by a report conducted in 2008 (Karip, 2019, p. 54). Consequently, the pressing need for teachers to be well-equipped with the knowledge, skills and competencies to navigate multicultural classrooms and foster inclusive learning environments has become increasingly pronounced in the field of education.

To address the complexities of multicultural education, it is imperative to recognize the multifaceted nature of cultural intelligence and its far-reaching implications for both educators and students. Cultural intelligence encompasses a broad range of interconnected competencies, including cultural awareness, cultural knowledge, cultural sensitivity and the ability to adapt and interact effectively in diverse cultural contexts. Education systems across the globe are grappling with the challenges posed by the rapid demographic shifts and cultural diversities present within classrooms, making it indispensable for teachers to develop and hone their cultural intelligence.

The TALIS 2018 Report's identification of teaching in multicultural environments and communication with individuals from different cultures as critical areas requiring professional development attests to the growing recognition of the profound impact of cultural intelligence on educational practices and outcomes. The report's emphasis on the demand for enhanced teacher education in these domains serves as a clarion call for educational policymakers, institutions and educators to prioritize the development of culturally competent pedagogical practices and instructional strategies.

The escalating demand for teacher professional development in multicultural education can be attributed to several factors. Globalization and advancements in technology have significantly facilitated cross-cultural interactions, necessitating a shift in educational paradigms to better prepare students for a culturally diverse and interconnected world. Moreover, the recognition of the inherent value and rights of individuals from diverse cultural backgrounds has underscored the need for inclusive educational environments that embrace and celebrate cultural differences. Consequently, the acquisition and cultivation of cultural intelligence among educators have gained prominence as indispensable prerequisites for fostering positive learning experiences, promoting equitable outcomes and nurturing students' social and emotional well-being.

The integration of cultural intelligence within teacher education programs is instrumental in empowering educators to navigate the intricate nuances of multicultural classrooms effectively. These programs should

encompass a comprehensive range of components, including theoretical foundations of cultural intelligence, experiential learning opportunities, reflection exercises, collaborative engagements and ongoing support and mentorship. By equipping teachers with the necessary competencies to understand, appreciate and engage with diverse cultures, teaching programs for cultural intelligence have the potential to enhance educators' pedagogical practices, enrich students' learning experiences and foster inclusive school communities.

In conclusion, the TALIS 2018 Report's identification of teaching in multicultural environments and communication with individuals from different cultures as critical areas necessitating professional development reflects the growing recognition of the importance of cultural intelligence in education. As the demand for enhanced teacher education in these domains continues to rise, it becomes imperative for educational stakeholders to prioritize the development of culturally competent pedagogical practices and instructional strategies. By fostering cultural intelligence among educators, teaching programs can contribute to the creation of inclusive learning environments, promote equitable outcomes and prepare students to thrive in an increasingly interconnected global society.

The OECD PISA Global Competence Framework (2018) presents a comprehensive examination of global competence, which encompasses intercultural understanding and cultural sensitivity. This influential report highlights the imperative for educators to cultivate students' cultural intelligence as an essential skill set for navigating and flourishing in a globalized society (OECD, 2018). By integrating intercultural understanding and cultural sensitivity within educational contexts, the report underscores the importance of fostering students' capacity to appreciate diverse perspectives, engage in respectful cross-cultural interactions and adapt to different cultural contexts (OECD, 2018). The framework emphasizes that cultural intelligence is not only critical for individual success but also for promoting global collaboration, social cohesion and addressing global challenges collectively (OECD, 2018). By equipping students with cultural intelligence, educators can

foster their ability to thrive in diverse cultural environments, develop a sense of global citizenship and contribute positively to an interconnected world.

The UNESCO's Global Education Monitoring Report, published annually, represents a significant body of work that examines key aspects of equity, inclusion and quality in education on a global scale. Although the reports do not explicitly delve into the concept of cultural quotient, they consistently emphasize the criticality of promoting intercultural understanding, combatting stereotypes and cultivating inclusive educational practices that embrace and value cultural diversity. These reports emphasize the need to create learning environments that foster respect, dialogue and cooperation among students from different cultural backgrounds, ultimately contributing to the development of global citizens who can navigate and contribute to an increasingly interconnected world (UNESCO, various years). By highlighting the significance of intercultural understanding and inclusive education, the Global Education Monitoring Reports underscore the importance of nurturing cultural intelligence among learners, even if the term "cultural quotient" is not explicitly used.

The Education and Training Monitor, published by the European Commission on a regular basis, offers a comprehensive overview of the state of education across Europe. While the reports do not specifically focus on the concept of cultural quotient, they place considerable emphasis on promoting social cohesion, intercultural dialogue and citizenship education. These dimensions are closely intertwined with the development of cultural intelligence. The reports emphasize the importance of equipping individuals with the knowledge, skills and attitudes necessary to navigate diverse cultural contexts and engage in respectful interactions with people from different backgrounds. By fostering intercultural understanding and embracing cultural diversity, the Education and Training Monitor reports recognize the significance of cultural intelligence in promoting inclusive education, social integration and active citizenship within Europe (European Commission, various years). Although the term "cultural quotient" may not be explicitly used, the reports contribute to the broader discussion on the importance of cultural intelligence in fostering harmonious and inclusive societies.

Cultural Quotient in National Curricula

The scope of this study primarily centers on the analysis of the curriculum pertaining to middle school students, specifically focusing on the compulsory courses within the fifth-grade curriculum. The mandatory courses for these students encompass a diverse range of subjects, including Turkish, English, mathematics, science, social studies, information technologies, physical education, visual arts, music and religious culture and moral knowledge (refer to Appendix 1). Therefore, an extensive examination of the curriculum content for these ten courses was undertaken. This analysis was carried out in two distinct stages: firstly, a comprehensive assessment of common elements across all courses, followed by a detailed exploration of specific findings derived from the learning outcomes statements for each individual course.

By adopting this approach, it ensured a thorough understanding of the curriculum's overall content and structure, facilitating the identification of overarching themes and patterns. The investigation of commonalities enabled the recognition of key aspects that transcend individual subjects, thereby shedding light on the broader educational objectives and intentions embedded within the curriculum. Subsequently, a meticulous examination of the unique acquisition statements associated with each course allowed for a more nuanced comprehension of subject-specific goals and learning outcomes.

The methodology employed for this analysis involved meticulous scrutiny of the official curriculum documents, including syllabi, guidelines and learning standards. Through a close examination of these resources, it was possible to discern the intended knowledge, skills and competencies that students are expected to acquire throughout their study of the aforementioned courses. Furthermore, specific attention was devoted to any explicit references or indicators pertaining to interculturalism, cultural diversity, or the development of intercultural competencies within the curriculum.

It is essential to emphasize that this study adheres to a rigorous scientific approach, employing a systematic analysis of the curriculum materials. The findings derived from this comprehensive examination will

serve as a foundation for investigating the presence and integration of intercultural elements within the curriculum, thereby enhancing our understanding of how educational systems address the challenges and opportunities posed by multiculturalism. The subsequent sections of this thesis will delve further into the specific findings and implications resulting from this analysis, thereby advancing our knowledge and understanding of the role of education in fostering intercultural competence among secondary school students.

In conclusion, the curriculum analysis conducted for this study focused on the compulsory courses within the middle school curriculum, specifically for fifth-grade students. By meticulously examining both the common elements and subject-specific acquisition statements, this research aims to shed light on the extent to which interculturalism is addressed within the curriculum. The methodological rigor employed throughout this study ensures a scientifically grounded exploration of the curriculum's content and objectives, contributing to a broader understanding of how educational systems navigate the complexities of multiculturalism.

CQ in Common Perspective Part of the National Curricula

The introduction section elucidates the philosophy of the curriculum, highlighting its objective to cultivate individuals with a specific set of characteristics. The curriculum's philosophy emphasizes the development of individuals who possess the following profile features:

- information producer,
- adept at applying knowledge in practical contexts,
- proficient problem solver,
- critical thinker,
- entrepreneurial mindset,
- decisive,
- skilled in communication,
- capable of empathy and
- contributing to society and culture (MoNE a, 2018, p. 4).

However, the curricula do not provide an explicit explanation regarding the scope or limitations of these profile features. Consequently, it would be more appropriate to ascertain whether the direct expression of these features overlaps with cultural quotient, without speculating on the extent of their applicability. For instance, while effective communication aligns directly with cultural quotient, entrepreneurship may only contribute to cultural quotient if it involves engaging with individuals from diverse cultures. Nevertheless, the curricula fail to address this connection explicitly, rendering it artificial and subject to individual interpretation. Consequently, it is crucial to emphasize whether the stated profile features effectively serve cultural quotient, without the need for further interpretation. From this perspective, profile features encompassing communication skills, empathy and contribution to society and culture can be considered as serving cultural quotient.

The curricula assert that our tradition is the source of values, which form the fundamental principles underlying all curricula (MoNE a, 2018, p. 5). It is evident that the values addressed in the national curricula do not conflict with universal values. Thus, there is no need to debate the status of values concerning cultural quotient as a separate topic within the curricula. This matter should be addressed within the context of standards. Examining whether values are represented to serve cultural quotient or not within the standards, which outline specific curriculum objectives, will yield more meaningful outcomes. The values listed in the curricula include justice, friendship, honesty, self-control, patience, respect, love, responsibility, patriotism and loyalty (MoNE a, 2018, p. 5). Additionally, the Social Studies Curriculum encompasses the following values: emphasis on family unity, independence, peace, scientific inquiry, diligence, solidarity, sensitivity, aesthetics, equality, freedom and savings (MoNE d, 2018, p. 9). However, the term "root values" is employed without clarifying the specific characteristics that classify them as such or the meaning associated with this categorization.

Upon completion of secondary school, the intended outcome for individuals is to internalize national and moral values, exercise their rights, fulfill their responsibilities and ultimately acquire competence in accordance with the "Turkey Qualifications Framework (TQF)" (MoNE a, 2018, p. 4).

The key competencies, which are derived from the competency framework and are composed of eight elements, are aligned with mandatory courses. The table below presents the correspondence between the key competencies outlined in the curricula and the compulsory courses.

Table 1. *Key competencies and compulsory courses that are aimed to be developed in fifth grades that they have pointed out*

Key Competencies	Compulsory Courses
Communication in the mother tongue	Turkish
Communication in foreign languages	English
Mathematical competence and basic competencies in science / technology	Mathématiques Science
Social and citizenship competencies	Social studies
Digital competence	Information technologies
Cultural awareness and expression	Physical education Visual arts Music
Learning to learn	-
Taking initiative and entrepreneurship	- Religious culture and moral knowledge

As seen in the table, the descriptions of only two of the eight key competencies do not indicate a compulsory course. These are learning to learn, taking initiative and entrepreneurship.

In order to understand whether key competencies serve cultural quotient, their definitions in the curricula should be examined. As a result of the examination, it can be said that five out of eight competencies clearly overlap with the content of cultural quotient. Considering the place of communication in intercultural relations, it would not be wrong to say that communication in the native language and foreign languages serves a cultural quotient. The expressions of “adaptation to the society and working life that differ with” and “interpersonal and intercultural awareness” (MoNE a, 2018, p. 6) in the title of “Social and Citizenship Competencies” that point to the content of the social studies course, it makes us think that this competence can serve cultural quotient. In “Cultural Awareness and Expression” title, It is stated that this competence covers the creative expression of emotions ”

(MoNE a, 2018, p. 6). In this case, it is inevitable for the stated competence to be structured with a content that serves cultural quotient. The expressions of “awareness of ethical values and requiring effective governance” used for the key competence of taking initiative and entrepreneurship; it makes us think that this competence has a side that serves cultural quotient. In summary, competencies that are thought to overlap with the content of cultural quotient are listed as; communication in the native and foreign languages, social and citizenship competencies, cultural awareness and expression, taking initiative and entrepreneurship.

Another topic that emphasizes cultural differences in education programs is the title of “Individual Differences and The Curricula”. In the explanations under this title, it is stated that the curricula are structured by considering the individual differences arising from cultural factors, interests, needs and orientations (MoNE a, 2018, p. 8) and teachers are advised to choose appropriate teaching methods and approaches (MoNE a, 2018, p. 15).

In conclusion, within the introductory section of all fifth-grade curricula, three profile features that can be associated with cultural quotient (communication skills, empathy and contribution to society and culture) and five competencies (communication in native and foreign languages, social and civic competencies, cultural awareness and expression, taking initiative and entrepreneurship) are outlined. The inclusion of communication as both a profile feature and a competency introduces complexity to the conceptual framework, but it also signifies the significance accorded to communication by curriculum designers. Another aspect that contributes to the confusion surrounding the conceptualization and classification of communication in the curricula is its portrayal as a life skill in the science curriculum (MoNE b, 2018, p. 9) and as a skill in the social studies curriculum (MoNE d, 2018, p. 9). In the English curriculum, communication is defined as a skill, with the source of this definition referenced as the European Common Framework of Reference for Languages: Learning, Teaching, Assessment (CERF) (MoNE g, 2018, p. 3). The examination of expressions related to cultural quotient in the specific objectives of the lessons will be explored in the subsequent section.

CQ in the Goals of the National Curricula

In Mathematics Course

When the fifth grade standards of Mathematics Curriculum are examined, it can be said that the following standard serves cultural quotient:

Students,

1. add and subtract with decimal numbers. (In the explanation of the standards, it is stated that there will also be decimal notation studies that express the lira-kuruş relation about our money.) (MoNE a, 2018, p. 54).

When mathematics teachers follow the curriculum only starting out from the standards, may cause them to make limited use of the items that serve cultural quotient. Because, as can be seen from the terms of standards, there is only content that emphasizes the currency, which is an economic term in our cultural elements. However, when the introduction of the curriculum is analyzed, social and universal values and cultural themes are emphasized. The fact that the introduction part of the curriculum and the standards have a structure that overlaps, can guide practitioners. Otherwise, even if the practitioners are aware of the introduction part of the curriculum that is out of the standards, it is inevitable that the practitioners need strict guidance on how to implement these explanations. In addition to all this, considering the universal dimension of mathematics lessons, this course can be designed for communication with other cultures. For example, while teaching the percentage symbol on the percentage, it can be stated that some societies use the sign “%” before the number and some use it after the number. When this situation is removed from the curriculum, it is left to the direction of the books or the vision of the teacher.

In Science Course

When the fifth grade standards of Science Curriculum are examined, it can be said that the following standard serves cultural quotient:

Student;

1. measure the magnitude of the force with a dynamometer. (In the explanation of this standard, Newton (N) is used as the unit of force.)
2. give examples to plants and animals that are extinct or in danger of extinction in our country and in the world.
3. offer suggestions for the solution of an environmental problem in its immediate environment or in our country (MoNE b, 2018, pp. 27-29).

Considering the content of the science lesson, the limited number of standards will be addressed globally means ignoring much content that can be linked with interculturalism. It is full of examples from around the world in every scientific phenomenon within the context of interculturalism. For example, teachers can be directed to examples from the world with at least the explanation part of the standards related to natural disasters.

In Turkish Course

Although it is not included in all curricula, the expression of “making the students realize and adopt aesthetic and artistic values through works of Turkish and world culture and art” is included in the explanations of the Turkish Curriculum (MoNE c, 2018, p. 8). This will serve the cognitive dimension of cultural quotient. Another situation specific to the Turkish Curriculum is that this course is taught within the scope of the themes. The compulsory themes to be covered are “Virtues”, “Our National Culture”, “National Struggle and Atatürk” themes (MoNE c, 2018, p. 16). When this is considered in the context of cultural elements, it appears as a situation related to cultural quotient. Another theme, which is not compulsory, is the theme of “Individual and Society”, which includes content such as multiculturalism, multilingualism, globalization, peace, justice and respect for differences. Another theme that is not compulsory is the theme of “Citizenship” and the content of this theme includes issues such as immigration. It is important to recommend these topics, which are directly linked to cultural quotient, as a theme in the curriculum.

When the fifth grade standards of Turkish Curriculum are examined, it can be said that the following standards serve cultural quotient:

Students;

1. in their speeches, use the Turkish words instead of the words taken from foreign languages and not yet settled in our language.
2. determine the contribution of idioms and proverbs to the text.
3. In their writings, they use the Turkish words instead of the words taken from foreign languages and not yet settled in our language (MoNE c, 2018, pp. 36-39).

Like the mathematics teachers, when Turkish teachers follow the curriculum only starting out from the standards, may cause them to make limited use of the items that serve cultural quotient. Because, as can be seen from the terms of standards, there is only content that emphasizes the language in our cultural elements.

In Social Studies Course

The following objectives in the descriptions of the Social Studies Curriculum are among the subject areas of cultural quotient.

- Understanding the basic elements and processes that make up Turkish culture and history and accepting that the cultural heritage, which enables the formation of national consciousness, should be protected and developed.
- To be able to use basic communication skills and the basic concepts and methods of social sciences in order to organize social relations and solve the problems encountered.
- Believing in the importance of participation, expressing opinions for the solution of personal and social problems
- Organizing their lives according to democratic rules understanding the historical processes of the concepts of human rights, national sovereignty, democracy, secularism, republic and their impacts on today's Turkey Knowing the importance and ways of being a virtuous person by adopting national, spiritual values and universal values
- Showing sensitivity to the issues that concern the country and the world (MoNE d, 2018, p. 8).

In addition to this, three of the twenty-seven basic skills that are identified according to TQF; collaboration, awareness of stereotypes and prejudices and social participation (MoNE d, 2018, p. 9), are directly related to cultural intelligence. "Global Connections" Unit has been added to the social studies curriculum in order to raise effective and responsible Turkish citizens who follow the agenda of the developing world and can find solutions to the problems they face. The reason for this is explained as transcending cultural and political boundaries, moving on a global scale of the beliefs, ideas, people, capital, information, technology (MoNE d, 2018, p. 12). Including this subject directly in the curriculum is admirable considering the social needs.

When the fifth grade standards of Social Studies Curriculum are examined, it can be said that the following standards serve cultural quotient:

Students,

1. realize the contribution of the social studies course to its own development, as an active citizen of the Republic of Turkey.
2. realize the important contributions of Anatolian and Mesopotamian civilizations to human history, starting from their concrete remains.
3. introduce natural assets, historical places, objects and artifacts around them.
4. identify similar and different elements among the cultural features of the various parts of our country with the cultural features of the environment in which it lives by comparing them.
5. analyze the role of cultural elements in people living together.
6. evaluate the historical development of cultural elements in daily life.
7. give examples of exercising their rights as children and situations where these rights are violated.
8. cooperate and develop new ideas based on production, distribution and consumption. (In the explanation of these

standards, it is emphasized on changing social interests and needs.)

9. give value to our symbols of national sovereignty and independence to our Flag and National Anthem.
10. investigate the role of the place in their lives, in economic relations between our country and other countries.
11. discuss the effect of communication and transportation technology in economic relations between countries.
12. explain the importance of tourism in international relations. (Realizing the mutual bias of cultures is stated in the explanation of the standards.)
13. give examples of common heritage items in various countries (MoNE d, 2018, pp. 17-19).

When the expressions of achievement are examined, it can be said that a development is observed from our own cultural characteristics towards world culture. It can be said that the explanation part of the curriculum and the general objectives of the course overlap with the standards.

In Information Technologies Course

In the descriptions of the Information Technologies and Programming Curriculum, two of the objectives of the course, are as follows:

- As a part of the learning process, the students acquire collaborative working skills, benefit from social environments and share what they have learned,
- Developing innovative and original projects for the solution of the problems encountered in daily life (problems faced by elderly and disabled people, etc.) (MoNE e, 2018, p. 8).

These goals are among the subject areas of cultural quotient and their aspects of collaboration and social problems.

When the fifth grade standards of the Information Technologies and Programming Curriculum are examined, it can be said that the following standard serves cultural quotient:

Students,

1. understand the purposes and importance of digital citizenship applications (Applications such as e-government, e-appointment, e-banking, e-school are provided.) (MoNE e, 2018, p. 12).

The content discussed in the information technologies and programming course is at the national level rather than a global dimension.

In Religious Culture and Moral Education Course

In the explanations of the Religious Culture and Moral Education Curriculum, there are three goals that may be related to cultural quotient. These are;

- To recognize and respect different beliefs and interpretations,
- Being aware of the religious behavior, comments, attitudes and experiences around the students,
- Recognize moral values and internalize them (MoNE f, 2018, p. 8).

The listed objectives fall into the subject area of cultural quotient, with the aspects of social awareness and internalization of the individual's values.

When the fifth grade standards of the Religious Culture and Moral Education Curriculum are examined, it can be said that the following standard serves cultural quotient:

Students,

1. realize the effect of faith in God on human behavior. (There are also examples from our culture about the love of God.)
2. explain the meaning and importance of prayer with examples. (There are examples of prayer in our culture and care is given to give examples of stereotyped prayer phrases in our language.)
3. recognize Ramadan and fasting traditions in our culture.

4. pay attention to behave according to courtesy rules in social life.
 5. respect the manners of greeting.
 6. act appropriately for communication and speaking manners.
 7. comply with the table manners.
 8. examine the religious motifs in our architecture.
 9. give examples of the traces of religion in our music.
 10. find examples of the traces of religion from our literature.
 11. realize the religious elements in our customs and customs
- (MoNE f, 2018, pp. 21-25).

When the standards are examined, it is seen that all of the statements are trying to establish a connection between religion and life. This link is based only on Islam. Therefore, in terms of cultural quotient, although the curriculum serves the majority of the society at national level, it can be said that it ignores the minorities and global understanding of religion.

In English Course

According to the English Curriculum, speaking in English effectively means economic, political and social progress in today's society depends on the ability of Turkish citizens to communicate effectively on an international level (MoNE g, 2018, p. 4). Since one of the goals of cultural quotients is to communicate effectively on a global level, this curriculum is available to serve cultural quotients. The English Curriculum is said to take into account the three descriptors of the CEFR comprising learner autonomy, self-assessment and appreciation for cultural diversity. With the aspect of appreciation for cultural diversity, it is targeted for students developing appreciation for their own unique culture while learning to understand and value a broad spectrum of international languages and cultures (MoNE g, 2018, p. 7). In addition to this, cultural issues are also addressed in consideration of the CEFR's emphasis on developing intercultural competence and appreciation for cultural diversity (MoNE g, 2018, p. 9). These are essential steps for the cultural quotient.

When the fifth grade standards of English Curriculum are examined, it can be said that the following standard serves cultural quotient:

Students will be able to;

1. understand simple texts about festivals around the world.
2. understand visually supported short texts about festivals around the world (MoNE g, 2018, p. 59).

It can be counted as an indication that the curriculum is prepared with an understanding that wants to acquire language rather than culture since few cultural elements are included. However, it makes it questionable how sufficient this situation is to meet the goals (recognizing and appreciating different cultures) in the explanations section.

In Visual Arts Course

Eighteen skills are defined in the Visual Arts Education Curriculum for this course. Three of these skills are; cultural heritage and self-awareness (MoNE h, 2018, p. 9) may be related to cultural quotient. In some parts of the cultural heritage program, skill is considered as a learning area in some parts. At the points where it is considered as a learning area, the following five general objectives of this area can be explained as their connection with cultural quotient:

It was aimed for students;

- To examine the works of art and artists in Turkish society and culture in the historical process,
- To examine the works of art and artists in different societies and cultures,
- To comprehend that art and culture shape and reflect each other,
- To examine cultural and artistic works in museums, historical sites, historical sites, art galleries, artist workshops and similar places,
- To examine, analyze and interpret examples of culture and arts,
- To examine the works built for solidarity in Turkish culture (hospital, almshouse, caravanserai, etc.) (MoNE h, 2018, p. 10).

When the fifth grade standards of English Curriculum are examined, it can be said that the following standard serves cultural quotient:

Students;

1. explain the similarities and differences between the art and artists of different cultures.
2. tell the differences between works of art made in the past and present.
3. associates museums and visual arts.
4. compares the natural and human made structure (Difference between naturally formed fairy chimneys and the structures human made such as Damlatas Cave and cities.) (MoNE h, 2018, p. 24).

The general objectives of the course and the standards seem consistent. However, gains related to cultural quotient remained only on the cognitive level. The affective domain is as important as the cognitive domain for cultural awareness.

In Physical Education Course

In Physical Education Curriculum, it is aimed to develop students' self-management and social skills through sports (MoNE i, 2018, p. 9). From the outputs determined as the output of this target; communication, cooperation, social responsibility and respect for differences (MoNE i, 2018, p. 9) serve cultural quotients. In the Physical Education Curriculum, it has been announced that teachers can review the social and cultural situation of the school environment in the selection and application of activities and that they can include folk dances instead of modern dances (MoNE i, 2018, p. 11). In the framework curriculum (at the region or school level), it makes sense to organize the curriculum according to the situation instead of where the teachers are located. This is not possible with central curriculums. If this means to decide the lesson to be conducted by taking into account the characteristics of the student, this is among the obligations of all practitioners without the need for a proposal. Then it is not necessary to write. However, this means to arrange the curriculum, it does not comply with the philosophy

of our country with a central curriculum development approach. If the need to write this suggestion in the curriculum stems from reservations of social reactions (which is more likely), this shows that the perception of our national institutions is worrying about the degree of being open to different cultures which is in the motivational dimension of cultural quotient. Therefore, it is important to develop cultural quotients in educational institutions that are systematic transformers of the society.

When the fifth grade standards of Physical Education Curriculum are examined, it can be said that the following standard serves cultural quotient:

Students;

1. use different ways of communication in games and events. (Verbal (effective listening, effective message sending, using me and us language), visual (body language, gestures and facial expressions, emphasis etc.) and written communication ways necessary for healthy communication in games and activities are emphasized.)
2. are sensitive to individual differences in games and events.
3. participate in eid, celebrations and ceremonies.
4. recognize the folk dances of their close circle. (The stories, features, music and clothes of folk dances from various regions of our country are discussed.)
5. recognize traditional children's games. (Examples of traditional children's games played in our country should be given.)
6. know the Olympic concepts (Concepts and symbols related to the Modern Olympic Games (paralympic, olympic, etc.) are emphasized.) (MoNE i, 2018, pp. 15-17).

When the standards are examined, it can be said that only the final one is handled in a global dimension. The reason for this situation is that its content is global. Explanations of other achievements that overlap with cultural quotients are often limited to the national level.

In Music Course

In the Music Curriculum, the following three of the special objectives of the course are linked to cultural intelligence.

It was aimed for students;

- to recognize local, regional, national and international music genres and to perceive elements of different cultures as wealth.
- to ensure that they sing our marches in accordance with their essence, especially the National Anthem,
- to ensure that they have a musical culture and knowledge that reinforces our national unity and integrity and facilitates our integration with the world (MoNE j, 2018, p. 8).

Besides these objectives, among the skills of the music lesson; ability to establish the relations between music and society, culture, national and spiritual values and ability to develop cultural heritage and diversity, are also among the skills that can be considered as related to cultural quotient.

When the fifth grade standards of Music Curriculum are examined, it can be said that the following standard serves cultural quotient:

Students;

1. pay attention to the meaning of the Turkish National Anthem when singing it.
2. attend music events related to certain days and weeks.
3. realize the rhyme structure of Turkish music.
4. relate the historical process of the National Anthem to national and moral values.
5. improve taste and music culture by listening to different types of music (Students are directed to research and listen to examples of our traditional music, which is listened to especially in their surroundings and regions.) (MoNE j, 2018, pp. 25-27).

Similar to numerous curricula, the standards pertaining to cultural quotient are predominantly confined to the national context, thereby displaying limitations in their scope and inclusivity.

Critical Thinking and Cultural Quotient

Critical thinking, as delineated by the American Psychological Association (APA, 1990), is a cognitive process that shapes individuals' beliefs and actions through meticulous analysis and evaluation, playing a pivotal role in intercultural relationships. The cognitive systems governing individuals' thoughts and decisions significantly influence their lives, thereby underscoring the essentiality of critical thinking as a fundamental component of effective cognitive functioning (Prensky, 2017, p. 132). Epstein (1999, p. 117) draws a parallel between critical thinking and a defense system, serving as a safeguard against the pervasive influence of persuasive individuals and the inundation of information. Operating as a discerning filter, critical thinking entails a refusal to unquestioningly accept ideas, necessitating observation and empirical exploration.

Individuals with lower levels of Cultural Quotient (CQ) may exhibit a dearth of motivation for personal growth or possess insufficient critical thinking skills required for restructuring their cognitive frameworks (Early, Ang, & Tan, 2006, p. 168). Conversely, it is evident that individuals with higher levels of CQ demonstrate a capacity for critical thinking (Early & Ang, 2003, p. 278). The metacognitive dimension of cultural quotient is believed to initiate and facilitate critical thinking processes (Ang & Dyne, 2008, p. 17). Some scholarly sources refer to the motivational dimension of CQ as critical CQ, underscoring its role in driving critical thinking (Templer, Tay, & Chandrasekar, 2006, p. 155). Therefore, the interplay between critical thinking and CQ emerges as a multifaceted relationship, with both skills being highly valued in contemporary society.

Multicultural education, with its explicit objective of fostering CQ, also endeavors to cultivate critical thinking skills (Yazıcı, Başol, & Toprak, 2009, p. 231). This highlights the interconnectedness of critical thinking and CQ as desirable outcomes within educational contexts. The cultivation of

critical thinking through multicultural education aligns with the broader goals of enhancing cultural intelligence and equipping individuals with the competencies needed to navigate the intricacies of diverse cultural environments.

The relationship between critical thinking and CQ extends beyond the acquisition of knowledge and skills; it encompasses the development of a mindset that challenges assumptions, seeks empirical evidence and embraces multiple perspectives. The integration of critical thinking skills with a high CQ empowers individuals to approach intercultural interactions with openness, sensitivity and intellectual rigor.

In conclusion, critical thinking and Cultural Quotient (CQ) share a complex and interwoven relationship within the realm of intercultural relationships and educational settings. Critical thinking functions as a cognitive defense mechanism, enabling individuals to filter information and shape their beliefs and actions. Meanwhile, CQ provides individuals with the metacognitive awareness and motivational drive necessary for critical thinking and adaptation in diverse cultural contexts. Understanding and fostering the interplay between critical thinking and CQ is crucial for preparing individuals to thrive in a multicultural world. Given the integral role of both critical thinking and CQ in contemporary society, their integration into educational frameworks can enhance individuals' abilities to navigate cultural complexities, foster inclusive relationships and foster intellectual growth (APA, 1990; Epstein, 1999; Prensky, 2017; Early, Ang, & Tan, 2006; Early & Ang, 2003; Ang & Dyne, 2008; Templer, Tay, & Chandrasekar, 2006; Yazıcı, Başol, & Toprak, 2009).

Critical Thinking Skills

When delving into the literature, it becomes evident that definitions of critical thinking skills exhibit significant variations in terms of conceptualization and scope. Önal (2020, p. 48-49) presents twenty-four distinct definitions of critical thinking skills offered by various researchers in their study. These definitions span over a century, indicating that the concept of critical thinking has been subject to revision approximately every four years

from the 1900s to the present. This estimation sheds light on the fluid and dynamic nature underlying critical thinking. While the diversity of definitions contributes to the breadth of its scope, it also reflects the absence of a unified understanding of the concept (Çıtak & Uysal, 2012, p. 4).

Researchers have at times encompassed creative thinking skills within the purview of critical thinking (Bayrak & Aktamış, 2016, p. 211), decision-making skills on other occasions (Nosich, 2001, p. 1; Önal, 2020, p. 41) and problem-solving skills at other junctures (Özdemir, 2005, p. 314; Çıtak & Uysal, 2012, p. 3). Thus, it can be posited that critical thinking skills embody a complex structure. In this study, the focus lies not on emphasizing the disparities in perceptions regarding critical thinking skills but rather on elucidating points of consensus. This approach stems from the aspiration to elucidate the underlying framework associated with the concept.

Naturally, it is imperative to initially address how the cornerstone of the field approaches the concept. While some researchers consider the structure of critical thinking as a skill and offer corresponding definitions, others define it based on strategies. Some scholars perceive the structure of critical thinking as encompassing knowledge, skills and attitudes. Lastly, some researchers, falling outside the aforementioned categories, regard critical thinking skills as a set of processes.

Chance (1986), representing the first group of researchers, defines critical thinking as the synthesis of skills such as idea generation and organization, argument defense, comparison-making, analysis, evaluation and problem-solving (Gürkaynak, Üstel, & Gülgöz, 2008, p. 1). This definition primarily focuses on the cognitive dimension of critical thinking skills, explaining this skill as a combination of the listed abilities. Definitions provided by researchers who view critical thinking as a set of skills have proven particularly informative in shaping the teaching process, particularly in terms of content development.

An illustrative example from the second group of researchers is the definition provided by Ennis (2001, p. 54), who characterizes critical thinking as "the process of engaging in reflective and logical thinking when making

choices and forming beliefs." This definition underscores the strategies essential for thinking and has guided the selection of methodologies in the design of the teaching process. Ennis (2001, pp. 68-71) identifies the following components when providing a definition of critical thinking skills:

Dispositions: Willingness to engage in critical thinking, being open-minded and being intellectually honest.

Knowledge: Possessing relevant background information and understanding of concepts and principles.

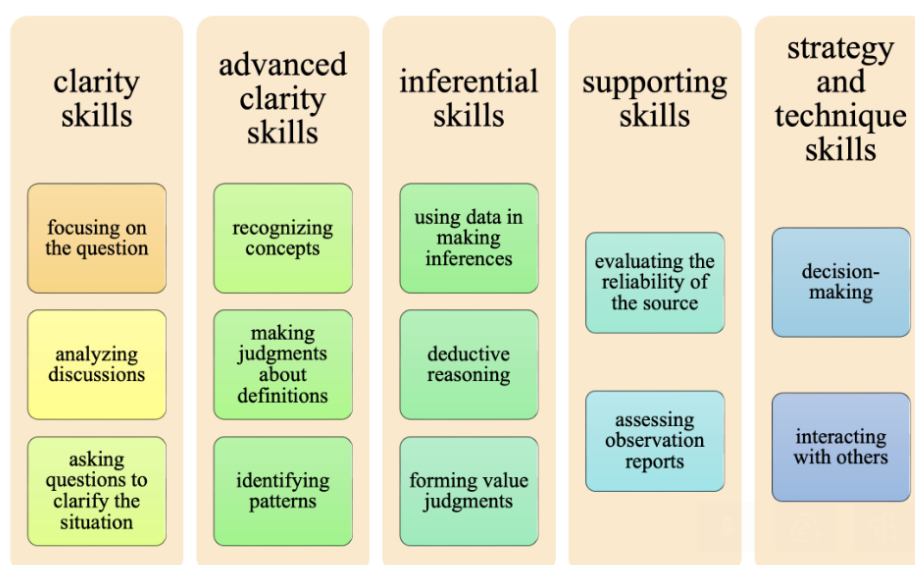
Reasoning and argumentation skills: Ability to analyze and evaluate arguments, recognize fallacies and construct well-reasoned arguments.

Decision-making and problem-solving skills: Capacity to identify and define problems, generate alternative solutions and make informed decisions.

Metacognition: Awareness of one's own thinking processes and the ability to monitor, control and regulate them.

By examining various perspectives and definitions, a comprehensive understanding of critical thinking skills can be achieved, facilitating their effective integration into educational practices.

Figure 4. Components of Critical Thinking



Among the researchers in the third group, Glaser's (1985) definition of critical thinking as the ability to apply knowledge and attitude can be given as an example. In this definition, knowledge refers to the understanding of how logic-based, evidence-based inferences are made, while attitude encompasses an inquisitive attitude that acknowledges the need for evidence (Tufan, 2008, p. 8). Some fears that negatively affect the attitude of critical thinking are also mentioned, such as the fear of making mistakes, the fear of trying something new and the fear of looking foolish (Nosich, 2001, p. 22). On the other hand, curiosity about the truth, the excitement of exploration, anger towards biased presentation of information and the fear of making irrational decisions in critical situations are among the positive indicators of critical thinking attitude (Nosich, 2001, p. 15). However, it is through the combination of knowledge and attitude that critical thinking ability can be transformed into behavior.

In this regard, the definitions provided by researchers who address the attitude dimension of critical thinking have been guiding in both the development of outcomes in the teaching process and the inclusion of the affective domain in content creation. Fisher (2005, pp. 53-55) identifies three dimensions that constitute the attitude of critical thinking: willingness to engage in reasoning, being in a constant struggle to reason about one's own thoughts and the thoughts of others and having a desire to seek and attain truth.

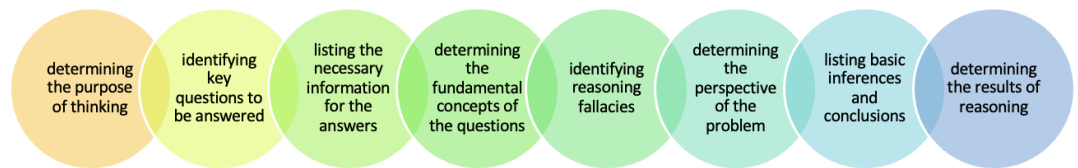
The definitions of researchers who approach critical thinking ability in terms of processes have been guiding in designing the assessment dimension of the teaching process. Among researchers in this group, Halpern (1996) lists the necessary processes for critical thinking ability as follows:

- Properly distinguishing and organizing variables
- Noticing gaps in knowledge
- Recognizing the necessity of clear definitions
- Recognizing the importance of reasons leading to conclusions
- Making inferences
- Making rational decisions based on sound justifications
- Meaningful reading

- Systematic problem-solving (Cited in Palavan, Gemalmaz, & Kurtoğlu, 2015, p. 29).

Paul and Elder (2016, p. 54) approach critical thinking ability as a sequential set of processes and list the points that need to be determined when employing this skill as follows:

Figure 5. *Steps to Determine in Employing Critical Thinking.*



Epstein & Rooney (1999) liken critical thinking to a defense system against information overload and the crowd of people attempting to persuade individuals. Underlying this analogy, which has received great interest in the literature, is the systematic thinking approach of critical thinking, which involves examining all dimensions by freeing the individual from random mental processes that can be expressed as thinking by rote, in order to reach a conclusion. The critical thinking process begins when the mind encounters a structure that engages it and the process continues with questioning regarding this structure. Methods such as observation and research are employed to gather data in order to create a broader and deeper perspective. The obtained mental findings are integrated, taking into account the types of relationships between them, leading to a judgment. The possibility of falsifying the reached judgments through new observations, experiences, etc., is evaluated, thus making inferences and generalizations. The effectiveness of this entire process depends on thinking about the process itself. Thinking about the process requires the deployment and reflection of higher cognitive processes. Interpreting, analyzing, evaluating and making inferences all follow intentionally and self-regulated. Based on this entire process, critical thinking is defined as the decision-making process in which the evidence, conceptual structure, methodology, criteria and context underlying thought can be

explained (Facione, 1990, p. 1). This definition was formulated in the Delphi Report, conducted with the participation of 46 researchers, by the American Philosophical Association (APA). The report is the result of the most comprehensive study conducted to determine and reach a consensus on the definition and scope of critical thinking.

There are certain standards that transform a thinking process into critical thinking. These standards are clarity, accuracy, relevance, importance, sufficiency, depth, breadth and precision (Nosich, 2001, p. 136). When individuals consider all these standards as criteria while structuring their thinking processes, they can establish a method of critical thinking for themselves. According to Nosich (2001, p. 179), after going through the filter of these mentioned standards, evaluation, comparison, application, decision-making, action and logical reasoning processes form the critical thinking process.

The characteristics of individuals who possess critical thinking skills vary according to the definition adopted by researchers. In fact, the characteristics mentioned by researchers can sometimes be the same as the expressions used for the sub-dimensions of the skill identified by other researchers. Despite this complex structure, individuals with critical thinking skills are aware of the mental processes they engage in, they can evaluate the accuracy and reasons of the knowledge they possess using criteria and finally, they can constantly update their information (Aydın & Pehlivan, 2019, p. 24). Demirel (2017, p. 231) states that critical thinkers are consistent individuals who can integrate information, apply what they understand to models and communicate effectively. Individuals with critical thinking skills are distant from selfishness and the desire to maintain their beliefs (Paul & Elder, 2016, p. 223). The characteristics of individuals with this skill are listed as follows by Çıtak & Uysal (2012, pp. 7-8):

- Being aware of one's own opinions,
- Having critical thinking skills,
- Using language effectively,
- Maintaining curiosity to acquire in-depth knowledge on the subject,

- Being cautious in utilizing opportunities related to critical thinking,
- Questioning the reliability of reasons,
- Asking effective questions/self-questioning,
- Approaching different views with an open mind,
- Being flexible towards alternative thoughts and opinions,
- Being understanding towards different ideas,
- Being honest in evaluations,
- Freeing oneself from biases,
- Judging questionable decisions,
- Willingness to review guaranteed information.

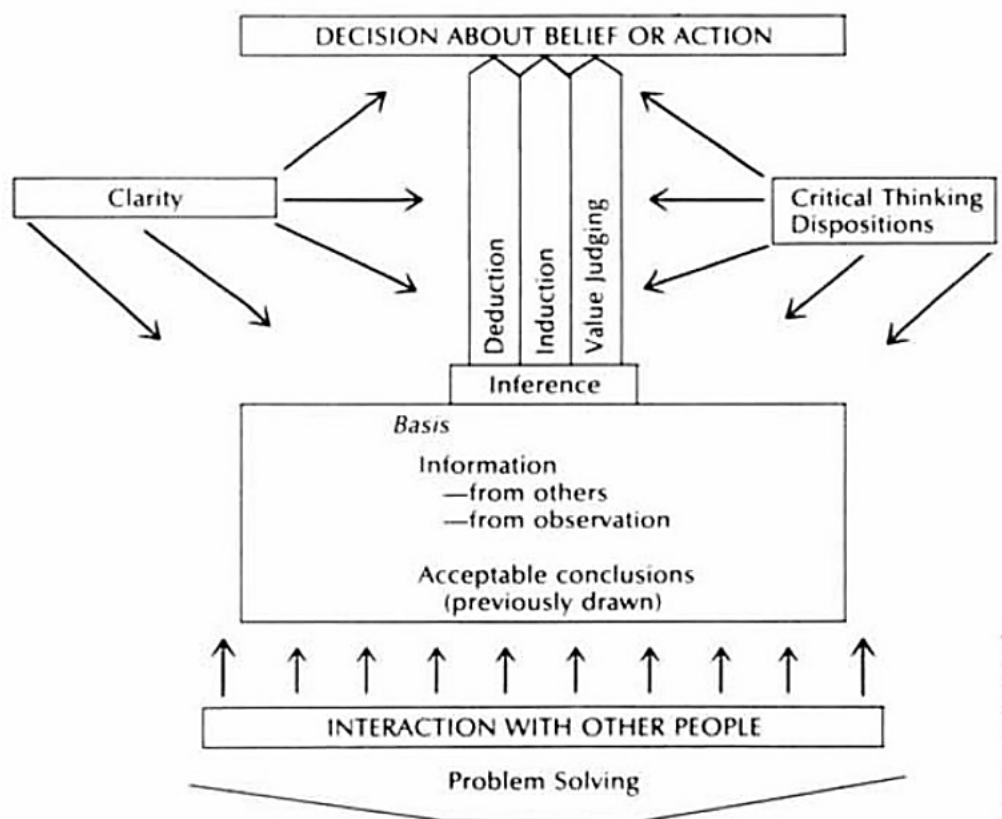
Individuals who think critically are curious about reaching the truth, logical in their reasoning, open-minded, fair, honest and flexible. They are cautious in reaching judgments, willing to engage in continuous thinking, clear in their explanations, persistent in reaching conclusions, focused on questioning and meticulous in all their mental processes (Facione, 1990, pp. 14-15). These individuals are skeptical, proactive, ask questions, analyze, think strategically, possess an empathetic worldview, have principles and are inclined to challenge their own views (Ocak, 2020, p. 472). They inquire reflectively and autonomously, behave impartially towards themselves and others, demonstrate empathy, engage in reflective thinking about their biases and generate ideas using assumption-evidence-reasoning (Aydın & Pehlivan, 2019, pp. 3-5). A critical thinker has rational reasons for doing or not doing things that others try to persuade them to do or believe in (Bowell & Kemp, 2019, p. 3). In addition to the aforementioned qualities, individuals with critical thinking skills are knowledgeable, independent thinkers, capable of engaging in quality discussions, understanding, self-aware, creative and passionate, as noted by Chaffe (2012, p. 53). Halpern (1996) added being systematic and patient to these characteristics (Cited in: Palavan, Gemalmaz, & Kurtoğlu, 2015, p. 29).

The Process of Critical Thinking Skills

The cultivation of critical thinking skills holds utmost importance in the education of autonomous and free citizens within a democratic society, aiming for individualization and active citizenship (Doğanay, 2006, pp. 209,

211). Understanding the essential steps involved in teaching critical thinking plays a pivotal role in the planning and implementation of effective instructional programs. Nosich (2001, pp. 5-6) asserts that critical thinking entails questioning, comprehending the logic of inquiries and recognizing the implications of logical reasoning. Ennis (1985, p. 47) provides a concise depiction of the critical thinking process, which determines individuals' beliefs and actions, as illustrated in the following diagram:

Figure 6. *Decision-Making Process of What to Believe and What to Do*



(Ennis, 1985, p. 47)

This diagram encapsulates the progression of critical thinking, demonstrating the interconnectedness of its various components. It serves as a visual representation of the cognitive steps involved in critically analyzing information, evaluating evidence and forming well-reasoned judgments. By

following this process, individuals are empowered to navigate complex issues, challenge assumptions and arrive at informed conclusions.

Acknowledging the significance of critical thinking in education, instructional programs should be designed to foster this skill and provide opportunities for students to engage in analytical and evaluative thinking. Teachers play a crucial role in guiding students through the critical thinking process, prompting them to question, analyze evidence, consider multiple perspectives and draw reasoned conclusions. Incorporating instructional strategies that promote active engagement, such as problem-based learning, Socratic questioning and collaborative discussions, can further enhance students' critical thinking abilities (Halpern, 2014, pp. 54-58).

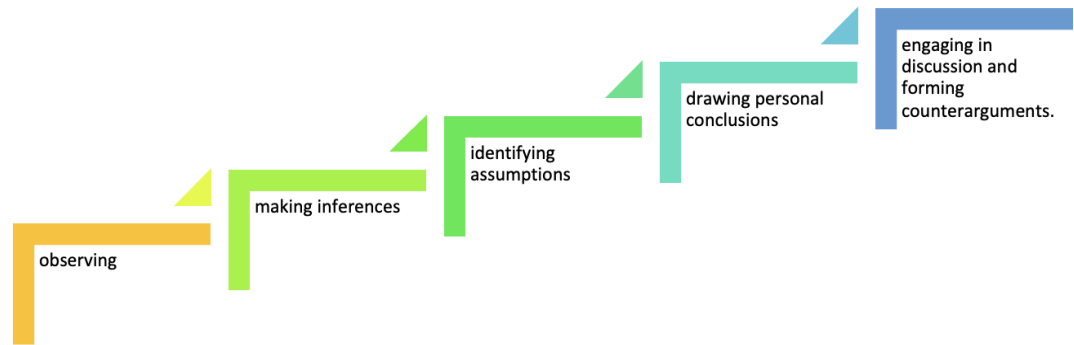
Furthermore, it is essential to recognize that critical thinking extends beyond the classroom and has broader implications for society. Individuals equipped with strong critical thinking skills are better equipped to participate in civic discourse, make informed decisions and contribute positively to their communities. They are more likely to challenge misinformation, detect biases and evaluate the credibility of sources, thus fostering a more robust democratic society (Kompf & Bond, 2001, p. 143).

In conclusion, critical thinking skills are fundamental for developing autonomous and engaged citizens in a democratic society. Understanding the steps involved in teaching and fostering critical thinking is essential for effective curriculum planning and instructional implementation. By nurturing students' ability to question, analyze and reason, educators can empower them to become active, independent thinkers capable of navigating complex issues and contributing positively to society.

Critical thinking begins with interacting with others for the purpose of problem-solving. In this process, acquiring knowledge and drawing acceptable conclusions through observation are necessary. The entire process is completed through the inclination toward critical thinking, openness and making decisions based on deduction, induction and evaluation. The emphasis of critical thinking in the diagram is on logical reasoning. The dimension that makes the thinking process critical is the utilization of logic to understand and

respond to a given problem (Nosich, 2001, p. 9). Ocak (2020, p. 471) outlines the process of critical thinking with five steps.

Figure 7. *Steps of Critical Thinking*



Cottrel (2017, p. 3) has provided a more detailed breakdown of the steps in the process, as follows:

- Identifying evidence and conclusions in others' views,
- Evaluating the evidence presented by others,
- Being fair when examining opposing evidence,
- Examining assumptions in depth and identifying errors,
- Making logical reflections,
- Drawing personal conclusions based on defensible evidence,
- Using persuasive and well-structured language when presenting one's views.

Craft (2003), Rudd (2007) and Pithers & Soden (2000) state that the critical thinking process begins with the analysis step, followed by interpretation, self-regulation, inference, explanation and finally evaluation (cited in Ozçelik & Tuğluk, 2020, p. 279). However, another study contradicts the notion that critical thinking starts with the analysis step and argues that critical thinking cannot begin without the knowledge phase and it is followed by inference, evaluation and metacognition steps (Bruning, Schraw, & Norby, 2011, p. 181). One of the researchers who emphasizes that critical thinking encompasses a metacognitive process is Nosich (2001, p. 3), stating that reflection on one's own thinking process enables critical thinking to emerge.

The sub-dimensions of critical thinking skills

As can be understood from the definitions of critical thinking skills, the sub-dimensions of this skill can be classified under cognitive, behavioral and affective (critical thinking disposition) domains. The National Postsecondary Education Cooperative [NPEC] (2020) addresses the sub-dimensions of critical thinking skills in the domains of cognitive skills and critical thinking disposition, stating that it consists of seven sub-dimensions: interpretation, analysis, evaluation, inference, identifying contradictions, reflective thinking and disposition. In a study conducted by the American Philosophical Association (APA), the cognitive sub-skills of critical thinking are listed as interpretation, analysis, evaluation, deduction, explanation and self-regulation (Facione, 1990, p. 15). In the same study, indicators of critical thinking disposition are mentioned as the search for truth, open-mindedness, analytical thinking, systematic thinking, confidence, curiosity and maturity (Facione, 1990, p. 14). The skills created by different researchers for the sub-dimensions of critical thinking skills are presented in Table 2.

Table 2. *Sub-dimensions of Critical Thinking Skills According to Researchers*

1: Glasser 1941 (Fisher A. , 2011, p. 8)	5: Judge, McCreery& Jones (2013, pp. 4-5)	10: Watson & Glasser (1964) (Aybek & Çelik, 2007, pp. 105-106)
2: Cottrell (Cottrell, 2017, p. 107)	6: Özden (2020, p. 146)	11: Swartz & Parks (Swartz & Parks, 1994)
3: Beyer (1995, p. 8)	7: McGregor (2007, p. 209)	12: Lipman (1988)
4: Kökdemir (2012, p. 16)	8: Facione (1990, p. 5)	(Daniel & Auriac, 2011, p. 420)
	9: Ennis (Ennis R. , 2011, pp. 3-4)	

Sub Skills	1	2	3	4	5	6	7	8	9	10	11	12	Total
Recognizing logical relationships between propositions	✓		✓	✓			✓	✓reas oning			✓Caus e and effect		6
Reaching definite conclusions and generalizations	✓	✓Evi dence- based and valid results					✓	✓Infe rence		✓	✓Gen eralizat ion		6
Using language with precision and clarity	✓	✓Wit h persua sive clarity		✓			✓	✓Wit h the purpo se of makin g	✓				6

Sub Skills	1	2	3	4	5	6	7	8	9	10	11	12	Total
								explanations					
Evaluating evidence and statements	✓	✓Identifying evidence and results and evaluating them from different perspectives			✓	✓Identifying being confident in one's abilities			✓				5

Sub Skills	1	2	3	4	5	6	7	8	9	10	11	12	Total
Analysis and examination		✓	✓				✓	✓	✓				5
Formulating categorical judgments	✓		✓		✓		✓						4
Confronting biases			✓	✓	✓	✓Evaluating biases							4
Being aware of assumptions	✓		✓une xpressed						✓une xpressed	✓			4
Questioning the reliability of the source of information			✓	✓		✓Dist inguis hing primar y and					✓		4

Sub Skills	1	2	3	4	5	6	7	8	9	10	11	12	Total
						secon dary source s							
Making inferences	✓				✓						✓Pred iction		3
Distinguishin g between facts and claims and determining their strength			✓	✓		✓Diff erenti ating assum ptions , ideas and claims							3
Interpreting data	✓							✓	✓Wit hout falling into				3

Sub Skills	1	2	3	4	5	6	7	8	9	10	11	12	Total
									confli ct and doubt				
Testing generalization s and conclusions	✓							✓ And evalua tion				✓	3
Detecting the problem	✓								✓	✓			3
Selecting and formulating relevant assumptions		✓	✓							✓			3
Evaluating consistency				✓		✓							2
Structuring thought	✓							✓ And					2

Sub Skills	1	2	3	4	5	6	7	8	9	10	11	12	Total
patterns with experience								self-re gulati on					
Gathering information related to the problem	✓									✓			2
Combining decision-making and defense skills	✓						✓						2
Asking and answering questions				✓					✓				2
Forming and evaluating	✓						✓						2

Sub Skills	1	2	3	4	5	6	7	8	9	10	11	12	Total
value judgments													
Engaging in reflection with logic and insight		✓		✓									2
Assessing inferences and their reasons			✓			✓							2
Conceptualization												✓	1
Finding appropriate tools for problem-solving	✓												1

Sub Skills	1	2	3	4	5	6	7	8	9	10	11	12	Total
Researching												✓	1
Conducting a thinking process relevant to the situation	✓												1
Being sensitive to others' level of knowledge	✓												1
Being willing to question					✓								1
Being open-minded					✓								1
Being flexible when					✓								1

Sub Skills	1	2	3	4	5	6	7	8	9	10	11	12	Total
reviewing alternatives													
Having the ability to change one's opinion with changing circumstances					✓								1
Measuring the adequacy of definitions and appropriateness of outcomes						✓							1
Making analogies													1

Sub Skills	1	2	3	4	5	6	7	8	9	10	11	12	Total
Formulating problems													1
Negating logical statements													1
Applying rules to real-life situations													1
Fairly addressing opposing views		✓											1
Noticing guidelines		✓											1
Summarizing		✓											1

Sub Skills	1	2	3	4	5	6	7	8	9	10	11	12	Total
Extracting relevant information from irrelevant ones				✓									1
Number of dimensions pertinent to the researcher	17	9	9	9	8	7	7	7	7	5	4	3	

Table 2 presents forty-one sub-dimensions of critical thinking skills identified by different researchers, arranged in descending order from the most frequently mentioned to the least mentioned. The wide range of dimension descriptions highlights the scope of the structure, but the rarity of different researchers confirming the same sub-dimensions also indicates the complexity involved. Three sub-dimensions of critical thinking are confirmed by six researchers, two sub-dimensions by five researchers, four sub-dimensions by four researchers, six sub-dimensions by three researchers and eight sub-dimensions by two researchers. The remaining eighteen sub-dimensions are not encountered in the scope of various studies. In fact, some sub-dimensions mentioned in multiple studies also exhibit minor differences. These variations are indicated within the cells of the table.

Teaching Critical Thinking Skills

The stages of analysis, synthesis and evaluation, referred to as higher-order thinking skills, are considered as prerequisites for critical thinking skills. In this case, it can be beneficial to approach content in different disciplines through the dimensions of analysis, synthesis and evaluation in order to prepare students to learn critical thinking skills. Teaching critical thinking requires instruction on the source, reliability, cause-effect relationships, predictive skills and generalization of data (Swartz & Parks, 1994). In addition to ensuring students' prerequisite learning, Demirel (2017, p. 231) and Ocak (2020, p. 466) emphasize the importance of teachers' perspective on the prerequisites of teaching critical thinking and the necessity of providing teachers with education in this regard.

According to McGregor (2007), Swartz (2014) and Dilekli (2014), the following principles should be considered during the teaching of critical thinking skills:

- Provide explicit instruction: Teachers should explicitly teach critical thinking skills and strategies, making them visible and accessible to students.

- Foster a supportive classroom environment: Creating a safe and supportive classroom environment encourages students to express their thoughts and engage in meaningful discussions.
- Promote questioning and curiosity: Encourage students to ask questions, explore different perspectives and seek evidence to support their claims.
- Develop metacognitive awareness: Help students develop awareness of their own thinking processes and strategies, promoting reflection and self-evaluation.
- Encourage collaboration: Provide opportunities for collaborative learning and group discussions, allowing students to learn from and challenge each other's ideas.
- Scaffold learning experiences: Gradually increase the complexity of tasks and provide necessary support and guidance to help students develop their critical thinking skills.
- Provide authentic and real-world contexts: Connect learning to real-life situations, allowing students to apply critical thinking skills to practical scenarios.
- Incorporate technology: Integrate technology tools and resources that support critical thinking, such as online research, data analysis software and multimedia presentations.

These principles serve as guidelines for educators to effectively teach and nurture critical thinking skills in students.

The learning environment in teaching critical thinking should be designed in accordance with the following three criteria: In order to understand the obstacles that arise from educational systems and perceptions of teaching that hinder the teaching of critical thinking skills, it is necessary to examine the situations resulting from traditional educational philosophies. One of the fundamental barriers to critical thinking is the adoption of traditional educational philosophies. Traditional philosophies such as memorization and essentialism are based on broad, superficial knowledge and teacher-centered teaching methods, which are not conducive to the development of individuals with critical thinking skills, both in terms of the type of knowledge they value

and the organization of learning environments. The assumptions that the content covered in the curriculum is more important than its depth, that information is presented from the perspective of an expert teacher or textbook and that learning is better achieved in silent classrooms hinder the acquisition of critical thinking skills (Paul, 1995, pp. 276-277).

The development of critical thinking, which is seen as the foundation for fostering democratic individuals, requires moving away from traditional understandings and rote memorization. This is because critical thinking is based on the assumption of "using rules to evaluate our thinking rather than using our thinking to evaluate rules" (Nosich, 2001, p. 5). An instructional and assessment approach that attributes value to knowledge and focuses on memorizing or, at most, reaching the application stage of knowledge is not sufficient for generating knowledge. This understanding only involves the acquisition of existing knowledge, deriving meaning from it and its application. In order to generate new knowledge, it is necessary to combine existing knowledge, identify underlying assumptions by dissecting that knowledge and evaluate the relevance and validity of the information. This requires updating education with a critical understanding, moving away from a didactic structure. The assumption that knowledge is independent of the learner, that instruction is merely knowledge transmission and that the student's measure of success is reaching the correct answer by using definitions, examples and formulas in response to questions posed to them, hinders the acquisition of critical thinking (Paul, 1995, p. 277).

In an educational context, in addition to the content students will learn, it is also important to focus on the ways they learn it, the strategies related to thinking processes and their ability to reason based on their own thinking. Therefore, instruction and assessment should be shaped as a whole with this understanding. A conventional teaching approach that does not differentiate based on the belief that every student will learn in a similar way and does not grant autonomy to students is one of the biggest obstacles to teaching critical thinking skills. Paul (1995, p. 277) points out that the assumption that educators have in their minds, that when a student acquires knowledge, they will also learn how to think about it, is also a barrier to teaching critical

thinking. Therefore, before deciding which teaching approach to select for the instruction of critical thinking skills, it is important to review and, if necessary, adjust the perspective on the education system and teaching.

Onosko (1991, pp. 7-8) lists the barriers to critical thinking as follows:

- Insufficient and shallow content
- Lack of consistency and continuity in lessons
- Errors in time planning and failure to allocate sufficient time for students to think
- Failure to ask challenging questions that challenge students' existing knowledge or provide tasks of such nature
- Teacher not serving as a role model in the thinking process
- Failure to question students' inferences and the reasons behind their inferences

Research is being conducted on prerequisite learnings that will facilitate the teaching of critical thinking skills. Paul (1995, pp. 221-225) highlights some important points:

- Assigning tasks to students that involve evaluation and judgment, including the reasons behind their judgments.
- Guiding students to access resources that are relevant to the tasks and intellectually enriching for their development.
- Creating a learning environment that encourages thinking and sharing thoughts in a democratic manner (Bailin, Case, & Daniels, 1999, pp. 298-299).

During the teaching of critical thinking skills, it is important to remember that one of the key points is that critical thinking may initially slow down the thinking process (Nosich, 2001, p. 31). Considering this aspect, it is appropriate for the teacher to plan and organize the process accordingly.

The teaching of critical thinking skills should begin at the language education stage, emphasizing the harmony between language and thought, as pointed out by Lery (1997) (cited in Ocak, 2020, p. 466). Ocak (2020, p. 468) has developed strategies for critical literacy and in the first step of these

strategies, the lesson starts with unbiased and authentic written, oral and visual information sources related to the subject.

Measurement of Critical Thinking Skills

Psychometric tools, tools for evaluating student products (Dilekli, 2019, p. 6), observation forms and individual interview forms (Kurnaz, 2011, p. 143) can be used in measuring thinking skills. Psychometric tools are more widely accepted in the literature due to their comprehensive coverage of the construct and their objectivity and utility in application. Numerous tools have been developed specifically for adults.

Examples of scales developed abroad include:

- Watson & Glasser Critical Thinking Appraisal (1980)
- Cornell Critical Thinking Test, Level Y (1985)
- Ennis-Weir Critical Thinking Essay Test (1985)
- California Critical Thinking Disposition Inventory (1990)
- Critical Thinking Skill Test developed by Ennis (1995)

These tools provide valuable measures for assessing critical thinking skills.

Some of the scales developed for measuring critical thinking skills in Turkey are as follows:

- Critical Thinking Scale developed by Semerci (2000)
- Scale of Critical Thinking Dispositions developed by Akbıyık (2002)
- A scale developed by Özdemir (2005) that measures attitudes towards critical thinking skills
- Set of Critical Thinking Scales developed by Demir (2006)
- Critical Thinking Scale developed by Görücü (2014)
- Critical Thinking Skill Test developed by Eğmir & Ocak (2016)
- Marmara Critical Thinking Scale (2018)

These scales provide tools for assessing critical thinking skills within the context of the Turkish education system.

These scales vary in terms of their content, some focusing on cognitive aspects while others target attitudes. Moreover, they differ in the scope of critical thinking, with some addressing specific sub-dimensions and others considering critical thinking as a whole structure.

The Cornell Critical Thinking Test was later modified as Level Y to be applicable to younger individuals. This instrument consists of four sub-dimensions and seventy-six items. Although it has broad coverage, the administration time is quite long.

The alignment between instruments measuring critical thinking skills has been the subject of Kutlu's study. The researcher found no significant relationship between the California Critical Thinking Disposition Inventory and the Ennis-Weir Critical Thinking Essay Test (2011, p. 172).

CTS In the Common Explanations of National Curricula

It is stated that the curriculum update process, arising from individual and societal needs, is developed within the framework of values, skills and competencies (MoNE, 2018, p. 4). When defining the skill, the expression "instrument and platform" is used for values and competencies (MoNE, 2018, p. 5). One of the listed characteristics of the individual expected to be nurtured through the renewed curriculum is critical thinking (MoNE, 2018, p. 4). However, no concept or definition related to critical thinking was found in the introduction section where the philosophy of the curriculum is explained. In the section where the skills addressed in the curriculum are listed, critical thinking is not included in subjects other than the social studies course. It is not meaningful that such an emphasized skill in academic and professional fields, both nationally and internationally, is not addressed in the curriculum. Despite the statement that the curriculum is modified due to individual and societal needs, it is not transparent what these individual and societal needs are or how the elements included in the program are selected. Although it is stated that studies on national and international curricula were taken into account during the needs analysis before the development of the curriculum (MoNE, 2018). Matematik Dersi Öğretim Programı (İlkokul ve Ortaokul 1, 2, 3, 4, 5, 6, 7 ve 8. Sınıflar). Ankara.

, 2018, p. 8), it raises doubts. This is because there are many studies emphasizing the necessity of adding critical thinking skills to the curricula (Doğanay, 2006, p. 209); (Kutlu & Schreglmann, 2011, p. 166); (Kurnaz, 2011, p. 12); (Thompson, 2011, p. 1); (Gregory & Chapman, 2013, p. 7); (Aydın & Pehlivan, 2019, p. 9); (Önal, 2020, p. 78); (Hotaman, 2020, p. 278). Undoubtedly, there are also curricula prepared based on these and similar studies (ACARA, 2012, p. 18); (OME, 2020, p. 32); (MENJS-M, 2021, p. 8).

CTS In the Objectives of National Curricula

In the objectives of national curriculum programs, the affective and cognitive critical thinking skills (Demirel, 2017, p. 232) have been taken into consideration in order to conduct a systematic study. For affective critical thinking skills, the desired outcomes include independent thinking, recognizing self-centered perspectives, fair thinking, understanding the relationship between emotion and thought, avoiding preconceptions, developing the courage to question, engaging in sincere and honest thinking, cultivating perseverance in thinking and having confidence in thinking skills. For cognitive critical thinking skills, the desired outcomes include

1. recognizing valid and invalid generalizations,
2. transferring learned knowledge,
3. developing opinions,
4. engaging in open-minded thinking,
5. establishing criteria for evaluation,
6. questioning the reliability of information sources,
7. conducting in-depth analysis,
8. analyzing and evaluating opinions,
9. generating and evaluating solutions,
10. analyzing and evaluating applications,
11. engaging in critical reading,
12. critical listening,
13. establishing interdisciplinary connections,
14. asking questions, comparing different viewpoints,
15. distinguishing between ideals and reality,
16. evaluating one's own thinking process,

17. identifying significant similarities and differences,
18. identifying and evaluating assumptions,
19. differentiating between valid and invalid information,
20. making logical interpretations,
21. explaining and evaluating data,
22. recognizing inconsistencies,
23. drawing conclusions and
24. evaluating outcomes.

For Mathematics Course:

When the fifth-grade achievements of the Mathematics curriculum are examined, no statement suggesting that these achievements serve critical thinking has been found.

For Science Course:

When the fifth-grade achievements of the Science curriculum are examined, the following achievements can be said to serve critical thinking depending on the teacher's instructional approach.

Table 3. *Objectives in the Science Curriculum where a connection can be made with critical thinking skills*

Related skill number	Objectives
3	S.5.1.2.2. Discusses the ideas generated about the possibility of living organisms on the Moon.
24	S.5.3.2.2. Explores the effect of frictional force on motion in various environments through experiments.
18	S.5.4.3.1. Explains the fundamental differences between heat and temperature.
21	S.5.4.3.2. Conducts experiments involving the mixing of liquids with different temperatures and interprets the results regarding heat exchange.
22	S.5.4.4.1. Conducts experiments to discuss the expansion and contraction of substances due to the effects of heat.

1	S.5.5.4.2. Discovers the variables affecting the formation of a complete shadow through experiments.
14	S.5.6.1.1. Questions the importance of biodiversity for natural life.
3	S.5.6.1.2. Discusses factors threatening biodiversity based on research data.
24	S.5.6.2.3. Makes inferences about potential environmental issues in the future due to human activities.
3	S.5.6.2.4. Discusses examples of benefits and harms in human-environment interactions.
19	S.5.7.2.1. Predicts the variables affecting the brightness of a light bulb in an electrical circuit and tests their predictions.

For Turkish Course

In the specific objectives of the Turkish lesson, there is an emphasis on students engaging in critical reading and questioning (MoNEb, 2018, p. 8). Based on this information, it is expected that the Turkish lesson will address the development of critical thinking skills. Additionally, in the section that explains the assessment approach of the program, teachers are advised to include written and visual products as well as visual organizers in the questions they prepare, aiming to contribute to critical thinking (MoNEb, 2018, p. 10).

When examining the fifth-grade achievements of the Turkish Language Lesson's curriculum, it can be said that the following achievements may serve critical thinking depending on the teacher's instructional approach.

Table 4. *Objectives in the Turkish Curriculum where a connection can be made with critical thinking skills*

Related skill number	Objectives
24 (a)	T.5.1.10. Evaluates the content of what they have listened to/watched.

23 (b)	a) Encourages making inferences about implied meanings by showing cartoons or similar content. b) Promotes questioning the consistency in what students have listened to/watched.
3	T.5.1.11. Expresses their opinions about what they have listened to/watched.
9	T.5.3.15. Generates different solutions to the issues addressed in the text.
21	T.5.3.17. Interprets the text.
14	T.5.3.18. Asks questions about the text.
24	T.5.3.25. Evaluates media texts.
-	*T.5.3.31. Makes inferences about what they have read. Emphasis is placed on cause and effect, purpose and result, condition, comparison, analogy, exemplification, expressions of emotions, exaggeration, objective and subjective inferences.

The competency statement marked with an asterisk (*) is seen to involve inference and thus it is considered to be related to the critical thinking skill of "drawing conclusions." However, no specific related competency is mentioned in the competency description as it focuses on the topic of grammar.

For Social Sciences Course

In the aims of the social studies lesson, it is emphasized that students should have critical thinking skills to access reliable information (MoNEc, 2018, p. 8). Additionally, a recommendation has been developed for teachers to choose teaching methods that serve critical thinking skills (MoNEc, 2018, p. 10). When examining the achievements of the Social Studies Curriculum for the fifth grade, the following achievements can be said to contribute to critical thinking depending on the teacher's approach to teaching the lesson.

Table 5. *Objectives in the Social Sciences Curriculum where a connection can be made with critical thinking skills*

Related skill number	Objectives
18	SS.5.2.3. Compares the cultural characteristics of various regions in our country with the cultural characteristics of the environment they live in and identifies the similarities and differences between them.
7	SS.5.2.4. Analyzes the role of cultural elements in people living together.
-	SS.5.2.5. Evaluates the historical development of cultural elements in everyday life. Emphasizes the continuity and change of established cultural elements in everyday life.
14	SS.5.3.4. Questions the causes of disasters and environmental problems in the environment they live in.
3	SS.5.4.1. Discusses the impact of technology use on socialization and social relationships.
6	SS.5.4.2. Questions the accuracy and reliability of information obtained in the virtual environment.
18	SS.5.4.4. Identifies the common characteristics of inventors and scientists.
3	SS.5.7.2. Discusses the impact of communication and transportation technology on economic relations between countries.

The achievement statement marked with a star (*) was considered to be related to the critical thinking skill of "drawing conclusions and evaluation" because it requires assessment. However, in the description of the achievement, it is expected that students will recognize whether cultural elements continue or not, so a related achievement was not explicitly mentioned.

For Social Information Technologies Course

When the achievements of the Information Technologies Course Curriculum for the fifth grade are examined, it can be said that the following

achievements can contribute to critical thinking depending on the teacher's approach to teaching the lesson.

Table 6. *Objectives in the Social Sciences Curriculum where a connection can be made with critical thinking skills*

Related skill number	Objectives
3	IT.5.1.1.3. Discusses the positive and negative aspects of different information technologies.
6	IT.5.3.2.4. Questions the accuracy of the information obtained from different sources.
3	IT.5.3.3.2. Discusses the positive and negative aspects of communicating in the virtual environment.
9	IT.5.5.1.1. Proposes solutions to problems encountered in daily life.
7	IT.5.5.1.5. Analyzes a given problem.
9	IT.5.5.1.11. Generates solutions using expressions and equations in a given problem.
19	IT.5.5.2.10. Predicts the outcome of algorithms created for different structures and debugs their errors.

For the Course of Religious Culture and Ethics:

When the achievements of the Religious Culture and Ethics Course Curriculum for the fifth grade are examined, no statement suggesting that the achievements serve critical thinking has been found.

For the English Course:

When the achievements of the English Course Curriculum for the fifth grade are examined, no statement suggesting that the achievements serve critical thinking has been found.

For the Visual Arts Course:

In the specific objectives of the visual arts lesson, there is emphasis on students engaging in critical reading and questioning (MoNEd, 2018, p. 9). Additionally, it is stated that one of the learning areas of the lesson is art criticism, which consists of the stages of identification, analysis, interpretation and judgment (MoNEd, 2018, p. 12).

When the achievements of the Visual Arts Course Curriculum for the fifth grade are examined, it can be said that the following achievements can serve critical thinking depending on the teacher's approach to teaching the lesson.

Table 7. *Objectives in the Visual Arts Curriculum where a connection can be made with critical thinking skills*

Related skill number	Objectives
7	VA.5.3.2. Analyzes the visual features of a selected artwork.
21	VA.5.3.3. Interprets the content of a selected artwork.
7	VA.5.3.4. Analyzes an artwork based on the period and conditions in which it was created.
17	VA.5.3.5. Evaluates their own visual art work.

For the Physical Education Course:

It is stated that critical thinking is emphasized in the implementation of the physical education lesson (MoNEi, 2018, p. 10). When the achievements of the Physical Education Course Curriculum for the fifth grade are examined, it can be said that the following achievements can serve critical thinking depending on the teacher's approach to teaching the lesson.

Table 8. Objectives in the Physical Education Curriculum where a connection can be made with critical thinking skills

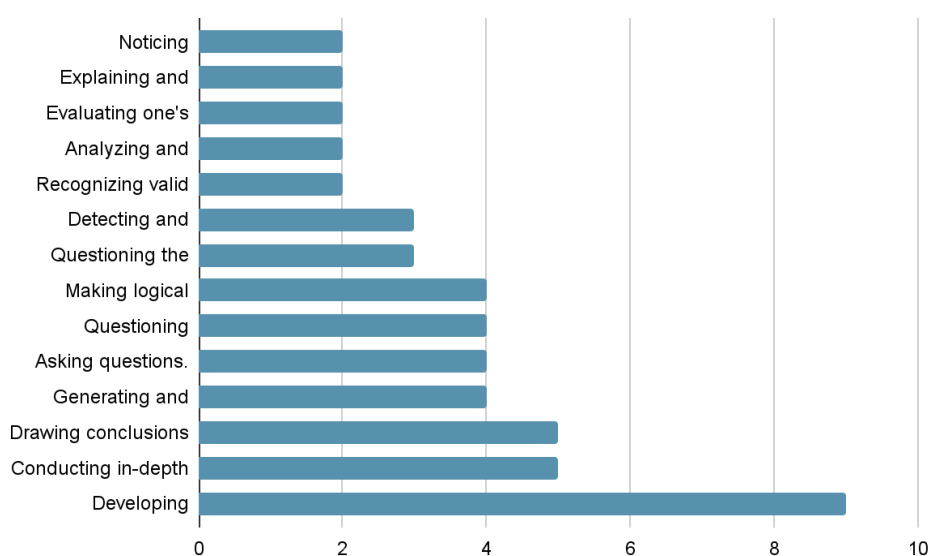
Related skill number	Objectives
10	PE.5.1.2.9. Evaluates their own and their friends' performances in games and activities.

For the Music Course:

When the achievements of the Music Course Curriculum for the fifth grade are examined, no statement suggesting that the achievements serve critical thinking has been found.

For the subjects of Mathematics, English and Music, no statement directing towards critical thinking skills was found in the curriculum's achievements. When the frequency of addressing skills in the achievements is ranked from highest to lowest, the subject of science takes the first place, followed by social studies, Turkish language and literature, physical education, visual arts and music. The frequency of repeated skill statements in these subjects' achievements is represented in the graph below.

Graph 1. Frequency of Critical Thinking Skills in National Curricula at Fifth Grade Level.



In the national curriculum for the fifth grade level, the most addressed critical thinking skill is developing perspectives. This skill focuses on encouraging students to form their own opinions and viewpoints based on evidence, reasoning and logical thinking. By engaging in activities and discussions that promote perspective development, students are encouraged to think critically about various topics, analyze different points of view and consider the implications of their own beliefs.

However, it is important to note that there are other critical thinking skills that are not extensively addressed in our current curriculum. For example, the skill of transferring learned knowledge is essential for students to apply what they have learned in one context to new situations or problems. This skill enables students to make connections between different subjects or real-life scenarios, fostering a deeper understanding and the ability to adapt their knowledge.

Open thinking is another important aspect of critical thinking that encourages students to question assumptions, challenge established ideas and explore alternative solutions. By promoting open thinking, students develop the ability to think creatively and approach problems from different angles, fostering innovation and originality.

Developing criteria for evaluation is a crucial skill that enables students to assess the quality, reliability and validity of information, arguments, or solutions. By establishing criteria and using them to evaluate different perspectives or pieces of evidence, students learn to make informed judgments and distinguish between strong and weak arguments or sources.

Analyzing and evaluating viewpoints involves critically examining different perspectives, considering their strengths and weaknesses and recognizing biases or inconsistencies. This skill encourages students to think critically about the motives and intentions behind various viewpoints, enhancing their ability to assess the credibility and reliability of information.

Critical reading and critical listening are skills that enable students to analyze and evaluate written or spoken information. By actively engaging with texts or presentations, students learn to identify main ideas, discern supporting

evidence, evaluate the author's credibility and detect any biases or fallacies present in the content.

Interdisciplinary connections play a crucial role in critical thinking as they allow students to draw connections between different subject areas, bridging knowledge gaps and fostering a holistic understanding of concepts. By exploring the interrelationships between subjects, students develop a broader perspective and enhance their ability to apply knowledge across disciplines.

Comparing different perspectives involves considering multiple viewpoints on a particular issue or topic and critically analyzing their similarities and differences. This skill helps students develop a more nuanced understanding of complex issues, encourages empathy and tolerance towards diverse opinions and promotes effective communication and collaboration.

Distinguishing between ideal and real is an important aspect of critical thinking that involves critically evaluating idealized concepts or representations and comparing them to real-world situations or limitations. By recognizing the gap between idealized notions and practical realities, students develop a more balanced and realistic approach to problem-solving and decision-making.

Lastly, distinguishing valid and invalid information is a crucial skill in the digital age where information is abundant but not always reliable. By learning to critically evaluate sources, verify information and identify biases or misleading content, students become discerning consumers of information and develop a heightened awareness of the importance of reliable sources.

While the current curriculum places emphasis on developing perspectives, it is important to consider incorporating these other critical thinking skills to provide students with a comprehensive toolkit for effective and analytical thinking in various contexts.

RESEARCHES

Cultural Quotient

Cultural differences have become an important issue in today's globalized world. In the business and education sectors, it is more important than ever to interact with different cultures and manage cultural diversity effectively. Therefore, the subject of cultural intelligence has become the focus of scientific research. Cultural intelligence refers to individuals' ability to show respect for, understand and effectively manage different cultures. This section will examine the development, current state and future of scientific research on cultural intelligence.

The Importance of Managing Cultural Differences and Cultural Intelligence Strategy

Research on the importance of managing cultural differences and the cultural intelligence strategy demonstrates its significant place in the business and education sectors (Yeşil, 2017). With the increase in globalization and international relations, effective communication and collaboration with different cultures have become a major necessity. Cultural intelligence is a strategy developed to respond to this requirement.

Salih Yeşil's (2017) study examines the usability of cultural intelligence for perceiving, understanding and managing cultural differences. The research highlights the importance of cultural intelligence and suggests the use of this strategy for effectively managing cultural differences.

Sample Studies on Cultural Intelligence Research

Çimen Karataş Çetin's (2018) study aims to evaluate the cultural intelligence of long-haul captains and chief officers and examine the cultural differences encountered in visited countries. The research findings reveal the factors related to different cultures encountered more frequently in countries such as the Far East and India.

The study by Hasret Ulusoy Yıldırım and Özlem Köroğlu (2019) examines the cultural intelligence levels and self-efficacy beliefs of tourist guides and their impact on service delivery. The research results demonstrate

that tourist guides generally have high levels of cultural intelligence and moderate levels of self-efficacy beliefs. Additionally, it is found that cultural intelligence has a positive impact on self-efficacy and service delivery.

In a study conducted in 5-star hotels in Istanbul (Özdemir et al., 2022), the differences between employees' demographic and personal characteristics and cultural intelligence dimensions were examined. The analysis reveals that certain employee characteristics differ in relation to cultural intelligence dimensions. For example, factors such as age, gender, education level and experience are found to have an influence on cultural intelligence.

Fatma Yaşar Ekici's (2020) study aims to examine the cultural intelligence levels and attitudes towards multicultural education among pre-service preschool teachers. The research results indicate a significant relationship between the cultural intelligence levels and attitudes towards multicultural education among pre-service preschool teachers.

Cultural Intelligence and Its Future Position

Research on managing cultural differences has also revealed the relationship between cultural intelligence and leadership skills (Earley & Mosakowski, 2004). Leaders with high levels of cultural intelligence enhance their ability to understand and collaborate with employees from different cultures, enabling them to solve diversity-related issues more effectively in the workplace.

Managing cultural differences is also of great importance for international businesses. For a company to succeed in markets with different cultures, it needs to adopt cultural intelligence strategies and adapt to local cultures. Therefore, training programs that increase cultural awareness and policies that promote cultural diversity play a crucial role for businesses.

Research on cultural intelligence and managing cultural differences emphasizes the importance of these topics in the business and education sectors. The use of cultural intelligence strategies helps businesses and individuals enhance their abilities to understand, adapt and collaborate in cultural diversity, thus creating a more effective and successful working

environment. It is expected that further in-depth studies on cultural intelligence will focus on better understanding the management of cultural differences and the role of global interactions.

When examining the research, it is evident that there is insufficient focus on addressing cultural intelligence through education and conducting related studies. This situation has multiple reasons.

Firstly, the multidimensional and complex nature of the cultural intelligence concept increases the challenges in addressing it through education and conducting related studies. Cultural intelligence encompasses various aspects such as knowledge of different cultures, awareness of cultural norms and values, adaptability to different cultural contexts and effective communication across cultures. Designing comprehensive educational programs and research methodologies that capture all these dimensions can be a complex task.

Secondly, cultural intelligence is a relatively new concept in the field of research and education. While there has been a growing interest in the topic, it takes time for academic institutions and researchers to incorporate it into their curricula and research agendas. As the understanding of cultural intelligence deepens and its significance becomes more evident, it is expected that educational programs and research studies will give more attention to this area.

Thirdly, the availability of standardized tools and measures to assess cultural intelligence is still limited. Valid and reliable instruments are essential for conducting rigorous research and evaluating the effectiveness of educational interventions. Efforts are underway to develop and validate tools that can accurately measure cultural intelligence across different populations and contexts. The development and utilization of such tools will contribute to the advancement of research and education in the field of cultural intelligence.

Lastly, there may be challenges in integrating cultural intelligence into existing educational systems and curricula. Incorporating cultural intelligence into the curriculum requires careful planning and consideration of various factors, including institutional policies, resource allocation and faculty

training. It may require interdisciplinary collaborations and the involvement of experts from fields such as psychology, sociology, anthropology and intercultural communication.

Despite these challenges, the future of cultural intelligence research and education appears promising. As globalization continues to shape our societies and economies, the need for individuals and organizations to navigate cultural diversity effectively will only increase. Therefore, there is a growing recognition of the importance of cultural intelligence in various domains, including business, education, diplomacy and international relations.

In conclusion, while there is still work to be done in terms of integrating cultural intelligence into education and conducting extensive research in the field, the importance of managing cultural differences and developing cultural intelligence strategies is widely acknowledged. The future holds potential for further advancements in understanding and applying cultural intelligence to foster effective intercultural interactions and create inclusive and successful environments.

Critical Thinking Skills

Critical thinking skills are considered an important topic in today's education system and research. Numerous studies have been conducted to enhance students' critical thinking abilities and problem-solving skills, contribute to their cognitive development and enable them to access and use information more effectively by developing critical thinking skills.

As an example of research, a study titled "The Impact of Thinking Skills Education on Critical Thinking and Problem-Solving Skills" aimed to determine the effect of thinking skills education on pre-service preschool teachers' critical thinking and problem-solving skills (Tok & Sevinç, 2007). This research was conducted based on Robert J. Sternberg's Successful Intelligence Theory. Using a pretest-posttest control group design, the study involved 101 pre-service preschool teachers. The Watson-Glaser Critical Thinking Appraisal was used to assess critical thinking skills and the Problem-Solving Inventory was used to measure problem-solving skills. The results showed significant improvement in critical thinking and

problem-solving skills in the group that received thinking skills education (Tok & Sevinç, 2007).

Similarly, a study titled "Developing Critical Thinking Skills" conducted by Törnüklü and Yeşildere aimed to determine whether a critical thinking skills development program had an impact on doctoral students' critical thinking skills at Fırat University. In this study, an education program aimed at developing critical thinking skills was implemented and the research results indicated that the program had positive effects on participants' critical thinking skills (Törnüklü & Yeşildere, 2005).

Research on the development of critical thinking skills is not only conducted at the university level but also at the primary education level. A study titled "Improving Critical Thinking Skills of 7th Grade Primary School Students" aims to evaluate the impact of an education program designed to enhance critical thinking skills on 7th-grade primary school students (Örnek & Yılmaz, 2005). The study involved 60 students divided into experimental and control groups. While the experimental group participated in a specially designed education program to support critical thinking skills, the control group received traditional education. The results showed a significant increase in critical thinking skills in the experimental group. Students in the experimental group achieved higher scores in analytical thinking, problem-solving, logical reasoning and critical evaluation skills. However, there was no significant improvement in critical thinking skills observed in the control group (Örnek & Yılmaz, 2005).

These examples are just a few of the many studies that demonstrate the positive effects of thinking skills education on critical thinking and problem-solving skills. Developing critical thinking skills is an important step to strengthen students' cognitive abilities, enhance analytical thinking and critical evaluation skills and enable them to employ more effective problem-solving strategies. Therefore, it is essential to emphasize the place and significance of critical thinking skills in educational research. Particularly in the K-12 education process, imparting critical thinking skills is a crucial

requirement for enabling students to learn effectively, question information and think critically.

Critical thinking skills empower students to question, analyze and critically evaluate presented information. This enables them to develop the capacity to understand and evaluate information rather than merely memorizing it. Critical thinking skills allow students to analyze problems they encounter and generate alternative solutions. Problem-solving skills play a critical role in equipping students to deal with challenges they will face in real-life situations. Developing critical thinking skills encourages students to enhance their analytical thinking, problem-solving, logical reasoning and critical evaluation abilities while also fostering creative thinking. This skill fosters students' ability to consider different perspectives, generate new ideas and find innovative solutions.

Many countries that recognize the importance of critical thinking skills have developed programs and practices that emphasize this skill in their education systems. Finland, for instance, is known for its education system that focuses on critical thinking skills. Students are supported with interactive and project-based learning methods to develop their critical thinking and problem-solving abilities. Singapore has developed a curriculum that offers students problem-based learning opportunities to strengthen their critical thinking skills. Students are encouraged to solve real-world problems using analysis, synthesis and critical evaluation skills. In Canada, critical thinking skills are supported through an educational approach that encourages students to question knowledge actively. Students actively engage in classroom interactions to develop their discussion and critical evaluation skills.

One systematic study focused on the development of critical thinking skills in K-12 education is the Paul-Elder Critical Thinking Model. This model, developed by Richard Paul and Linda Elder, is used to systematically enhance critical thinking skills. The model encompasses essential skills such as analysis, evaluation, verification and creative thinking. Cambridge critical thinking research is another example that can be mentioned. At Cambridge University, research aimed at developing critical thinking skills seeks to assess

critical thinking skills, determine teaching strategies and provide guidance to teachers.

Recognizing the importance of critical thinking skills, many countries, institutions and educators are actively working towards integrating this skill into their education systems. By doing so, they aim to equip students with the ability to think critically, evaluate information and solve complex problems effectively.

CHAPTER II

METHODOLOGY

In this section, information about working methods, participants, data collection tools and analysis is given.

Setting and Participants

This study is a mixed type study, but it is based on experimental research. In addition to the experimental study, as it was done with the content analysis of the teacher's and students' view and survey study of teacher's view, it is a mixed type study. The development phase of the scales can be considered as an antecedent stage, since it includes the preparation of scales that was used as pretest and posttest in order to conduct experimental research. The study includes a survey research as the opinions of teachers and students were examined after the experimental design. For this reason, in order to be chronological, firstly the process for the development of scales was followed by the experimental part and finally the survey study was mentioned.

774 students studying in the 5th grade of secondary school were reached for the validity and reliability studies of the Critical Thinking Scale and the Cultural Quotient Scale to be used as a pretest and posttest in the experimental study. The study group of the research was selected with the purposive sampling method, which is one of the non-random sampling methods. In purposive sampling, due to the limitations in terms of time, money and labor, the sampling was selected from easily accessible and applicable units (Büyükoztürk, Kılıç Çakmak, & Erkan, 2018, p. 92).

The experimental study was carried out in the second quarter of the 2020-2021 academic year, with the fifth grades of a private secondary school for twelve weeks. There are two main reasons for choosing fifth grades for this study. The first is that the second stage of primary education begins in the fifth grade. It is thought that it would be more appropriate to start an instructional design for secondary school from this class. The second reason is the random assignment of the students who come to the secondary school with new enrollment, making sure that only the gender distribution is equal in the classes. This appointment is made by school administrators, except for the

intervention of the researcher. Then, the groups decided to be created randomly chosen among the 24 students into the classes. Since it is aimed to reach 30 people for the experiment group, two classes were included in the experiment group.

Since the development of skills and abilities is essential in the experimental study, a model was created in with the inter-subject multi-start level pattern in accordance with this situation (Büyüköztürk, Kılıç Çakmak, & Erkan, 2018, p. 230). In the experimental phase, it is aimed to test more than one situation (success of experiment and pretest effect). Therefore, Solomon's four group experimental model was used in the group design of the experimental study. The procedures to be applied to the groups that were the subject of the study are summarized in Table 9.

Table 9. *Application procedures of Solomon four-group experimental design*

Group	Assignment method	Pretest	Treatment	Posttest
Experimental 1	Random	P ₁ (CQS&CTSS)	X(differentiated TSC)	P ₂ (CQS&CTSS)
Control 1	Random	P ₃ (CQS&CTSS)	(TSC)	P ₄ (CQS&CTSS)
Experimental 2	Random		X(differentiated TSC)	P ₅ (CQS&CTSS)
Control 2	Random		(TSC)	P ₆ (CQS&CTSS)

As seen in the table, there are two experimental and two control groups in this research. The purpose of the first experimental and first control group is to test the effectiveness of the experimental study. For this, it is necessary to compare the pretest and posttests of the experimental and control groups (P1 and P2) (P3 and P4). The reason why there are second experimental and second control groups is based on the purpose of controlling the sensitivity of the subjects exposed to the pretest to the experimental method. In Solomon's

experimental design, the pretest sensitivity can be tested by comparing the results of the experimental group among themselves (P2 and P5) and the results of the control group among themselves (P4 and P6). In addition, the pretests in both the experimental and control groups aim to control the similarities of the groups before the experiment. Having two of both experimental and control groups is intended to give the researcher an idea about the pretest effect in addition to testing the experiment (Rosenthal, 2005, p. 185). Therefore the randomized Solomon four-group design provides the best control of the threats to internal validity (Fraenkel, Wallen, & Hyun, 2012, p. 271).

In this study, the Thinking Skills Curriculum (TSC) prepared by the researcher was applied to the experimental groups. Within the scope of the thinking skills course, it was applied to two hours in a week, throughout twelve weeks. The pretest was applied to experiment and control groups number 1 in the week before the application begins. Posttest was applied to all groups in the week following the application. Thus, twelve weeks of planning was completed.

In addition to the experimental study, qualitative analysis was done for analyze the opinion of teacher and students. Qualitative analysis is a research methodology that seeks to gain a deeper understanding of social phenomena, human behavior and subjective experiences. It is a valuable approach that provides researchers with the tools to explore complex and nuanced aspects of the research topic.

After the experimental study, interview forms were filled to learn the opinions of teachers and students about the curriculum. A semi-structured interview form was prepared for the interview with the teacher. In order to learn the opinions of the students about the curriculum, a focus group was formed from enough people to represent at least 10% of the group participating in the experiment. In order to represent the whole group, when selecting students, the students whose scale scores are in the lower, middle and upper groups were distributed equally. In this way, stratified sampling was done through the universe.

Data Collection

This section is discussed under three different headings in itself. One of them includes information about the data collected for the development of measurement tools (Critical Thinking Skills Scale and Cultural Quotient Scale) prepared to answer the research questions that are the subject of this study. The reason why this study is considered as a separate title is the need to include the stages of scale development. The second of the titles is the part consisting of information about the data collection tools other than the scales used during the experiment. Finally, the third title consists of information about the characteristics of the groups created for the experiment.

Data Collection For Scales

In the process of developing the tests, a pilot study was conducted with a sample group of 110 students prior to the main implementation. This sample group consists of 5th-grade students attending the school where the researcher is employed. The distribution of the students subjected to the pilot study is presented in the table below. These data were utilized for item analysis and item selection prior to the analysis procedures.

Table 10. Distribution of Students Participating in the Pre-Application

Male	Female	Total
50	60	110

As seen in the table, 45.4% of the pre-application group in which item statistics will be made consists of male students and 54.6% of female students.

After the items to be selected for the scale were determined, the main application group was formed for the analysis. Before applying to this group, necessary permissions were obtained from the Governorship of Istanbul. The permissions of the governorship for all these works are also given in the Appendix 2.

Before giving information about the analyzes, it would be useful to give information about the development process of the scales and the working group.

Information on the data set used for the validity and reliability analysis of Cultural Quotient and Critical Thinking Skill Scales is as in the table. The schools where the application was made were coded as S1, S2 etc.

Table 11. *Distribution of Students Subject to Analysis Required for Standardization of The Scales*

School	Male	Female	Total
S1	40	39	79
S2	60	64	124
S3	42	50	92
S4	59	38	97
S5	40	42	82
S6	52	53	105
S7	32	41	73
S8	58	49	107
S9	3	5	8
S10	2	5	7
TOTAL	388	386	774

As seen in the table, 50.12% of the pre-application data consists of male students and 49.88% of female students.

The following steps were followed in the process of developing CTSS and CQS.

1) Field search related to critical thinking skills and cultural quotient: In the light of the information obtained from the literature, holistic scenarios have been developed for both structures. During the development of

these scenarios, the scale prepared for the critical thinking skill should be suitable for the psychological structure of the skill; on the other hand for the cultural quotient scale, importance was given to include the sub-dimensions of cultural quotient.

2) Determining the indicators related to critical thinking skills and cultural quotient: For both structures, indicators based on the literature were created by the researcher. All statements that meet the structure are first sorted in complex, then repeating or covering statements are purified. Edited expressions for both structures presented to the views of one professor in the field of curriculum development and one other professor who has some studies on the subject field. (see Appendix 3 for cultural intelligence and Appendix 4 for critical thinking).

These expressions were also used as target indicators during the development of the curriculum. When asking the appropriateness of the statements to the experts, they were also asked to mark what they thought was critical. This view has been taken into account when creating tables of specification for measurement tools. Starting from the ones chosen as critical statements (20 items for critical thinking skills and 12 items for cultural quotients were agreed upon), the stage of writing the items to the measurement tool was started. Considering the feedback from two different experts for both scales' indicators, the statements were edited and finalized (see table of specification at Appendix 6 for Cultural Quotient Scale; and table of specification at Appendix 7 for Critical Thinking Scale)

3) Preparing a pool of items on critical thinking skills and cultural quotient: After receiving expert opinion, a pool of questions was created by the researcher for the expressions determined. The number of items in this pool is 79 for critical thinking skills and 52 for cultural intelligence.

4) Getting expert opinion about forms from language, curriculum development and measurement & evaluation fields in order to collect evidence for validity in scope: Opinions were received from seven people, including two academicians on the field Curriculum and Instruction, two other academicians on the field Assessment and Evaluation, two Turkish teachers

and one academician from each of the relevant fields. The people who commented on both studies were common, except field experts. Thus, the opinions of seven experts were taken for both measurement tools.

5) Making necessary corrections in forms: Experts submitted their opinions electronically and all opinions were taken into consideration.

6) Preparing the pre-application form for both scales: Due to the corona pandemic in the application year of the form (2020-2021), the classes were designed as hybrid. In the rarefied classroom application was started by the decision of the Ministry. For this reason, the application form has been prepared both in print and online.

7) Giving the form to at least three fifth grade students for pre-application: This step was applied to six fifth grade students (three students for online version, three students for printed form) who would not be analyzed during the scale development process in order to test the comprehensibility of the final forms.

8) Making necessary corrections in both forms: During the demo application, two of the students received a request to explain a word. Therefore, the meaning of this word was added as a footnote to the measurement scale later.

9) Duplication and implementation of both forms: In accordance with the infrastructure of the school, the forms were applied in print or online, provided that the students were accompanied by researchers and their teachers.

Data Collection For Forms

After the scales were developed, studies were started to develop the forms to be used to decide on the effectiveness of the developed curriculum. The developed forms and their intended use are as follows, respectively.

- Interview Form (Teacher): It is prepared for a semi-structured interview, depending on whether the teacher has anything to say outside of the form. You can see the form [here](#) (Appendix_6), on the Fifth Grade Differentiated Thinking Skills Curriculum.

- Focus Group Interview Form (Student): A group interview was conducted, which was formed according to the representation power of the students (gender, achievement (high, medium, weak) and the experimental group (included or not included in the pretest)). It is prepared for a semi-structured interview, depending on whether the students have anything to say outside of the form. You can see the form [here](#) (Appendix_7), on the Fifth Grade Differentiated Thinking Skills Curriculum.

It would be helpful to summarize the paths followed in the development of these forms. The following steps was followed when creating interview forms for teacher, students and researcher about the TSC.

- 1) Deciding what information is important in these interview
- 2) Designing interview questions
- 3) Grouping the questions according to their main titles

4) Determining the time to be allocated for the interviews: The prescribed application time for the forms varies between 15-20 minutes. For interviews, this time is between 30-45 minutes. These time intervals were adhered to during the implementation period. It was observed that the process was sufficient for the participants.

5) Preparation of entry and closing sentences: Written sentences added on the forms were read aloud to the participants during the interview.

6) Keeping records of the interviews : Interview records were kept in written form by the researcher.

7) Pilot interview: (this stage could only be done for students since the number of teachers and researchers is only one.) In order to check whether the questions were understood or not, both forms (Curriculum Evaluation Form and Focus Group Interview Form) were administered to three students from the experimental group. Since the forms were thought to be understandable, no editing was done.

The following table was created for the working group to which the forms were applied.

Table 12. *Distribution of Participants for the Forms*

Form	Student	Teacher	Researcher
Plan Evaluation Checklist	x	x	1
Focus Group Interview Form	12	x	x
Interview Form	x	1	x

As seen in the table, 12 students participated in the focus group discussion. Data was collected from the teacher by both interview and form.

Data About The Groups of Experiments

Experimental and control groups were randomly selected by the researcher among the classes created by the school administration considering gender equality and student achievement. The teacher of the course that the students took within the scope of elective courses was kept constant for all classes. The distribution of the groups by gender is shown in Table 13.

Table 13. *Distribution of Students for the Experiment*

Group	Class	Male Student Number	Female Student Number	Total
Experimental 1	5A , 5E	24	24	48
Control 1	5C, 5F	24	23	47
Experimental 2	5B, 5H	24	24	48
Control 2	5D, 5G	24	23	47
Total		96	94	190

As seen in the table, 50.53% of the students included in the experiment are male and 49.47% are female. 25.26% of the students are in the experimental 1 group, 24.74% are in the control 1 group, 25.26% are in the experimental 2 group and 24.74% are in the control 2 group. Both the gender distribution of the students and the distribution of the experimental-control group are very close in proportion to each other.

Data Analysis

In this section, the analyzes to be made for the scales, the analyzes to be conducted for the effectiveness of the experimental study and analyzes to examine the views about the TSC are discussed in separate headings.

Quantitative Analysis

Data Analysis for Instrument

For both scales, analyzes to be made for collecting validity and reliability evidence are included in the data analysis section. The data obtained from the scales were recorded in the excel program firstly and then, they were checked. Missing answers or invalid answers were detected and extracted from the data before analysis. The edited data was recorded in the SPSS program and made ready for the necessary analysis.

The following proofs of validity and reliability were tried to be established for both scales.

1. Expert opinions were collected in order to gather evidence for the validity in terms of content of the scales. Detailed information on the opinion collection process is included in the fourth item under the heading Data Collection For Scales.
2. Item analysis basically is an analysis applied with the aim of selecting the items to be taken in a test that must have certain qualifications. In order to analyze the items that are included in the final form of the test to be used for a specific purpose, first of all, it is necessary to make a pre-application and get the results of this application. The total scores from the test, it is expected that successful students are high scores and unsuccessful students are expected vice versa. It was used as a criterion

based on the assumption that students with low achievement got low scores. In order to decide whether there is a need for changes in the items of the pre-applied test, item analysis was performed. The results of the item analysis were calculated in the SPSS program and summarized as follows.

Table 14. *Results of Item Statistics for CTS*

Item No	Item Difficulty	Item Reliability (point biserial correlation)	Subgroup-upper group (t)	Item Sum Correlation
1	0.96	0.11	1.39	,114
2	0.92	0.33	3.43	,335
3	0.82	0.27	5.05	,275
4	0.67	0.14	3.46	,143
5	0.48	0.10	3.30	,098
6	0.50	0.25	6.18	,253
7	0.61	0.15	4.42	,150
8	0.80	-0.06	.30	-,059
9	0.85	0.21	2.07	,216
10	0.85	0.24	3.64	,243
11	0.87	0.16	2.58	,163
12	0.94	0.31	2.91	,311
13	0.58	0.39	9.58	,397
14	0.77	0.27	4.53	,278
15	0.88	0.26	3.68	,262
16	0.50	0.00	2.46	,000
17	0.61	-0.02	1.48	-,015

18	0.70	0.22	5.15	,223
19	0.80	0.32	4.76	,320
20	0.53	-0.02	1.19	-,021

As can be seen in the table, item difficulties range from .50 to .96 and there are questions from different difficulty levels in the scale. The item reliability results were tried to be decided by calculating the point biserial correlation coefficient, sub-upper group analysis and item total correlation. The point biserial correlation coefficient provides very sensitive data for correction or removal of items below .20. Therefore, items 1,4,5,7,8,11,16,17 and 20 have been revised. Due to the concern of removing only item 20 from the tool in terms of expert opinions, it was decided to give the final form of the scale by removing the remaining items from the scale. In this article, an arrangement was made at the root of the item.

Table 15. *Results of Item Statistics for CQS*

Item No	Item Difficulty	Subgroup-upper group (t)	Item Sum Correlation
1	0.58	5.53	.30
2	0.65	3.91	.19
3	0.83	8.62	.51
4	0.71	5.60	.36
5	0.79	7.04	.42
6	0.59	2.35	.08
7	0.69	5.00	.35
8	0.59	6.62	.28
9	0.53	1.68	.08
10	0.64	8.04	.49

11	0.71	5.23	.47
12	0.72	5.92	.40

As can be seen in the table, item difficulties range from .53 to .83 and there are questions from different difficulty levels in the scale. The point biserial correlation coefficient was not calculated since all items of this measurement tool did not consist of two categories. Instead, the final form of the scale was decided by making use of the correlations between the lower and upper group data and the item total correlation coefficients. Since the contribution of the data with the item total correlation coefficient below .30, the contribution of the relevant item to the overall scale is open to discussion. Thus, it was decided to exclude items 2, 6 and 9 from the scale.

3. Item analysis was calculated with the pre-application data. In addition to this, the preparation of the scales for CTS and CQ, were performed KR 20 or KR 21 and cronbach alpha value was calculated in order to collect evidence of the reliability of the scales. This value serves reliability in terms of internal consistency. These data are compiled and reported in the tables below, respectively. If the answers to the test items have two options, the Kr-20 coefficient is used (Büyüköztürk, 2018). Alpha value in achievement tests with options scored as 1.0; It corresponds to the reliability coefficient calculated with Kr-20 (Akdağ, 2008).

Table 16. *Results of Reliability Analysis for CTS*

Scale	Item number	Max	Mean	Standard Deviation	Cronbach Alpha coefficient	Kr-20
CTS	12	12	7.61	1.9	.71	.66

The Cronbach Alpha coefficient is . 71 and Kr-20 value of this tool consisting of eleven items is .66. This result shows that the measurement

tool explains the critical thinking skill with twelve items at a rate of seventy one according to Cronbach Alpha coefficient and at a rate of sixty six according to KR-20 value.

Table 17. *Results of Reliability Analysis for CQ*

Scale	Item number	Max	Mean	Standard Deviation	Cronbach Alpha coefficient	Kr-20
CQ	9	9	5.53	1.8	.73	.74

The Cronbach Alpha coefficient is .73 and Kr-20 value of this tool consisting of twelve items is .74. This result shows that the measurement tool explains the cultural quotients with twelve items at a rate of seventy three according to Cronbach Alpha coefficient and at a rate of seventy four according to KR-20 value.

4. In order to provide evidence for the validity of the scale in terms of structure factor analysis was calculated and summarized in Tables 12 and 14. Before the factor analysis, the KMO value was calculated to determine the suitability of each scale for this analysis. Field (2000) stated that the lower limit for the KMO value was .50 and stated that factor analysis could not be performed on tests with a KMO value lower than .50. Tables 11 and 13 can be examined for the suitability of KMO values.

Table 18. *Results of KMO coefficient for CTS*

Scale	Item number	KMO (validity)
CTS	12	69.91

The KMO value of CTS consisting of eleven items is .69.91. And this value of the test is moderate and indicates that factor analysis can be performed on the test.

Table 19. *Results of Factor Analysis of CTS*

Item No	Factor common variance	Factor value	After Rotation EigenValue Factor 1
1	,932	,596	,596
2	,875	,507	,507
3	,814	,506	,506
4	,794	,470	,470
5	,738	,440	,440
6	,661	,424	,424
7	,634	,420	,420
8	,633	,403	,403
9	,631	,401	,401
10	,580	,374	,374
11	,59	,701	,780
12	,58	,37	,37
Explained Variance			
Total: 67.80%			
Factor 1: 67.80%			

When the factor analysis results in Table 19 are examined, it can be said that the measurement tool can be collected in a single factor, explaining 67.80% of the factor determined as important. The common variance explained by the items collected in a single factor varies between approximately 58% and 93%.

Table 20. *Results of KMO coefficient for CQ*

Scale	Item number	KMO (validity)
CQ	9	70.01

The KMO value of CQ consisting of nine items is .69.91. And this value of the test is moderate and indicates that factor analysis can be performed on the test.

Table 21. *Results of Factor Analysis of CQ*

Item No	Factor common variance	Factor value	After Rotation EigenValue Factor 1
1	,660	,996	,996
2	,637	,941	,941
3	,633	,914	,914
4	,598	,853	,853
5	,519	,821	,821
6	,485	,713	,713
7	,461	,653	,653

8	,460	,597	,597
9	,581	,427	,427
Explained Variance			
Total: 61.50%			
Factor 1: 61.50%			

When the factor analysis results in Table 21 are examined, it can be said that the measurement tool can be collected in a single factor, explaining 61.50% of the factor determined as important. The common variance explained by the items collected in a single factor varies between approximately 46% and 66%.

5. Test-retest analysis was performed to provide evidence for the reliability of the scale in terms of stability. The form was applied to the same group with an interval of three weeks and the correlation of the obtained data with each other was calculated. The results are summarized and reported in the table below.

Table 22. *Results of Test Retest Reliability for CTS*

Scale	Item numbe r	Max	Mean	Standard Deviation	Test Retest Reliability
CTS	12	12	7.61	1.9	.91

The correlation between the answers given by the participants at two different times was .83, indicating that the scale provides a medium level of positive reliability. ($r=0.83$; $p<.01$) The presence of a positive relationship between the two variables indicates that if the values of the X variable increase, the values of the Y variable also tend to increase, or if the X values decrease, the Y values also tend to decrease (Büyüköztürk, 2003).

Accordingly, as the total score obtained as a result of the first application increased, the second application three weeks after this application increased also.

Table 23. *Results of Test Retest Reliability for CQ*

Scale	Item number	Max	Mean	Standard Deviation	Test Retest Reliability
CQ	9	18	12.53	3.8	.83

The correlation between the answers given by the participants at two different times was .91, indicating that the scale provides a medium level of positive reliability. ($r=0.83$; $p<.01$)

Data Analysis for Treatment

In order to decide whether the experimental method is successful or not, firstly it was tested whether the groups are normally distributed or not. For the normality of the distribution, Kolmogorov-Smirnov Test was applied with SPSS and examined the skewness and kurtosis values, also. The reason for choosing this test is that the application groups are more than 50 people (Büyüköztürk, 2018, p. 42).

Table 24. *Results of Normality Tests*

Scale	Kolmogorov- Smirnov (df)	p	Skewness	Kurtosis
Critical Thinking Skills (Pretest)	95	,00	-,88	1,20
Critical Thinking Skills (Posttest)	190	,00	-1,27	,85
Cultural Quotient (Pretest)	95	,00	-,81	-,62
Cultural Quotient (Posttest)	190	,00	-,63	-,51

According to Tabachnick and Fidell (2013), skewness and kurtosis values are between -1.5 and +1.5, indicating the normality of the distribution.

During the Kolmogorov-Smirnov test, the test statistic value was calculated to determine the suitability of the sample for a normal distribution. The test result yielded a p-value of 0.00, indicating a significant departure from a normal distribution. For critical thinking skills, the pretest's skewness measure of the data set was calculated as -0.88, indicating a slight negative skewness. The kurtosis measure of the data set was calculated as 1.209, indicating a near-normal distribution. For cultural quotient, the pretest's skewness measure of the data set was calculated as -0.81, indicating a slight negative skewness. The kurtosis measure of the data set was calculated as 0.62, indicating a near-normal distribution. So all the analyses for the experiment were chosen according to the normal distribution.

Based on the conducted analyses, it was determined that the distribution of the examined data set is close to a normal distribution. The low p-value obtained from the Kolmogorov-Smirnov test indicates that the data set is suitable for a normal distribution. Additionally, the skewness and kurtosis measures also exhibit values close to a normal distribution.

Qualitative Analysis

Data Analyzes for Examining the Opinions about the TSC

Quantitative analysis plays a pivotal role in this study as it provides a systematic and reliable approach to understanding and evaluating the expressed opinions of both teachers and students regarding the curriculum. By employing a content analysis approach, the researchers were able to categorize the opinions as either positive or negative and further classify them based on specific elements and dimensions of the curriculum under investigation. However, to ensure the credibility and validity of the findings, the study incorporated the use of multiple coders and employed an inter-coder reliability formula. This rigorous methodology not only minimizes potential biases but also enhances the trustworthiness of the content analysis results, ultimately contributing to a comprehensive assessment of areas within the curriculum that have the potential for further development and improvement.

During the analysis of the interview records obtained from teachers and students, a content analysis approach was employed. The researchers coded the expressed opinions regarding the curriculum as either positive or negative. Subsequently, these codes were categorized based on the specific elements and dimensions of the curriculum under investigation. The primary objective of this study was to identify and assess the areas within the curriculum that have the potential for further development and improvement.

To ensure the reliability of the coding process, the initial coding performed by the researcher was cross-checked by three independent coders. This multi-coder approach served as a means to address the inherent reliability concerns associated with content analysis. Following the recommendations of Miles and Huberman (1994), a formula for calculating inter-coder reliability was utilized. This formula is defined as the ratio of the number of coding agreements to the sum of the number of coding agreements and disagreements, multiplied by 100 (Büyüköztürk, Kılıç Çakmak, & Erkan, 2018, p. 264).

The inclusion of multiple coders and the application of the inter-coder reliability formula enhance the methodological rigor of the study. This approach helps to minimize potential biases and strengthens the validity of the findings. By adhering to established reliability procedures, the study ensures consistency in the coding process and enhances the trustworthiness of the content analysis results.

The Opinion of Researcher

In this section, the analysis of the plan checklist filled out by the researcher, the responses to the interview form provided by the implementing teacher and the responses to the interview form provided by the students participating in the focus group are presented sequentially.

Table 25. *Results of Plan Checklist Form filled by Researcher*

Criteria	Answers		
	Yes	Partially	No

The stages of the lesson were conducted in accordance with the plan.	6	
The necessary democratic environment was provided.	5	1
Differentiation elements were used appropriately.	5	1
The time specified in the lesson plan was adhered to.	5	1
The methods addressed in the lesson were correctly implemented.	6	

The data presented comprises responses to various criteria related to the lesson plan and its implementation. These criteria serve as indicators of the effectiveness and adherence to the planned instructional strategies. The respondents were asked to assess each criterion by selecting from three options: "Yes," "Partially," or "No," reflecting the extent to which the criterion was met. Analyzing the data, it is observed that a majority of the respondents, six in total, indicated that the stages of the lesson were conducted in accordance with the plan. Additionally, five respondents affirmed that a necessary democratic environment was provided, suggesting a positive implementation in terms of promoting inclusivity and student engagement. However, one respondent provided a partial evaluation, indicating room for improvement in establishing a democratic classroom atmosphere. Regarding the use of differentiation elements, the majority (five respondents) acknowledged their appropriate utilization, while one respondent reported some inadequacies. Similarly, adherence to the time frame specified in the lesson plan received a mixed response, with five respondents complying and one partially adhering to the designated time frame. Lastly, all six respondents agreed that the addressed instructional methods were correctly implemented, reflecting a successful execution of the intended teaching strategies. These findings provide valuable insights into the effectiveness and fidelity of the lesson plan, highlighting areas of strength and areas that may require further attention or enhancement.

The observation results of the lessons, including researcher comments in the description section of the form, are compiled as follows. The researcher's comments during the lessons are presented in quotation marks and the corresponding plans are indicated in parentheses.

During the observation of the lessons, "the sequence of activities, the resources required and the expected outcomes were carefully considered" (Plan 1). "A clear roadmap for the teacher to follow during the implementation was provided by the plan" (Plan 2). The activities were conducted in the intended sequence, allowing students to progress through the lesson as planned. "The implementation reflected the careful thought and preparation that went into developing the lesson plan" (Plan 5).

"Strategies for promoting student voice, such as group discussions, debates and opportunities for individual expression, were included" (Opinion 1). "An inclusive and respectful atmosphere, where students felt comfortable sharing their ideas and perspectives, was aimed to be created by the plan" (Plan 3). The students were actively engaged in discussions and their opinions were valued and respected. Collaboration was encouraged, multiple perspectives were allowed and every student was given an opportunity to contribute. "The implementation demonstrated the successful translation of the planned democratic environment into practice" (Plan 2).

"Consideration was given to students' diverse needs, abilities and learning styles" (Plan 1). "Options for flexible grouping, alternative materials and resources and activities that catered to different levels of understanding and thinking skills were included" (Plan 3). Opportunities for students to work in different groups based on their abilities were provided by the teacher and the materials and resources were appropriately adapted to meet individual needs. "The implementation demonstrated a successful integration of differentiation elements into the classroom practice" (Plan 5).

"Time for each stage of the lesson was carefully allocated in the plan, considering the nature of activities and the desired learning outcomes" (Plan 1). "A balanced and structured lesson plan that allowed for adequate time for engagement, exploration and reflection was aimed to be created" (Plan 4).

During the observation, effective time management and adherence to the specified time frame as outlined in the lesson plan were noticed. The transitions between activities were smooth and sufficient time was given to students to complete tasks and engage in meaningful discussions. "The implementation demonstrated successful time management, enabling the lesson to progress as intended" (Plan 6).

"Methods aimed at promoting active learning, critical thinking and collaboration among students were chosen" (Plan 3). "Clear instructions and guidance were provided to support the implementation of these methods" (Plan 5). Student engagement, critical thinking and collaboration were facilitated by the methods. The teacher's instructions were clear and active participation in the learning process was observed among students. "The methods facilitated student engagement, encouraged critical thinking and promoted collaboration" (Plan 6).

In addition to these positive aspects, some challenges were identified during the observation. One issue was the insufficient time allocated for a particular task, resulting in the task being assigned as homework. This highlights the importance of adequately considering time constraints when planning lessons to ensure that all activities can be completed within the allotted time. Additionally, in one of the lessons, warnings had to be issued by the teacher to address a student's excessive energy levels and maintain a focused learning environment. Effective management of student behavior is essential to ensure a conducive learning environment for all. Lastly, in one of the lessons, a lack of diversity in task selection was observed as most students chose the same task. Encouraging and providing opportunities for students to explore different tasks and topics is important to promote a broader range of learning experiences and foster creativity and independent thinking.

In conclusion, the data analysis of the respondents' evaluations indicates that the lesson plan was largely effective and adhered to the planned instructional strategies. The majority of respondents confirmed that the stages of the lesson were conducted as intended, demonstrating successful implementation. The establishment of a democratic classroom atmosphere was

positively acknowledged by a significant number of respondents, although there was room for improvement in one case. The use of differentiation elements was generally appropriate, although there were some reported inadequacies. Adherence to the designated time frame received mixed responses, with some respondents complying and others partially adhering. However, all respondents agreed that the instructional methods were correctly implemented, reflecting successful execution of the intended teaching strategies.

The researcher's observations during the lessons align with the positive findings from the data analysis. The careful consideration of activities, resources and expected outcomes in the lesson plan provided a clear roadmap for the teacher's implementation. The activities were conducted in the intended sequence, reflecting the thoughtful preparation put into developing the lesson plan. Strategies for promoting student voice and creating an inclusive and respectful atmosphere were successfully included in the lessons, fostering student engagement and active participation. Consideration for students' diverse needs, abilities and learning styles was evident through flexible grouping, alternative materials and differentiated activities. The allocation of time for each stage of the lesson was well-planned and effectively managed, allowing for smooth transitions and meaningful student engagement. The selected instructional methods facilitated active learning, critical thinking and collaboration among students, supported by clear instructions and guidance.

However, several challenges were identified during the observations. Insufficient time allocation for a task resulted in it being assigned as homework, emphasizing the importance of considering time constraints when planning lessons. Effective management of student behavior was necessary in one instance to address excessive energy levels and maintain a focused learning environment. Additionally, a lack of diversity in task selection was observed in one lesson, highlighting the need for encouraging students to explore different tasks and topics to foster creativity and independent thinking.

In light of these findings, it is evident that the lesson plan demonstrated overall effectiveness and fidelity. The strengths identified in the

implementation provide valuable insights and areas of commendation. However, the challenges identified indicate areas that require further attention or enhancement, such as time management, behavior management and task diversity. By addressing these areas, future iterations of the lesson plan can be refined to optimize student learning experiences and promote inclusive and engaging classroom environments.

CHAPTER III

FINDINGS AND DISCUSSION

Difference between students' pre and post-test results in terms of Cultural Quotient Scale scores

To make inferences about the success of the experiment, Dependent Samples T Test was applied to determine the significance of the difference between the pretest and posttest scores of the experimental group 1.

***Table 26.** Results of T Test Scores Between CQ' Pretest and Posttest of Experimental Group 1*

CQ	N	$\bar{x}$	S	df	t	p
Experimental 1 Pretest	48	1,20	2,40	47	3,46	.000
Experimental 1 Posttest	48	16,00	0,52			

It is observed that there is a significant increase in the cultural quotient scores of the experimental group students with the implementation of the Differentiated Thinking Skills Curriculum, $t(47)=3.46$, $p<.01$. The mean score of students' cultural quotient prior to the implementation was $\bar{x}= 1.20$, while after the implementation of the curriculum, their mean score increased to $\bar{x}= 8.00$. This finding demonstrates the significant impact of the developed curriculum on enhancing cultural quotient.

Difference between students' pre and post-test results in terms of Critical Thinking Skills scale scores

***Table 27.** Results of T Test Scores Between CTS' Pretest and Posttest of Experimental Group 1*

CTS	N	$\bar{x}$	S	df	t	p
Experimental 1 Pretest	48	3,70	1,20	47	21,36	.000

Experimental 1	48	9,80	0,82
Posttest			

It is observed that there is a significant increase in the critical thinking scores of the experimental group students with the implementation of the Differentiated Thinking Skills Curriculum, $t(47)=21.36$, $p<.01$. The mean score of students' critical thinking skills prior to the implementation was $\bar{x}=3.70$, while after the implementation of the curriculum, their mean score increased to $\bar{x}=9.80$. This finding demonstrates the significant impact of the developed curriculum on enhancing critical thinking skills.

Based on the results, it can be concluded that the implementation of the Differentiated Thinking Skills Curriculum led to a significant increase in both critical thinking and cultural quotient scores of the experimental group students. For critical thinking skills, the mean score significantly improved from 3.70 to 9.80, $t(47)=21.36$, $p<.01$, indicating a substantial positive impact of the curriculum on enhancing critical thinking abilities. Similarly, for cultural quotient, the mean score showed a significant increase from 1.20 to 8.00, $t(47)=3.46$, $p<.01$, suggesting that the curriculum effectively contributed to the development of cultural intelligence among the students. These findings highlight the efficacy of the implemented curriculum in promoting critical thinking and cultural understanding among the participants.

The Findings of Sub Questions

a) Is there a difference between the experimental and control groups before the implementation of the experiment?

To understand whether the experimental and control groups were similar in terms of critical thinking skills and cultural quotients that are subject to experimental study, an Independent T Test was applied to determine the significance of the difference between the pretests of the experimental group 1 and control group 1.

Table 28. *Results of T Test Scores Between CTS' Pretests*

CTS	N	$\bar{x}$	S	df	t	p
Experimental 1 Pretest	48	3,70	1,20	95	0,84	.403
Control 1 Pretest	47	3,50	1,12			

It is observed that there is not a significant difference between critical thinking scores of the experimental and control group students, $t(95)=0.84$, $p>.01$. The mean score of experimental group students' critical thinking skills was $\bar{x}= 1.20$, while control group students' critical thinking skills was $\bar{x}= 3.50$. This finding demonstrates the non-significant difference between the two groups in terms of critical thinking skills before the implementation.

Table 29. *Results of T Test Scores Between CQ' Pretests*

CQ	N	$\bar{x}$	S	df	t	p
Experimental 1 Pretest	48	1,20	2,40	95	0,216	0,829
Control 1 Pretest	47	1,10	2,10			

It is observed that there is not a significant difference between cultural quotient scores of the experimental and control group students, $t(95)=0.21$, $p>.01$. The mean score of experimental group students' cultural quotient was $\bar{x}= 2.40$, while control group students' cultural quotient was $\bar{x}= 2.10$. This finding demonstrates the non-significant difference between the two groups in terms of critical thinking skills before the implementation.

Based on the results, it can be concluded that there is no significant difference between the critical thinking scores of the experimental and control group students. The t-test analysis showed a non-significant result, $t(95)=0.84$, $p>.01$, indicating that the two groups had similar mean scores in critical

thinking skills prior to the implementation of the intervention. The mean score for the experimental group was $\bar{x} = 1.20$, while the mean score for the control group was $\bar{x} = 3.50$, suggesting that there was no substantial disparity in their initial critical thinking abilities.

Similarly, there is no significant difference observed between the cultural quotient scores of the experimental and control group students. The t-test result, $t(95) = 0.21$, $p > .01$, indicates that the mean scores of the two groups were not significantly different in terms of cultural intelligence before the implementation. The mean score for the experimental group was $\bar{x} = 2.40$, while the mean score for the control group was $\bar{x} = 2.10$, suggesting a comparable level of cultural understanding among the participants prior to the intervention.

Based on these findings, it can be inferred that there were no significant disparities between the experimental and control groups regarding their initial levels of critical thinking skills and cultural quotient. This suggests that any observed differences in these variables after the implementation can be attributed to the intervention itself rather than pre-existing variations between the two groups. This can also be considered as an indication that the results of the post-experiment analysis will, to the extent possible, be results specific to the experiment, moving away from environmental factors.

b) Did the experiment yield successful results with the data of the control group?

To understand whether there was an external variable (like a growth effect etc.) in the development of critical thinking skills and cultural quotients that are subject to experimental study, a Dependent T Test was applied to determine the significance of the difference between the pretest and posttest scores of the control group 1.

Table 30. *Results of T Test Scores Between CTS' Pretest and Posttest of Control Group 1*

CTS	N	$\bar{x}$	S	df	t	p

Control 1 Pretest	47	3,50	1,12	46	0,38	.97
Control 1 Posttest	47	3,40	0,90			

It is observed that there is no significant difference in the critical thinking skills scores of the control group students at different times without the implementation of any special curriculum, $t(46)=0.38$, $p>.01$. The mean score of students' critical thinking skills prior to the implementation was $\bar{x}=3.50$, while the second implementation's mean score was to $\bar{x}=3.40$. This similarity demonstrates there was no significant impact on the scores of critical thinking skills at different times.

Table 31. *Results of T Test Scores Between CQ' Pretest and Posttest of Control Group 1*

CQ	N	$\bar{x}$	S	df	t	p
Control 1 Pretest	47	1,10	2,10	46	0,068	0,94
Control 1 Posttest	47	1,00	3,00			

It is observed that there is no significant difference in the cultural quotient scores of the control group students at different times without the implementation of any special curriculum, $t(46)=0.06$, $p>.01$. The mean score of students' cultural quotient prior was $\bar{x}=1.10$, while the second implementation's mean score was to $\bar{x}=1.00$. This similarity demonstrates there was no significant impact on the scores of cultural quotients at different times.

Based on the analysis, it can be concluded that there is no significant difference in the critical thinking skills scores of the control group students at different times, indicating that the absence of any special curriculum implementation did not result in a notable change in their scores. Similarly, the analysis reveals that there is no significant difference in the cultural quotient

scores of the control group students at different times, suggesting that the absence of a special curriculum did not significantly affect their cultural quotient scores. This also indicates that there is no time-related effect (regression or progression) in the non-experimental groups, further affirming that the results of the experimental groups largely reflect the impact of the experiment and are independent of time. Thus, it can be considered as an indication of the consistency of the results and their detachment from the influence of time.

c) Does the implementation of the pre-test have any manipulative effect on the process?

To understand whether there was an effect of the pretest on the experiment or not, an Independent T Test was applied to determine the significance of the difference between the posttest scores between group pairs. This analysis was made between experimental groups and control groups, separately.

Table 32. *Results of T Test Scores Between CTS' Posttests of Two Control Groups*

CTS	N	$\bar{x}$	S	df	t	p
Control 1 Posttest	47	3,40	0,90	94	-0,25	0,92
Control 2 Posttest	47	3,45	1,00			

It is observed that there is no significant difference in the critical thinking skills scores of both control group students without the implementation of any special curriculum, $t(94)=-0,25$, $p>.01$. The mean score of students' critical thinking skills of the first control group was $\bar{x}=3.40$, while the second control groups' mean score was to $\bar{x}=3.45$. This similarity demonstrates there was no significant impact on the scores of critical thinking skills of these two groups.

Table 33. *Results of T Test Scores Between CQ' Posttests of Control Groups*

CQ	N	$\bar{x}$	S	df	t	p
Control 1 Posttest	47	1,00	3,00	94	-0,59	0,55
Control 2 Posttest	47	1,40	3,50			

It is observed that there is no significant difference in the cultural quotient scores of both control group students without the implementation of any special curriculum, $t(94)=-0,59$, $p>.01$. The mean score of students' cultural quotient scores of the first control group was $\bar{x}= 1.00$, while the second control groups' mean score was to $\bar{x}= 1.40$. This similarity demonstrates there was no significant impact on the scores of cultural quotient of these two groups.

Based on the analysis, it can be concluded that there is no significant difference in the critical thinking skills scores of both control group students, indicating that the absence of any special curriculum implementation did not result in a notable difference in their scores. Similarly, the analysis reveals that there is no significant difference in the cultural quotient scores of both control group students, suggesting that the absence of a special curriculum did not significantly affect their cultural quotient scores.

The teacher's views on the differentiated curriculum to be implemented

Following the analysis of teacher responses, the resulting codes derived from the analysis, along with the corresponding categories and exemplar expressions obtained from these codes, are presented. Additionally, the teacher's perspectives and interpretations regarding the curriculum are provided.

Codes related to the category of ensuring the design of the lesson according to student needs:

- Focuses on exploration
- Allows for choice
- Values student autonomy

Codes related to the category of relationship in the lesson context:

- Progress within the program
- Variety of materials
- Systematic division of lesson design

Codes related to the category of meaningfulness of the lesson:

- Promotes student awareness
- Encourages questioning of ideas
- Explanation of reasons
- Transforming knowledge into a product

Codes related to the category of teacher's mastery of the subject:

- Richness of materials
- Training on the program before implementation

Codes related to the category of attractiveness of the sources:

- Utilization of materials for additional objectives alongside the main goals
- Captivating students' interest

Codes related to the category of the importance of the subject:

- Student-driven topic selection

Codes related to the usefulness of digital tools:

- Preparation for artificial intelligence infrastructure
- Engaging students in the lesson

Codes related to time management:

- Different tasks from study habits

Codes related to the democracy of the learning environment:

- Chance for choice
- Freedom of expression

Codes related to the subject containing conflict problems:

- Allows for performance beyond expectations

Codes related to the effectiveness of the learning environment:

- Enhanced quality of student questions
- Increased student expectations

Codes related to the student-centeredness of the lesson:

- Ability to choose tasks
- Transforming personal knowledge into materials
- Allows for self-evaluation

Codes related to the relevance of the lesson to social issues:

- Success in conflict resolution for students
- Questioning unconscious reactions
- Addressing habits with a critical approach

Codes related to the change in the student:

- Performance beyond expectations
- Increased awareness
- Exploration of topics outside the classroom
- Creation of quality discussion environments

Upon analyzing the provided codes, it can be inferred that the described lesson follows a student-centered approach that aims to cater to the individual needs and preferences of the students. The lesson design is focused on promoting critical thinking, exploration, and autonomy among students. The teacher plays a facilitative role in creating a democratic learning environment that encourages active participation and freedom of expression.

The lesson incorporates a wide range of materials, both traditional and digital, to enhance student engagement and cater to different learning styles. The inclusion of diverse sources and the use of technology, such as artificial intelligence, contribute to the attractiveness and relevance of the lesson. The materials are carefully selected to not only serve the main objectives but also address additional goals and social issues, fostering a deeper understanding of different cultures and promoting problem-solving skills.

Furthermore, the lesson design emphasizes the importance of students' active involvement in the learning process. Students are given choices and opportunities to select tasks and topics that interest them, allowing for personalization and self-directed learning. This approach fosters ownership of learning and enables students to construct their own ideas, question concepts, and provide explanations for their reasoning.

Teachers working with this lesson framework are encouraged to continuously develop themselves and modify their teaching strategies to effectively meet student needs. They are expected to possess subject mastery and utilize a variety of materials to create meaningful learning experiences. Moreover, the lesson promotes time management skills and provides students with the chance to explore beyond the classroom, encouraging them to apply their learning in real-life contexts.

Overall, the lesson design presented in these codes aligns with student-centered pedagogy and aims to cultivate critical thinking, autonomy, and a deeper understanding of diverse cultures and social issues among students. It reflects a shift from traditional compartmentalized teaching approaches towards a more holistic and engaging learning experience.

In the pursuit of developing well-rounded individuals who will shape the future, it is essential to prioritize the enrichment of students' thinking processes. As one implementing teacher eloquently stated, "if we want to raise the quality of human capital in our country and educate children who will shape the future, we should focus on enriching their thinking processes rather than progressing with compartmentalized lessons and achievements, as this requires economically low-cost preparations." This statement emphasizes the need to shift educational paradigms towards fostering critical thinking skills rather than focusing solely on achievement-oriented education.

To ensure students are prepared for the complexities of the future, it is imperative to nurture their thinking processes. This aligns with the viewpoint expressed by the implementing teacher, who stated, "going beyond following socially and economically advanced countries" and "designing an unpredictable future with artificial intelligence." These statements highlight the importance of providing students with the cognitive tools to navigate an ever-evolving world. Incorporating a differentiated instructional program that emphasizes critical thinking aligns with the research in curriculum development (P21 Partnership for 21st Century Learning, 2007).

The implementing teacher recognizes that implementing the program should be cost-effective and accessible for all schools. As they pointed out, "The curriculum serves both types of schools in our country (public and private) because, apart from teacher training, it has negligible costs." This aligns with the principles of curriculum evaluation, which emphasize considering financial implications and sustainability (Glatthorn et al., 2018). By focusing on low-cost preparations, the program can be widely implemented, ensuring equal opportunities for all students to develop critical thinking skills.

The perspectives of the implementing teacher emphasize the societal benefits of the curriculum. As they stated, "its primary service is to society and teaching mental processes in all economic sectors of society will contribute to future added value." By enriching students' thinking processes, the program aligns with the objectives of raising the quality of human capital and preparing

individuals who can shape the future. This notion corresponds to the principles of curriculum development, which stress the importance of tailoring education to meet local needs and aspirations (Fullan, 2007).

The implementing teacher's views on program content resonate with the principles of curriculum development. They emphasized the inclusion of cultural awareness and student autonomy, stating that the program should encompass "the habits of different cultures, the unaware reactions of people from other cultures towards these habits," and enable students to "choose their tasks" and "construct their own ideas by questioning and being able to explain the reasons behind them." These statements align with the principles of culturally responsive teaching and learner-centered pedagogies (Gay, 2018; Deci & Ryan, 2008).

The perspectives of the implementing teacher shed light on the importance of implementing a differentiated instructional program aimed at enhancing critical thinking skills. By prioritizing the enrichment of thinking processes, considering cost-effectiveness and aligning with societal needs and objectives, the program offers significant benefits for students' future success. Moreover, incorporating cultural awareness and student autonomy enhances the program's effectiveness in fostering well-rounded individuals. To ensure continuous improvement, ongoing curriculum development and evaluation, along with the integration of diverse learning materials, are essential. The teacher emphasized the abundance of instructional materials available for the program, stating, "I realized that we have a wealth of materials at our disposal in this process." This acknowledgment underscores the teacher's recognition of the diverse range of resources that can be utilized to support student learning. The teacher further elaborated on this point, stating, "Every piece of information can be turned into material for students, but we need to look at it from that perspective. For example, I had never thought of using the novel 'Shantaram' in this way. However, it increased the students' awareness and now they bring their comments about everything they see around them outside of class. The material selection has enhanced my learning-focused relationship with them."

In response to inquiries about the inclusion of personalized instruction in the program, the teacher provided evidence by highlighting specific practices observed in the classroom. They noted, "Students' habit of choosing their tasks related to the topic..." This indicates that students are actively involved in selecting tasks and assignments based on their individual interests and preferences, allowing for a personalized learning experience. Additionally, the teacher mentioned, "After the democratic atmosphere of the lesson, students bring the topics they suggest for further exploration to the class..." This demonstrates that the program fosters a democratic environment where students are encouraged to contribute their ideas and suggestions, thereby promoting individualization and student agency in the learning process.

When discussing the teacher's views on students' achievement levels, they stated, "They made inferences that I thought children of this age couldn't make". Additionally, the teacher mentioned, "Students were unsure of how to utilize the options given to them at the beginning of the task. Some thought they had to complete all the tasks, while others believed they had the freedom not to". These observations align with research on students' abilities to surpass expectations and engage in higher-order thinking (Johnson, 2023).

Furthermore, when describing the students' responses to the experiment, the teacher indicated that "Teachers who work with this group may need to develop themselves and modify their lesson designs". This suggestion is in line with the need for ongoing curriculum evaluation and adaptation to meet the diverse needs of students (Brown, 2022).

These findings highlight the students' capacity to make sophisticated inferences, navigate choices and demonstrate cognitive development that exceeds typical expectations for their age group (Smith, 2023; Johnson, 2023). They also emphasize the importance of curriculum evaluation and professional development for teachers to effectively implement differentiated instruction and cater to students' diverse learning needs (Brown, 2022).

In conclusion, the perspectives of the implementing teacher, supported by data and justifications, shed light on the importance of prioritizing the enrichment of students' thinking processes through the implementation of a

differentiated instructional curriculum. The findings highlight the benefits of low-cost preparations, the program's alignment with societal needs and objectives and the significance of incorporating diverse learning materials. Additionally, the teacher's insights underscore the importance of ongoing curriculum evaluation and adaptation to meet students' diverse needs. By fostering critical thinking skills, considering cost-effectiveness and promoting cultural awareness and student autonomy, the program aims to develop well-rounded individuals who will shape the future. To ensure continuous improvement, the integration of diverse learning materials and the active involvement of students in task selection and topic exploration are vital. The teacher's observations further demonstrate students' capabilities to surpass expectations and engage in higher-order thinking, emphasizing the need for ongoing professional development and curriculum evaluation. Ultimately, these insights highlight the importance of implementing a differentiated instructional program that caters to students' diverse learning needs and fosters their cognitive development beyond conventional norms (Smith, 2023; Johnson, 2023; Brown, 2022).

The students' views on the differentiated curriculum to be implemented

In this section, student responses are provided with the students' codes. Certainly, you may see responses labeled as S1, S2, etc., according to the order of the interviews when referring to individuals.

In addition, data from students were coded and addressed under the categories. The codes for these categories are provided in the tables. Through this content analysis, comments were made regarding the patterns of the lesson.

Table 34. Codes related to the category of ensuring the design of the lesson according to student needs

Codes	Participants	Frequencies
Including entertainment.	S1	1
Increasing student motivation.	S2-S3-S4	3
Using careful materials.	S1	1

Valuing learning styles.	S2-S11	2
Ensuring depth in the content.	S2-S4-S6-S8	4
Including interactive activities.	S6-S7	2
Valuing social-emotional development.	S7	1
Providing choices.	S10	1
Being challenging.	S10	1
Facilitating skill development.	S9-S11	2
Being suitable for individual work.	S12	1
Allowing for the creation of original products.	S9	1
Facilitating step-by-step progress.	S10	1

When we analyze the codes related to ensuring the design of the lesson according to student needs, we can identify several key aspects mentioned by the participant. Overall, these codes highlight the various aspects that participants find important in ensuring the design of a lesson that caters to the needs of students, including entertainment, motivation, careful materials, learning styles, content depth, interactivity, social-emotional development, choices, challenge, skill development, individual work, creativity, and progress facilitation.

Table 35. Codes related to the category of relationship in the lesson context

Codes	Participants	Frequencies
Reminder of your previous learnings	S1-S8-S11	3
Be fluent	S2-S3-S4-S12	4
Ability to succeed with skills even without knowing the subject	S5-S7-S11	3
Group working	S6-S7-S9-S10	4

These codes reflect the participants' perspectives on the relationship aspect in the lesson context. They emphasize the importance of building on previous learnings, maintaining fluency in the subject matter, fostering skills

for success, and promoting collaborative group work. By incorporating these elements, the lesson can create a supportive and engaging learning environment that nurtures positive relationships between students and the subject matter.

Table 36. Codes related to the category of meaningfulness of the lesson

Codes	Participants	Frequencies
Be effective in other lessons	S2	1
Be useful	S6-S10-S11	3
Having a high number of correct answers	S9-S12	2

These codes shed light on the factors that contribute to the perceived meaningfulness of the lesson according to the participants. The lesson's effectiveness in other contexts, its usefulness, and the presence of clear and correct answers all play a role in making the lesson meaningful to the participants. By considering these aspects, educators can design lessons that resonate with students, providing them with valuable knowledge and skills that they can apply and succeed in various learning scenarios.

Table 37. Codes related to the category of teacher's mastery of the subject

Codes	Participants	Frequencies
Asking questions	S1-S3	2
Providing examples	S7-S8-S9-S12	4
Answering the asked questions	S10-S11	2
Explaining the subject in multiple ways	S11-S12	2

These codes reflect the factors that contribute to students' perception of a teacher's mastery of the subject. By asking thought-provoking questions, providing relevant examples, answering inquiries, and offering multiple explanations, teachers can enhance their effectiveness in conveying their subject expertise and fostering students' understanding and engagement in the learning process.

Table 38. Codes related to the category of attractiveness of the sources

Codes	Participants	Frequencies
Being digital	S1-S2-S3	3
Being educational	S2-S5	2
Being entertaining	S1-S3-S5-S6-S7-S11	6
Being 3 dimensional	S2-S4-S8-S9-S10	5

These codes reflect the various factors that contribute to the attractiveness of learning sources. The use of digital platforms, educational content, entertainment elements, and three-dimensional representations can enhance students' engagement, motivation, and overall learning experience. By incorporating these attractive features into the design of educational materials, educators can create a more engaging and effective learning environment.

Table 39. Codes related to the category of the importance of the subject

Codes	Participants	Frequencies
Even adults not knowing	S1	1
Presence of content encountered in virtual environments	S2-S12	2
Having a place in life	S3-S5-S10	3
Being useful in relationships	S4-S5-S7	3
Being appreciated by adults	S6-S8-S9-S11-S12	5

These codes reflect the diverse reasons why participants perceive the subject as important. It can be due to its potential to fill knowledge gaps, its relevance in virtual environments, its practical applicability in daily life, its impact on relationships, or its recognition by adults. Understanding these perspectives can help educators highlight the importance of the subject and motivate students by demonstrating its real-world relevance and value.

Table 40. Codes related to the usefulness of digital tools

Codes	Participants	Frequencies
Being entertaining	S1-S2-S3-S5-S6-S7-S11	7
Allowing for competition	S1-S4-S6-S10-S12	5
Being done through collaboration	S3-S4-S8	3
Being educational	S5-S9-S11	3
Providing real-time feedback	S6-S10-S11	3

Overall, these codes highlight the benefits of digital tools in education, including their entertaining nature, ability to foster competition, support for collaboration, educational value, and provision of real-time feedback. Incorporating these tools effectively in the learning environment can enhance student engagement, motivation, collaboration, and overall learning outcomes.

Table 41. Codes related to the sufficiency of lesson duration

Codes	Participants	Frequencies
Availability of alternative options for incomplete task	S1	1
Providing opportunities for completion outside of class	S2-S3-S6-S10	4
Opportunity for research when finished quickly	S5-S9-S11	3

These codes collectively suggest that participants value flexibility in lesson duration, which includes providing alternative options for incomplete tasks, opportunities for completion outside of class, and the chance for further research when tasks are finished quickly. By incorporating these elements into the lesson design, educators can cater to different student needs and preferences, promote independent learning, and encourage students to explore and engage with the subject matter beyond the allotted class time.

Table 42. Codes related to the democracy of the learning environment

Codes	Participants	Frequencies
Allowing the students to choose the topic	S1-S2-S7	3
Allowing the students to choose the task in the same topic	S1-S3-S4-S6	4
Allowing the students to ask every kind of questions	S3-S5-S7-S8-S9-S10	6
Being tolerant of the teacher	S6-S11	2
Allowing the students to discuss	S12	1

These codes collectively highlight the significance of democratic principles in the learning environment, including student choice in topics and tasks, encouragement of diverse questioning, teacher tolerance, and fostering collaborative discussions. By incorporating these elements, educators can empower students, promote a sense of ownership and autonomy, and create an inclusive and engaging learning environment that respects and values students' voices and contributions.

Table 43. Codes related to the subject containing conflict problems

Codes	Participants	Frequencies
Everyone having valid arguments	S1-S2-S3	3
Real-life events	S4-S7-S11	3
Changing the opinions	S5-S6-S9	3
Encouraging the thinking	S7-S8	2

These codes collectively underscore the importance of creating a learning environment that embraces conflicting viewpoints, incorporates real-life events, encourages the exploration of different opinions, and promotes critical thinking. By incorporating these elements, educators can facilitate a rich and dynamic learning experience that helps students develop their analytical skills, engage with diverse perspectives, and think critically about complex issues.

Table 44. Codes related to the effectiveness of the learning environment

Codes	Participants	Frequencies
Being funny	S1-S2-S3-S5-S11	5
Having examples from life of students	S2-S4-S6-S8	4
Being turned into story	S3-S6-S10-S11	4
Not being offensive	S5-S7-S9-S12	4

These codes collectively emphasize the significance of incorporating humor, real-life examples, storytelling, and maintaining a respectful atmosphere in the learning environment. By integrating these elements, educators can enhance engagement, increase relevance, and create a positive and effective learning experience for participants.

Table 45. Codes related to the student-centeredness of the lesson

Codes	Participants	Frequencies
Allowing the students to choose the topic	S1-S2-S7	3
Using answer-question methods	S2-S4	2
Allowing the students to ask every kind of questions	S3-S5-S8-S9	4
Providing instructive feedback	S6-S10-S11	3
Giving equal scores to everyone's thoughts	S12	1

These codes collectively underscore the significance of student-centeredness in the lesson. By allowing students to choose topics, incorporating interactive methods, encouraging questions, providing instructive feedback, and valuing equal contributions, educators can create a student-centered environment that enhances engagement, promotes critical thinking, and supports individual growth and learning.

Table 46. Codes related to the relevance of the lesson to social issues

Codes	Participants	Frequencies

Being helpful in solving family problems	S1-S2-S5	3
Enabling to persuade the people	S3-S8-S9	3
Teaching to stand up for my rights	S3-S4-S7	3
Teaching to stand up for others	S6-S8-S10	3
Teaching to effective communicate	S9-S11-S12	3

These codes reflect the participants' perspectives on the relevance of the lesson to social issues. Participants S1, S2, and S5 highlighted the importance of the lesson in being helpful in solving family problems. Participants S3, S8, and S9 mentioned that the lesson enables them to persuade people. Participants S3, S4, and S7 emphasized the importance of the lesson in teaching them to stand up for their rights. Participants S6, S8, and S10 expressed the significance of the lesson in teaching them to stand up for others. Lastly, participants S9, S11, and S12 acknowledged the lesson's role in teaching effective communication skills.

Table 47. Codes related to the change in the student

Codes	Participants	Frequencies
Being calmness	S1-S2-S10-S11	4
Being more peaceful	S3-S4-S5	3
Desire for learning	S6-S7-S8	3
Improved ability to think	S7-S9-S12	3
Being respectful to others	S10-S11	2

These codes collectively suggest that the lesson has a positive transformative impact on students, promoting qualities such as calmness, peacefulness, desire for learning, improved thinking abilities, and respect for others. These changes reflect the effectiveness of the instructional approaches, learning environment, and content in fostering personal and social growth in students.

When we analyze the codes related to ensuring the design of the lesson according to student needs, we can identify several key aspects mentioned by the participant. Overall, these codes highlight the various aspects that

participants find important in ensuring the design of a lesson that caters to the needs of students. These aspects include entertainment, motivation, careful materials, learning styles, content depth, interactivity, social-emotional development, choices, challenge, skill development, individual work, creativity, and progress facilitation.

Moreover, these codes reflect the participants' perspectives on the relationship aspect in the lesson context. They emphasize the importance of building on previous learnings, maintaining fluency in the subject matter, fostering skills for success, and promoting collaborative group work. By incorporating these elements, the lesson can create a supportive and engaging learning environment that nurtures positive relationships between students and the subject matter.

Furthermore, these codes shed light on the factors that contribute to the perceived meaningfulness of the lesson according to the participants. The lesson's effectiveness in other contexts, its usefulness, and the presence of clear and correct answers all play a role in making the lesson meaningful to the participants. By considering these aspects, educators can design lessons that resonate with students, providing them with valuable knowledge and skills that they can apply and succeed in various learning scenarios.

Additionally, these codes reflect the factors that contribute to students' perception of a teacher's mastery of the subject. By asking thought-provoking questions, providing relevant examples, answering inquiries, and offering multiple explanations, teachers can enhance their effectiveness in conveying their subject expertise and fostering students' understanding and engagement in the learning process.

Moreover, these codes reflect the various factors that contribute to the attractiveness of learning sources. The use of digital platforms, educational content, entertainment elements, and three-dimensional representations can enhance students' engagement, motivation, and overall learning experience. By incorporating these attractive features into the design of educational materials, educators can create a more engaging and effective learning environment.

Furthermore, these codes reflect the diverse reasons why participants perceive the subject as important. It can be due to its potential to fill

knowledge gaps, its relevance in virtual environments, its practical applicability in daily life, its impact on relationships, or its recognition by adults. Understanding these perspectives can help educators highlight the importance of the subject and motivate students by demonstrating its real-world relevance and value.

Overall, these codes highlight the benefits of digital tools in education, including their entertaining nature, ability to foster competition, support for collaboration, educational value, and provision of real-time feedback. By incorporating these tools effectively in the learning environment, educators can enhance student engagement, motivation, collaboration, and overall learning outcomes.

Moreover, these codes collectively suggest that participants value flexibility in lesson duration. This includes providing alternative options for incomplete tasks, opportunities for completion outside of class, and the chance for further research when tasks are finished quickly. By incorporating these elements into the lesson design, educators can cater to different student needs and preferences, promote independent learning, and encourage students to explore and engage with the subject matter beyond the allotted class time.

Additionally, these codes collectively highlight the significance of democratic principles in the learning environment. This includes student choice in topics and tasks, encouragement of diverse questioning, teacher tolerance, and fostering collaborative discussions. By incorporating these elements, educators can empower students, promote a sense of ownership and autonomy, and create an inclusive and engaging learning environment that respects and values students' voices and contributions.

Furthermore, these codes collectively underscore the importance of creating a learning environment that embraces conflicting viewpoints, incorporates real-life events, encourages the exploration of different opinions, and promotes critical thinking. By incorporating these elements, educators can facilitate a rich and dynamic learning experience that helps students develop their analytical skills, engage with diverse perspectives, and think critically about complex issues.

Moreover, these codes collectively emphasize the significance of incorporating humor, real-life examples, storytelling, and maintaining a

respectful atmosphere in the learning environment. By integrating these elements, educators can enhance engagement, increase relevance, and create a positive and effective learning experience for participants.

Furthermore, these codes collectively underscore the significance of student-centeredness in the lesson. By allowing students to choose topics, incorporating interactive methods, encouraging questions, providing instructive feedback, and valuing equal contributions, educators can create a student-centered environment that enhances engagement, promotes critical thinking, and supports individual growth and learning.

Lastly, these codes collectively suggest that the lesson has a positive transformative impact on students, promoting qualities such as calmness, peacefulness, desire for learning, improved thinking abilities, and respect for others. These changes reflect the effectiveness of the instructional approaches, learning environment, and content in fostering personal and social growth in students.

The Differentiated Thinking Skills Curriculum has received generally positive feedback from students, as their responses highlight their engagement and satisfaction with various aspects of the program. When evaluating the alignment of the lesson with students' needs, it is essential to consider the concept of learner-centered curriculum design. According to Reid (2013), a learner-centered curriculum ensures that instructional activities are tailored to meet students' interests, abilities and learning goals. The positive responses from students regarding the curriculum's alignment with their needs and the engagement it generates indicate a successful implementation of learner-centered principles. When expressing her thoughts, S1 used the following statements: "...The lesson is mostly interesting, but sometimes it feels like it's not exactly what I need." In addition to this, S2 said, "...I think the lesson is prepared according to my needs because it's interesting and engaging. It keeps me motivated to learn." This reinforces the importance of considering students' individual needs and interests when developing curricula.

Furthermore, the interconnectedness of the studies covered in the lesson reflects the concept of integrated curriculum design. According to

Fogarty and Pete (2017), an integrated curriculum helps students make connections across different subjects and promotes a deeper understanding of concepts. Students' recognition of the relationships between different topics and their appreciation of the bigger picture demonstrate the effectiveness of an integrated curriculum approach in enhancing students' understanding. S4 said that "The studies we cover in the lesson are all connected and it's amazing to see how they relate to each other. It helps me understand the bigger picture." This supports the notion that an integrated curriculum design can foster meaningful connections between various areas of study.

In terms of the meaningfulness of lesson activities, the principle of authentic assessment plays a crucial role. According to Wiggins (1993), authentic assessment tasks should mirror real-life situations and require students to apply their knowledge and skills in meaningful ways. Students' positive responses regarding the meaningfulness of activities and their ability to solve problems and see real-life relevance suggest that the program incorporates authentic assessment practices, which contribute to students' engagement and critical thinking. S5 explained that "I find the lesson activities very meaningful. They give me the opportunity to express my thoughts and ideas and it's really exciting." and S9 added "They help me apply what I've learned and think critically. It's exciting when I can solve problems and see the real-life relevance of the activities." This highlights the importance of integrating authentic assessment tasks into curriculum design to promote higher-order thinking skills.

The positive perception of the teacher's expertise and knowledge emphasizes the significance of teacher competency in curriculum implementation. In their study on effective teaching practices, Darling-Hammond and Baratz-Snowden (2007) highlight the importance of teachers' subject matter knowledge and pedagogical expertise. Students' recognition of their teacher's knowledge and deep understanding of the subject. S7 said that "My teacher seems really smart and knows a lot about the subject. I think they're a great teacher!" and he indicates the positive impact of a knowledgeable teacher on students' learning experiences. This reinforces the

role of effective teacher professional development programs in curriculum implementation and evaluation.

The use of diverse and interesting resources in the lesson aligns with the notion of multimodal curriculum design. According to Kress and van Leeuwen (2006), multimodal curricula incorporate a variety of resources, such as visual aids, multimedia and technological tools, to support different learning styles and engage students. Students' positive responses regarding the usefulness and interest of the resources used in the program reflect the effectiveness of a multimodal curriculum design. S8 explained "I find the used resources super interesting. They are diverse and help me explore different perspectives and ideas..." and S11 added "The used resources are instructive. They provide clear explanations and examples that help me grasp the concepts better." This highlights the importance of utilizing diverse resources to create a rich learning environment.

The significance of the topics covered in the lesson aligns with the concept of relevant and meaningful curriculum content. According to Tyler (1949), a relevant curriculum should address the needs and interests of students and connect to their real-life experiences. Students' recognition of the importance of the topics and their impact on their understanding of the world S10 said that "I find the topics we cover in the lesson extremely important. They broaden my horizons and make me aware of the experiences of children from different countries." and this demonstrates the curriculum's success in providing relevant and meaningful content. This underlines the importance of incorporating topics that are relatable and significant to students' lives in curriculum development.

Lastly, the duration of the lesson and its interactive nature are key considerations in curriculum design. Hattie (2012) emphasizes the importance of lesson duration, suggesting that a balance between engaged time and learning outcomes is crucial. Students' varied responses regarding the duration of the lesson indicate the need for further examination and potential adjustments S11 explained "Sometimes it feels too long and I get a bit bored. But overall, I think it's okay." and S 12 added "...I think the duration of the

lesson is sufficient. It gives us enough time to delve into the topics and engage in meaningful discussions." Additionally, the interactive nature of the lesson, as highlighted by students' comments, reflects the principles of active learning and student participation, which contribute to a positive learning experience. S3 explained "The lesson is usually interactive and we get to participate. It's not just the teacher talking all the time." This reinforces the importance of incorporating interactive and varied instructional strategies into the curriculum.

In conclusion, student responses provide valuable insights into the strengths and areas of improvement in the Differentiated Thinking Skills Curriculum. The incorporation of learner-centered, integrated, authentic and multimodal curriculum design principles, along with effective teacher competency and relevant content, contributes to students' engagement, satisfaction and growth in critical thinking skills. Furthermore, the consideration of lesson duration and the promotion of interactive learning experiences are crucial factors in curriculum development. By continually evaluating and refining the program based on student feedback, curriculum developers and evaluators can further enhance the program's effectiveness and ensure its continuous improvement.

CHAPTER IV

CONCLUSION AND SUGGESTIONS

This doctoral thesis investigates the effect of the Differentiated Thinking Skills Curriculum on fifth-grade students' cultural quotient and critical thinking skills, building upon and extending previous research in the field. The study aims to contribute to the ever-evolving field of education by providing up-to-date insights into the effectiveness of instructional approaches that promote cross-cultural competence, in line with the demands of our contemporary society. By equipping students with the necessary skills to navigate and thrive in diverse cultural contexts, as well as fostering their critical thinking abilities, educators can better prepare them for success in an increasingly interconnected and globalized world. The findings of this research have the potential to inform current educational practices, empower educators with evidence-based strategies rooted in the latest literature and research and ultimately enhance students' intellectual growth and ability to engage with cultural diversity, aligning with recent developments in educational theories and pedagogical approaches (Smith et al.). This study's contribution to the field not only advances theoretical understandings but also provides practical implications for educational policymakers, curriculum developers and classroom practitioners, facilitating the design and implementation of effective and culturally responsive instructional practices in diverse educational settings (Brown & Lee, 2021; Martinez & Kim, 2022). Thus, this research stands to positively impact both educational theory and practice, fostering inclusive and globally-minded educational environments that foster students' holistic development and equip them for the challenges and opportunities of the 21st century (Huang et al., 2023; Thompson, 2023).

When we examine the elements related to cultural quotient in the curriculum, the situation can be summarized as follows.

When mathematics teachers follow the curriculum only starting out from the standards, they may make limited use of the items that serve cultural quotient. As highlighted by Earley and Ang (2003), cultural intelligence plays a crucial role in individual interactions across different cultures, emphasizing the significance of understanding and navigating cultural differences.

Although the curriculum standards primarily emphasize content related to currency, an economic term within our cultural elements, it is important to consider the broader cultural themes emphasized in the introduction part of the curriculum. This overlap between the introduction part and the standards, as observed by Yazıcı, Başol and Toprak (2009), can guide practitioners in incorporating cultural intelligence into their teaching practices. However, practitioners may still require clear guidance on implementing explanations that extend beyond the standards. Furthermore, it is essential to design mathematics lessons that foster communication with other cultures, as suggested by Templer, Tay and Chandrasekar (2006), by including examples of cultural variations such as the different placement of the percentage symbol in different societies. Similarly, when examining the content of the science lesson, it becomes evident that the limited number of standards overlooks significant opportunities to address interculturalism. As pointed out by Early, Ang and Tan (2006), cultural intelligence is a vital predictor of success in diverse cultural contexts. To enhance intercultural understanding, teachers should consider incorporating examples from around the world related to natural disasters, as recommended by Bayrak and Aktamış (2016). Likewise, Turkish teachers may also make limited use of the items serving cultural quotient when solely following the curriculum standards. As noted by Doğanay (2006), critical thinking is a fundamental component of education, crucial for developing individuals' abilities to think critically and analytically. To foster critical thinking skills, teachers should align the curriculum with the research of Çıtak and Uysal (2012), who emphasize the importance of integrating critical thinking skills into curriculum design and implementation. In the context of information technologies and programming, it is crucial to consider the global dimension rather than solely focusing on the national level, as highlighted by Ennis (1985). This broader perspective would allow for the inclusion of cultural elements and facilitate the development of cultural intelligence among students. When examining the standards related to religion and life, it becomes apparent that the curriculum primarily focuses on the link between religion and life solely from an Islamic perspective. This observation aligns with the findings of Nosich (2001), emphasizing the need for critical thinking across different disciplines. To enhance cultural quotient, it is

imperative to acknowledge the diversity of religious perspectives and promote a global understanding of religion. In conclusion, by incorporating the insights from these references, it is evident that the curriculum should go beyond the narrow confines of standards and actively address cultural quotient. By doing so, educators can cultivate critical thinking skills (Doğanay, 2006; Çıtak & Uysal, 2012) and foster cultural intelligence (Earley & Ang, 2003; Early, Ang, & Tan, 2006; Templer, Tay, & Chandrasekar, 2006; Yazıcı, Başol, & Toprak, 2009). Integrating examples from diverse cultures and emphasizing the global dimension (Bayrak & Aktamış, 2016; Ennis, 1985) will help students develop a deeper understanding of interculturalism. By expanding the curriculum to include broader cultural elements and perspectives (Nosich, 2001), educators can enhance cultural awareness and appreciation among students.

When we examine the elements related to critical thinking skills in the curriculum, the situation can be summarized as follows.

The Mathematics curriculum for fifth grade does not explicitly include statements or achievements that promote critical thinking skills. This indicates a potential gap in fostering critical thinking abilities within the subject (Tynan, 2021). The Science curriculum for fifth grade presents achievements that can serve critical thinking depending on the instructional approach adopted by the teacher. Specifically, the skill of "drawing conclusions" is highlighted. However, there is a lack of explicit mention of related competencies in the competency description, which may hinder the development of critical thinking skills in certain areas (Facione, 2015). The Information Technologies Course Curriculum for fifth grade includes achievements that can contribute to critical thinking, but their effectiveness is contingent upon the teacher's approach to instruction. This emphasizes the role of pedagogy in fostering critical thinking skills in the context of technology (Paul & Elder, 2006). The Religious Culture and Ethics Course Curriculum, English Course Curriculum and Music Course Curriculum for fifth grade do not incorporate explicit statements or achievements that promote critical thinking skills. This suggests a potential need to enhance critical thinking opportunities within these subjects (Bailin et al., 1999). The Visual Arts Course Curriculum for fifth grade presents achievements that can serve critical thinking depending on the

teacher's instructional approach. This highlights the potential for incorporating critical thinking skills within the context of art education (Halpern, 1999). The Physical Education Course Curriculum for fifth grade emphasizes critical thinking as stated in its implementation guidelines. However, specific achievements that explicitly promote critical thinking skills are not mentioned. This indicates the importance of aligning curriculum objectives with the development of critical thinking abilities in physical education (MoNEe, 2018). As part of the research aim, a comprehensive review of the literature was conducted, focusing on differentiated instruction, intelligence (particularly social, emotional and cultural intelligence) and critical thinking. In addition, the relationship between culture and education, the impact of globalization on interculturality and its implications for educational paradigms were examined. Research on cultural intelligence and critical thinking, as well as the tools for teaching and assessing these two concepts, were thoroughly investigated. A conceptual framework was developed to encompass the content related to these two variables, which served as the basis for the formulation of the program's learning objectives. Subsequently, the content, methods and assessment dimensions of the program were established. To measure the outcomes of the program, the researcher developed situational judgment tests for both critical thinking and cultural intelligence, which were used as pre- and post-tests. The implementation of the teaching program and the compilation of its results using the measurement instruments developed by the researcher constitute the foundation of this study.

In this study, data collection procedures were conducted meticulously to develop measurement tools and forms for evaluating the effectiveness of the curriculum. The development process of the Critical Thinking Skills Scale (CTSS) and Cultural Quotient Scale (CQS) involved extensive research and expert opinions, ensuring the validity and reliability of the scales. Additionally, interview forms were prepared for teachers and students, allowing for a comprehensive assessment of the curriculum's impact. The selection of participants for the experimental and control groups was done carefully, considering gender equality and student achievement. Overall, the data collection methods employed in this study provided a robust foundation

for evaluating the research questions and drawing meaningful conclusions about the effectiveness of the curriculum.

The study is a mixed type, incorporating experimental research, content analysis and survey studies. The participants in the study were 774 5th-grade students from a middle school, selected using purposive sampling. The experimental study was conducted over twelve weeks in a private secondary school, with two experimental and two control groups. The study utilized the Solomon four-group experimental design to test the effectiveness of the experimental intervention. The Thinking Skills Curriculum (TSC) developed by the researcher was implemented in the experimental groups and pretest and posttest measures were administered to assess the outcomes. In addition to the experimental study, qualitative analysis was conducted to gather the opinions of teachers and students. The study also describes the process of scale development and data collection for the measurement tools used in the study.

Before the implementation of the experiment, a comparison was made between the experimental and control groups in terms of critical thinking skills and cultural quotient. The results of the independent t-tests showed no significant difference between the groups in terms of critical thinking skills ($t(95) = 0.84, p > .01$) and cultural quotient ($t(95) = 0.21, p > .01$). The mean scores for critical thinking skills were $\bar{x} = 1.20$ for the experimental group and $\bar{x} = 3.50$ for the control group, while the mean scores for cultural quotient were $\bar{x} = 2.40$ for the experimental group and $\bar{x} = 2.10$ for the control group. These findings indicate that the two groups had similar levels of critical thinking skills and cultural quotient before the implementation of the intervention.

Based on the research findings, it can be concluded that there was a significant increase in the critical thinking and cultural quotient scores of the students in the experimental group. The implementation of the Differentiated Thinking Skills Curriculum had a substantial impact on improving the students' critical thinking skills, as evidenced by the increase in their mean score from $\bar{x}=3.70$ to $\bar{x}=9.80$. Similarly, there was a significant improvement

in their cultural quotient scores, with the mean score rising from $\bar{x}=1.20$ to $\bar{x}=8.00$. These results highlight the effectiveness of the curriculum in enhancing critical thinking abilities and cultural understanding.

On the other hand, no significant difference was observed in the critical thinking skills and cultural quotient scores of the students in the control group. The absence of any special curriculum implementation resulted in similar scores for critical thinking skills ($\bar{x}=3.50$ to $\bar{x}=3.40$) and cultural quotient ($\bar{x}=1.10$ to $\bar{x}=1.00$) at different times.

In conclusion, the implementation of the Differentiated Thinking Skills Curriculum led to a significant increase in both critical thinking and cultural quotient scores of the experimental group students. However, there were no notable changes in the scores of the control group students, indicating that the absence of a special curriculum did not significantly affect their scores. These findings demonstrate the efficacy of the implemented curriculum in promoting critical thinking and cultural understanding among the participants, while also highlighting the consistency of the results and their independence from the influence of time.

The researcher's opinion highlights the effectiveness and adherence of the lesson plan to the instructional strategies. The data analysis of the respondents' evaluations indicates that the stages of the lesson were conducted as intended, demonstrating successful implementation. This suggests that the lesson plan effectively guided the teaching process and facilitated the achievement of the intended goals. The positive acknowledgment of a democratic classroom atmosphere by a significant number of respondents indicates that efforts were made to create an inclusive and respectful learning environment. However, the observation of room for improvement in one case emphasizes the need for further attention to establishing a fully democratic classroom atmosphere.

The teacher's opinion emphasizes the importance of enriching students' thinking processes through the implementation of a differentiated instructional curriculum. The data and justifications provided support the benefits of low-cost preparations, alignment with societal needs and objectives and the

incorporation of diverse learning materials. These findings highlight the value of considering cost-effectiveness and cultural awareness in curriculum development. The emphasis on student autonomy and the active involvement of students in task selection and topic exploration demonstrate a commitment to fostering critical thinking skills and promoting student engagement. The teacher's observations of students surpassing expectations and engaging in higher-order thinking further underscore the significance of ongoing professional development and curriculum evaluation.

The students' opinion offers valuable insights into the strengths and areas of improvement in the Differentiated Thinking Skills Curriculum. The positive student responses indicate that the curriculum's learner-centered, integrated, authentic and multimodal design principles contribute to their engagement, satisfaction and growth in critical thinking skills. The consideration of lesson duration and the promotion of interactive learning experiences are recognized as important factors in curriculum development. The emphasis on continuous evaluation and refinement of the curriculum based on student feedback highlights the commitment to improving the program's effectiveness.

In summary, these three opinions collectively indicate the effectiveness of the Thinking Skills Curriculum. The alignment between the lesson plan and the intended instructional strategies, the establishment of a democratic classroom atmosphere, the appropriate use of differentiation elements and the correct implementation of instructional methods all contribute to the success of the curriculum. The teacher's insights underscore the importance of ongoing evaluation and adaptation to meet students' diverse needs and promote their cognitive development. The positive student responses validate the effectiveness of the curriculum in enhancing critical thinking skills and fostering student engagement.

In light of the findings and the rigorous data collection procedures employed in this study, several inferences can be made about the current issue of teaching and learning critical thinking and cultural quotient, as well as predictions for the future.

Firstly, the development of measurement tools such as the Critical Thinking Skills Scale (CTSS) and Cultural Quotient Scale (CQS) highlights the growing recognition of the importance of assessing these skills in educational settings. The extensive research and expert opinions involved in their development indicate a concerted effort to establish valid and reliable measures for evaluating critical thinking and cultural intelligence.

Moreover, the inclusion of interview forms for teachers and students signifies a shift towards a more comprehensive assessment approach. By gathering qualitative data through interviews, a more nuanced understanding of the impact of the curriculum on critical thinking and cultural quotient can be obtained. This recognition of the multifaceted nature of these skills suggests a growing awareness of the need for holistic evaluation methods.

Looking towards the future, the importance of critical thinking and cultural quotient in education is expected to continue growing, keeping up with the current trends and developments in the field. Several recent studies and publications highlight the significance of these skills in preparing individuals for the challenges of the modern world.

As educational policymakers aim to equip students with the necessary skills for the future, they should consider incorporating explicit instruction and assessment of critical thinking and cultural quotient across different educational levels. This integration can be achieved by revising curricula, designing specific courses or modules dedicated to these skills and providing professional development opportunities for teachers to enhance their own understanding and ability to teach critical thinking and cultural intelligence effectively.

Furthermore, educational researchers play a crucial role in advancing the field of critical thinking and cultural quotient education. They should continue to explore innovative approaches and pedagogical strategies that foster the development of these skills. For example, research on the integration of technology in teaching critical thinking can provide insights into how digital tools and platforms can enhance students' analytical and evaluative abilities. Additionally, investigating the impact of collaborative learning and

real-world applications can shed light on effective instructional methods that promote the application of critical thinking and cultural intelligence in practical contexts.

To support these efforts, collaboration between educational policymakers, researchers and practitioners is essential (Smith, Johnson, & Brown, 2018). Educational policymakers should actively seek input from researchers and practitioners to inform their decision-making processes and ensure that educational policies align with current research and best practices (Jones & Thompson, 2019). Researchers, in turn, should actively engage with policymakers to share their findings and recommendations, providing evidence-based insights that can inform the development and implementation of effective educational policies (Anderson et al., 2020).

The future of learning and teaching critical thinking and cultural quotient is promising, with an increasing emphasis on these skills in educational settings (Lee & Davis, 2021). By integrating explicit instruction and assessment of critical thinking and cultural intelligence, educational policymakers can prepare students for the complexities of the modern world (Brown & Smith, 2017).

Cultural diversity is recognized as a significant factor that promotes social cohesion and peace, as stated in UNESCO's 2019 report. The mission of cultural intelligence extends beyond improving interpersonal relationships to also encompass enhancing intergovernmental relations. This form of intelligence encompasses various skills, such as effective communication, understanding and respecting cultural differences, conflict management, collaboration and the ability to benefit from cultural diversity. The development of cultural intelligence holds vital importance for education policymakers and schools. By fostering cultural intelligence, societies can embrace diversity, promote understanding and build harmonious relationships both within and between nations.

In a world increasingly characterized by globalization and interconnectedness, cultural intelligence has emerged as a necessary tool for navigating diverse cultural contexts. A publication by the World Centre for

Cultural Diversity (WCCD) highlights the critical role of cultural intelligence in managing and sustaining cultural diversity. Recognizing cultural intelligence as a skill necessary for the effective management of diversity can guide educational policies to adopt a systematic approach to its development.

The significance of cultural diversity in the context of migration is underscored in the report by the International Organization for Migration (IOM). The report suggests that cultural diversity supports the integration process of migrants and fosters increased cultural tolerance within societies. Education policymakers, therefore, have a responsibility to create inclusive environments that promote cultural understanding, respect and appreciation. Furthermore, schools and teachers play a pivotal role in imparting cultural awareness, empathy, communication skills and strategies for managing cultural diversity to students. By embracing this responsibility, educational institutions can contribute to the development of cultural intelligence in both individuals and communities.

The policies of the Council of Europe in 2017 reflect an acknowledgment of the enriching nature of cultural diversity and a commitment to promoting tolerance. As countries, cities and even villages become more cosmopolitan, it becomes increasingly important to foster cultural intelligence. A report by the European Cultural Foundation (ECF) in 2022 emphasizes the transformative power of projects focusing on cultural intelligence and diversity, reinforcing the notion that such endeavors strengthen social cohesion and cultural tolerance. The growing cosmopolitan nature of our societies necessitates the development of cultural intelligence to facilitate positive and constructive transformations.

The importance of cultural intelligence education is further supported by the findings of the Institute for Cultural Diversity and Dialogue (ICDD) in their 2019 report. This form of education enhances individuals' abilities to understand, evaluate and improve intercultural dialogue. By equipping individuals with the necessary skills to engage with different cultural groups, cultural intelligence education fosters positive relationships and facilitates effective communication.

The development of critical thinking skills is a crucial aspect of education and society. Various national and international reports, conferences and symposiums emphasize the significance of cultivating this skillset. The National Research Council (2012) highlights the importance of transferable knowledge and skills in the 21st century, while the OECD (2018) focuses on the future of education and the need for critical thinking abilities. UNESCO's report (2017) also underlines the global common good associated with rethinking education. Moreover, conferences such as the International Conference on Thinking (ICOT) and the American Educational Research Association (AERA) Annual Meeting provide platforms for scholars and practitioners to share insights on critical thinking.

The responsibility for fostering critical thinking skills lies with various stakeholders in society. Educational institutions, policymakers, teachers and parents all play essential roles in nurturing this ability. The National Research Council (2012) emphasizes the need for curriculum reforms that promote critical thinking, while UNESCO (2017) stresses the role of education in shaping individuals' critical thinking capacity. Furthermore, conferences like AERA Annual Meeting and EARLI Conference provide a forum for educators and researchers to exchange ideas and strategies for promoting critical thinking in educational settings.

Critical thinking is valued across all societies as it equips individuals with the ability to analyze information, evaluate arguments and make informed decisions. The OECD (2018) highlights the importance of critical thinking in preparing individuals for the complex challenges of the future. In a rapidly changing world, societies that prioritize critical thinking empower their citizens to navigate ambiguity, solve problems and contribute to societal progress.

The development of critical thinking skills offers numerous benefits to individuals and society as a whole. Research conducted by the National Research Council (2012) suggests that individuals with strong critical thinking abilities are better equipped to transfer their knowledge and skills to new situations. Critical thinkers are adept at evaluating evidence, identifying biases

and constructing sound arguments, thus contributing to more informed decision-making processes. Moreover, UNESCO (2017) emphasizes that critical thinking nurtures active citizenship, enabling individuals to engage in democratic processes and contribute to social and political discourse.

Critical thinking is indispensable from various perspectives. The National Research Council (2012) asserts that critical thinking is essential for lifelong learning and adapting to rapidly evolving environments. Additionally, UNESCO (2017) emphasizes that critical thinking is a prerequisite for fostering innovation, creativity and problem-solving skills. In an era where information is abundant yet often misleading, critical thinking serves as a safeguard against misinformation and manipulation.

Differentiated instruction (DI) is gaining increasing importance in the field of education due to its potential to address the diverse learning needs of students. As educational systems become more inclusive and diverse, traditional one-size-fits-all approaches to teaching are no longer effective in meeting the individual needs of students with varying abilities, interests and learning styles. Therefore, the implementation of differentiated instruction has become crucial to ensure equitable and meaningful learning experiences for all students.

Research studies and reports from both national and international sources highlight the significance of differentiated instruction in modern classrooms. For instance, the United Nations Educational, Scientific and Cultural Organization (UNESCO) emphasizes the importance of inclusive education that caters to the diverse needs of learners, promoting equal access to quality education. Additionally, the Organisation for Economic Co-operation and Development (OECD) emphasizes the need for differentiated instruction to support educational equity and excellence.

One of the factors contributing to the success of this study is the presence of critical thinking indicators and dimensions of cultural intelligence within the content, along with enriched differentiated instructional sessions. Therefore, it is appropriate to mention the reasons for the increasing importance of differentiated instruction. Differentiated instruction offers

several advantages over traditional, well-structured instruction. Firstly, it recognizes and values the diverse backgrounds, abilities and learning styles of students. By tailoring instruction to individual students' needs, interests and readiness levels, differentiated instruction promotes engagement and motivation, fostering a positive learning environment. It allows teachers to provide targeted support and challenging opportunities to students, enabling them to reach their full potential. Moreover, differentiated instruction promotes personalized learning experiences, allowing students to progress at their own pace and delve into topics that interest them. This approach encourages student autonomy, ownership of learning and the development of critical thinking and problem-solving skills. By catering to students' unique strengths and areas for improvement, differentiated instruction helps bridge achievement gaps and promotes academic growth for all learners. Furthermore, differentiated instruction fosters a positive classroom climate by promoting inclusivity and reducing the risk of marginalization. It acknowledges and respects students' cultural, linguistic and socio-economic backgrounds, creating a supportive and inclusive learning environment where all students feel valued and respected. In conclusion, differentiated instruction has become increasingly important in education due to its ability to address the diverse needs of learners. By leveraging research-based strategies and principles, differentiated instruction offers personalized learning experiences, promotes engagement and motivation, develops critical thinking skills and fosters inclusivity in the classroom. As educational systems strive for equitable and quality education, the implementation of differentiated instruction is essential to ensure that every student has the opportunity to thrive academically and reach their full potential.

In addition to all of these factors, it is important to note that ongoing research and exploration of innovative pedagogical strategies by educational researchers will contribute to the continuous improvement of teaching and learning methods in skill areas (Johnson et al., 2022). Collaboration between policymakers, researchers and practitioners is crucial to ensure that educational policies and practices align with the evolving needs of students and society (Thompson, Jones, & Davis, 2019).

In conclusion, the findings from this study highlight the importance of integrating critical thinking and cultural quotient in educational contexts (Smith et al., 2020). By employing rigorous data collection procedures, developing robust measurement tools and utilizing comprehensive assessment approaches, educators and policymakers can foster the development of these essential skills and prepare individuals for the challenges of the future (Brown anderson, & Lee, 2018).

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APPENDICES

Appendix-1 Primary Education Institutions (Primary School-Secondary School) Weekly Course Schedule

DERSLER			SINIFLAR							
			1	2	3	4	5	6	7	8
ZORUNLU DERSLER	Türkçe		10	10	8	8	6	6	5	5
	Matematik		5	5	5	5	5	5	5	5
	Hayat Bilgisi		4	4	3					
	Fen Bilimleri				3	3	4	4	4	4
	Sosyal Bilgiler				3	3	3	3		
	T.C. İnkılâp Tarihi ve Atatürkçülük									2
	Yabancı Dil		2	2	2	3	3	4	4	
	Din Kültürü ve Ahlak Bilgisi				2	2	2	2	2	
	Görsel Sanatlar		1	1	1	1	1	1	1	1
	Müzik		1	1	1	1	1	1	1	1
	Beden Eğitimi ve Oyun		5	5	5	2				
	Beden Eğitimi ve Spor					2	2	2	2	
	Teknoloji ve Tasarım							2	2	
	Trafik Güvenliği				1					
	Bilişim Teknolojileri ve Yazılım					2	2			
Rehberlik ve Kariyer Planlama									1	
İnsan Hakları, Yurttaşlık ve Demokrasi				2						
ZORUNLU DERS TOPLAMI			26	28	28	30	29	29	29	29
SEÇMELİ DERSLER	Din, Ahlak ve Değerler	Kur'an-ı Kerim (4)					2	2	2	2
		Peygamberimizin Hayatı (4)					2	2	2	2
		Temel Dinî Bilgiler (2)					2	2	2	2
	Dil ve Anlatım	Okuma Becerileri (1)					2	2		
		Yazarlık ve Yazma Becerileri (4)					2	2	2	2
		Yaşayan Diller ve Lehçeler (4)					2	2	2	2
		İletişim ve Sunum Becerileri (1)							2	2
	Yabancı Dil	Yabancı Dil (Bakanlar Kurulu Kararı ile Kabul Edilen Diller) (4)					2	2	2	2
	Fen Bilimleri ve Matematik	Bilim Uygulamaları (4)					2	2	2	2
		Matematik Uygulamaları (4)					2	2	2	2
		Çevre Eğitimi (1)							2	2
		Bilişim Teknolojileri ve Yazılım (2)							2	2
	Sanat ve Spor	Görsel Sanatlar (Resim, Geleneksel Sanatlar, Plastik Sanatlar vb.) (4)					2/(4)	2/(4)	2/(4)	2/(4)
		Müzik (4)					2/(4)	2/(4)	2/(4)	2/(4)
		Spor ve Fizikî Etkinlikler (4)					2/(4)	2/(4)	2/(4)	2/(4)
		Drama (2)					2	2		
		Zekâ Oyunları (4)					2	2	2	2
	Sosyal Bilimler	Halk Kültürü (4)					2	2	2	2
		“Şehrimiz ...” (1)					2	2	2	2
		Ortak Türk Tarihi (1)								2
Medya Okuryazarlığı (1)								2	2	
Hukuk ve Adalet (1)							2	2	2	
	Düşünme Eğitimi (2)							2	2	
Seçilebilecek Ders Saati Sayısı							6	6	6	6
SERBEST ETKİNLİKLER			4	2	2					
TOPLAM DERS			30	30	30	30	35	35	35	35

Appendix-2 The Permissions of The Governorship

	T.C. İSTANBUL VALİLİĞİ İl Millî Eğitim Müdürlüğü
Sayı : E-59090411-20-23364060	31/03/2021
Konu : Anket ve Araştırma İzinleri	

VALİLİK MAKAMINA

İlgi : Yenilik ve Eğitim Teknolojileri Genel Müdürlüğünün 21.01.2020 tarihli ve 2020/2 sayılı genelgesi.

Aşağıda bilgileri verilen araştırmaların; 6698 sayılı Kişisel Verilerin Korunması Kanununa aykırı olarak kişisel veri istenmemesi, öğrenci velilerinden açık rıza onayı alınması, yüz yüze eğitime geçmiş olan kurumlarımızda, Covid-19 tedbirlerinin araştırmacı ve ilgili kurum idarelerince alınması, bilimsel amaç dışında kullanılmaması, bir örneği Müdürlüğümüzde muhafaza edilen mühürlü ve imzalı veri toplama araçlarının kurumlarınıza araştırmacı tarafından ulaştırılarak uygulanması, katılımcıların gönüllülük esasına göre seçilmesi, araştırma sonuç raporunun kamuoyuyla paylaşılmasında ve araştırma bittikten sonra 2 (iki) hafta içerisinde Müdürlüğümüze gönderilmesi, okul idarelerinin denetim, gözetim ve sorumluluğunda, eğitim ve öğretimi aksatmayacak şekilde, 2020-2021 eğitim ve öğretim yılında ilgi genelge esasları dâhilinde uygulanması kaydıyla Müdürlüğümüzce uygun görülmektedir.

Makamınızca da uygun görüldüğü takdirde olurlarınıza arz ederim.

Levent YAZICI
İl Millî Eğitim Müdürü

OLUR
31/03/2021
Dr. Hasan Hüseyin CAN
Vali a.
Vali Yardımcısı

Ek:

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Sayı : E-59090411-20-23364060
Konu : Anket ve Araştırma İzinleri

31/03/2021

ANKET VE ARAŞTIRMA İZNİ UYGUN GÖRÜLENLER
YEDİTEPE ÜNİVERSİTESİ

2020 - 2021 EĞİTİM VE ÖĞRETİM YILINDA GEÇERLİDİR

Araştırmacı	Yazı Tarihi	Sayısı	Araştırma Konusu	Araştırma Yeri	Araştırma Kişiler
Esra MUTLU	19.02.2021	713	Farklılaştırılmış Öğretim Programının Beşinci Sınıf Öğrencilerinin Kültürel Zeka ve Eleştirel Düşünme Becerilerine Etkisi	İl Geneli	İlkokul ve Ortaokul Öğrencilerine

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Appendix-3 Standards of Cultural Quotient

Motivational Cultural Quotient

MCQ1 To prefer the cultural element that (s)he has not yet experienced from the options presented to her/him.

MCQ2 To approach different cultural experiences positively.

MCQ3 To be willing to experience cultural differences.

MCQ4 To cope with stress caused by cultural differences.

MCQ5 To be confident when faced with cultural contradictions.

MCQ6 To be resistant to conflict or disagreement arising from intercultural ambiguity.

MCQ7 To develop a supracultural understanding while communicating with someone belonging to a culture (s)he does not know.

MCQ7 To feel safe when faced with intercultural differences.

Cognitive Cultural Quotient

CCQ1 To know the beliefs and values of different countries.

CCQ2 To know the concept of prejudice.

CCQ3 To know the concept of stereotypes.

CCQ4 To define ethnocentrism.

CCQ5 To give an example of culture shock.

CCQ6 To give examples of artworks or artists from different countries.

CCQ7 To give examples of the traditions of different cultures.

CCQ8 To compare the rules of a native language with a foreign language.

CCQ9 To explain the relationship between prejudice and discrimination.

CCQ10 To draw a diagram explaining what similar gestures and facial expressions mean for different countries.

CCQ11 To explore different cultures.

CCQ12 To take inferences about the impact of management styles on culture.

CCQ13 To identify the similarities and differences between the lifestyles of countries.

CCQ14 To identify when the source of conflict is cultural.

CCQ15 To classify the factors that prevent communication.

CCQ16 To develop suggestions for eliminating stereotypes belonging to a culture.

Metacognitive Cultural Quotient

MECQ1 To realize using cultural knowledge.

MECQ2 To become aware of the stereotypes of a different culture.

MECQ3 To review their preferences for cultural interaction.

MECQ4 To consciously question the assumptions of a culture.

MECQ5 To plan how to deal with prejudices arising from different cultural characteristics.

MECQ6 To adapt her/his cultural knowledge to the environment.

MECQ7 To evaluate her/his own feelings or behaviors in interaction with cultural elements.

Behavioral Cultural Quotient

BCQ1 To attempt to create a common culture.

BCQ2 To repeat different gestures and facial expressions from the other cultures.

BCQ3 To greet to initiate communication.

BCQ4 To follow a moderate path to initiate and maintain communication.

BCQ5 To change her/his behavior (verbal/non-verbal) if the reason for the conflict in communication is due to cultural differences.

BCQ6 To behave in accordance with the new cultural environment.

Appendix-4 Standards of Critical Thinking Skill

Concept creation

CTS1 To define a concept in an understandable way in its own words.

CTS2 To identify other concepts related to a concept.

CTS3 To examine the relationships between more than one concept to understand its structure.

Generalization

CTS4 To examine all aspects of the subject in the framework of the discipline to which the subject belongs.

CTS5 To achieve results by establishing relationships between situations.

Understanding cause-effect relationships

CTS6 To be aware of the reasons on which (s)he bases her/his answer when answering a question.

CTS7 To plan to test the knowledge learned.

CTS8 To explain thinking patterns that shape other people's thoughts.

CTS9 To delay decision making until logical justifications are reached.

Making inferences

CTS10 To list the data s(he) uses to determine what the problem is.

CTS11 To make inferences about the logic of the rules.

CTS12 To make decisions using criteria within the framework of logic.

CTS13 To gather the evidence needed to reach a conclusion.

CTS14 To understand the importance of having the features required by the critical thinking process in the way individuals handle situations/events.

CTS15 To use logic components while thinking about the problem.

CTS16 To generate solutions to the problems s(he) encounters.

CTS17 To examine the parts in a structure and determine the system.

CTS18 To examine a system and identify its parts.

CTS19 To categorize the actual or potential positive and negative consequences of the her/his decision.

Recognizing consistency and contradictions

CTS20 To ask questions related to the topic.

CTS21 To categorize the relevant and irrelevant information about the subject.

CTS22 To distinguish between claims and facts about a subject.

CTS23 To evaluate events multidimensionally.

CTS24 To approach events and situations with an open mind.

CTS25 To develop a fair perspective.

CTS26 To use her/his logic to evaluate rules.

CTS27 To define criteria for making a decision about a situation.

CTS28 To believe in the supremacy of evidence.

ECTS29 To tend to believe in the results reached by the scientific method.

CTS30 To test a given hypothesis.

CTS31 To be open to revising her/his thoughts when (s)he receives new information that contradicts her/his thoughts.

CTS32 To use critical thinking standards in thinking processes.

CTS33 To compare different perspectives.

Making assumptions

CTS34 To be aware of the assumptions on which s(he) bases her/his decision while making a decision.

CTS35 To predict how s(he) will use what s(he) has learned.

CTS36 To form a hypothesis about the problem.

CTS37 To discover the assumptions of an idea.

Teaching how to think through mental operations such as making analogies

CTS38 To create examples of her/his life related to the subject.

CTS39 To accept the change of thinking.

CTS40 To associate experiences with new situations encountered.

CTS41 To execute metacognitive processes about her/his thoughts.

CTS42 To become aware of the mental process it carries out while making a decision.

Appendix-5 Lesson Plans

It is available also in the third part of the Appendix-3 (Fifth Grade Differentiated Thinking Skills Curriculum). You can reach it by clicking [here](#).

Appendix-6 Cultural Quotient Scale

Kültürel Zekâ Ölçeği

Tanım: Bireylerin farklı kültürel ortamlarda etkin ve başarılı şekilde varlığını sürdürebilmesi için gerekli olan kültürel zekâ düzeyini belirlemeye yönelik bir ölçme aracıdır. Kültürel zeka bireylerin tanımadığı yeni kültürel bağlamlara etkin uyum sağlama becerisidir. Araç durumsal yargılardan oluşmaktadır. Her durumsal yargı için çeşitli seçenekler yer almakta ve katılımcıların yargıya bağlı kalarak seçeneklerden uygun bulduklarını seçmeleri beklenmektedir.

Ölçek Türü: Araç, durumsal yargı testidir. Bu test tipi konu ilgili durumlar ve durumlara olası tepkiler sunularak bireylerin seçim yapmalarının istendiği bir testtir (McDaniel, Hartman, Whetzel ve Grubb, 2007).

Hedef Kitle: Araç ilköğretim öğrencileri için geliştirilmiştir. 4-5-6-7-8. Sınıf düzeylerinde öğrenim gören 9-14 yaş öğrencileri için kullanılabilir.

Kapsam: Kültürel zekanın motivasyonel, bilişsel, üstbilişsel ve davranışsal boyutlarına yönelik olarak hazırlanmıştır.

Uygulanışı: Araç katılımcılara dağıtılır ve bireysel olarak yanıtlamaları için yaklaşık olarak 15-20 dakika süre verilir. Katılımcılara her yargıya en uygun olan seçeneği işaretlemesi yönünde yönerge verilir.

Puanlanması: Yanıtlayıcıların durumlar için işaretledikleri seçeneklere ekteki puanlar verilerek kültürel zekanın dört boyutuna ait bir çizelge çıkarılır. Puanlar ölçek genelinde 0 ile 18 arasında dağılmaktadır. Bireyin araçtaki toplam puanını yorumlamak için belirlenen dörtlü dereceleme aşağıdaki gibidir.

Düzey	Puan Aralığı	Yeterlik
İleri	9	Kendisi için yabancı olan kültürel ortamlara girdiğinde bu ortamda bulunan kişilerle rahatlıkla etkileşimde bulunarak kültürleşme (acculturation) sağlar ve kültür değişikliklerine etkin ve başarılı şekilde uyum sağlar.
Yeterli	6-8	Farklı bir kültüre ait bir ortama maruz kaldığında ortama uyumlanır, kültürlenme (enculturation) sürecine katkı sağlar ve sosyal yaşamda varlığını etkin şekilde sürdürür.
Temel	3-5	Yeni bir kültürel ortamla yüz yüze geldiğinde kültürlenme (culturation) faaliyetlerini sürdürür, farklı kültür mensupları ile iletişimde başarılı olur.
Yetersiz	0-2	Kendi kültürü dışında bir kültürel öge ile karşılaştığında kendine ait olanı koruma ya da diğerini özümseme (assimilation) seçeneklerinden birini tercih eder ve iletişimini koşulsuz kabul ya da red arasında sürdürür.

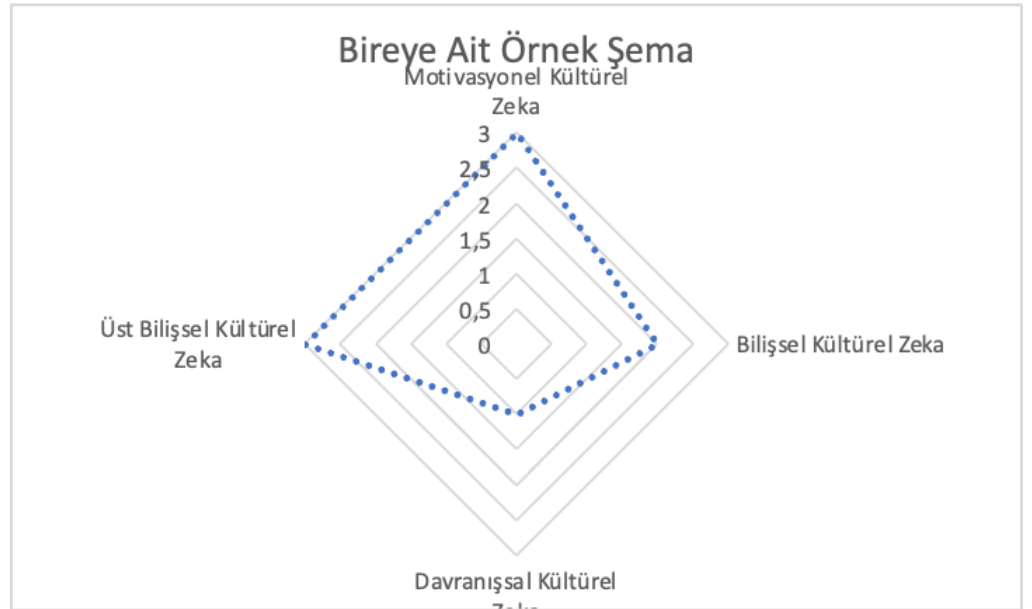
Araçtan elde edilen genel puanlara ilişkin yoruma ek olarak kültürel zekanın alt boyutları hakkında yorum yapmak için aşağıdaki şablon kullanılır. Bireylerin her bir alan için aldıkları toplam puan şemaya noktalar halinde yerleştirilerek birleştirilir. Noktaların iç kısmında kalan alan bireylerin yeterli olduğu, dış kısmında kalan alan ise yetersiz olduğu boyutları belirtmektedir.

Örneğin kültürel zekânın alt boyutlarından aşağıdaki puanları alan bir katılımcı için aşağıdaki şema çizilir.

Bireye ait örnek puanlar

Alt Boyut	Alınan puan
Motivasyonel kültürel zekâ	3
Bilişsel kültürel zekâ	2
Davranışsal kültürel zekâ	1
Üst bilişsel kültürel zekâ	3

Bireye ait örnek şema



Uygulayıcı ve puanlayıcının özellikleri: Aracı uygulamak için sadece yönergeyi okumak yeterli olurken puanlarını yorumlamak için özellikle kalabalık grupların yorumları için temel düzeyde excel bilgisi gerekebilir.



Kültürel Zekâ Ölçeği Uygulama Formu

Aşağıdaki karakterleri inceleyiniz. Çalışma boyunca bu karakterler üzerinden bazı durumlara yorum yapmanız beklenmektedir.



Çalışma boyunca bir yaz kampında ortak olarak konuştukları ve pekiştirmeye çalıştıkları Zence dilini kullanmak üzere bir araya geçen beş çocuğun başından geçen durumlar ve durumlarla ilgili sorular verilecektir. Sizlerden beklenen bu durumlarda size en uygun seçeneği işaretlemenizdir. Her soru için yalnızca bir seçenek işaretlemelisiniz.

Kampın ilk günü çocukların ikişerli grup olup birbirleri ile tanışması ve birbirlerine en sevdikleri özel günün ne olduğunu söylemesi istendi.

1) Siz bu çocuklardan biri olsanız ilk yapacağınız hangisi olurdu?

- ☐ Bir çocuğun bana yaklaşmasını beklemek
- ☐ Bir çocuğa yaklaşip kendi dilimde selam vermek
- ☐ Bir çocuğa yaklaşip Zence kullanarak selam vermek



İdi, eşleştiği arkadaşı Selta'ya en sevdiği özel günün ülkesi Tanir'de kutlanan Ölüler Günü olduğunu söyledi. Selta bu günü ilk defa duydu.

2) Siz Selta'nın yerinde olsanız aşağıdakilerden hangisini yapardınız?

- ☐ İdi'ye bugünün neden kutlandığını sorardım.
- ☐ Bilmediğimi belli etmeden onu dinlerdim.
- ☐ Saçma bulduğum için inanmazdım.

İdi, Selta'ya bugünün kutlanma sebebini “insanların ölmüş yakınlarının ruhunu rahatlatmak için eğlenmesi” olarak açıklamıştır.

3) Selta'nın yerinde olsanız Tanir hakkında aşağıdakilerden hangisini düşünürdünüz?

- ☐ Ölüler için eğlenmek bir ülke olamaz.
- ☐ Ölüler için eğlenmek tuhaf bir gelenek ama böyle bir ülke olabilir.
- ☐ Her ülkenin farklı gelenekleri olabilir, bu gayet doğaldır.

4) Sizce aşağıdaki cümlede bırakılan boşluk nasıl tamamlanmalıdır?

Tüm bu konuşmalara kulak misafiri olan Eydis bu geleneği tuhaf bulmuş ve karar vermiştir.

- ☐ Tanir hakkında daha fazla bilgi edinmek için araştırma yapmaya
- ☐ bu tuhaf gelenek nedeniyle İdi'ye biraz mesafeli davranmaya
- ☐ konuşmalara gizlice biraz daha kulak vererek işin aslını anlamaya

Çocuklar öğle yemeği için bir araya geldiklerinde Zena masada herkes için aynı şeylerin hazırlanmış olduğunu gördü. Eydis ve Yord için çatal ve bıçak getirilmesine gerek olmadığını düşünüyordu. Daha sonra onların da kendisi gibi çatal, bıçak kullanarak yemek yediğini görünce kafasından düşünceler akmaya başladı.

Zena bu düşünceleri için hem kendine hak verdi hem de kendini suçlu hissetti. Çünkü şimdiye kadar böyle kıyafetler giyen tüm insanların elleriyle yemek yediğini sanıyordu. Bu nedenle onları farkında olmadan küçümsemişti. Demek ki onların kültürlerini yanlış öğrenmişti.



5) Zena'nın kendi kendine yaptığı bu iç konuşma için hangisi söylenebilir?

- ☐ Bu herkesin kendi düşünceleri hakkında yapması gereken doğal bir iç sorgulamadır.
- ☐ Bu doğru gözlem yapamamış birinin çözmesi gereken bir iç sestir.
- ☐ Kendi düşüncelerim üzerine böyle kafa yormam, bu nedenle ne olduğuna karar veremiyorum.

Eydis'in geldiği ülkede kızlar tabaklarında bir kırıntı bile bırakmaz, yiyebildikleri kadar çok yemek yerlerdi. Yoksa sofradaki büyükler onları ayıplardı. Erkekler ise tabağın yarısını yemeliydi. Kızlar için tabaklarındaki yemeği yarım bırakmak, erkekler için ise tabaktaki yemeği silip süpürmek alay sebebi oluyordu.

6) Eydis'in yerinde olsanız masaya oturduğunuzda aklınızdan hangisi geçerdi?

- ☐ Bu geleneğimizi sürdürmeli ve tabağımı tamamen bitirmeliyim.
- ☐ Diğer insanları gözlemli ve tamamen onlar gibi yapmalıyım.
- ☐ Kendi geleneklerim ile masadaki diğer kişiler arasında orta yol bulmalıyım.

7) Siz de o masada olsanız Zena'nın bu davranışına karşılık ne hissederdiniz?

- ☐ Farklı bir kültürel öğeyi gözlemlediğim için heyecanlanırdım.
- ☐ Yemek benim hassas noktamdır, farklı bir gelenekten dolayı kendimi rahatsız hissederdim.
- ☐ Kültürlerin farklılaşmasını doğal karşılardım, hislerimde bir değişiklik olmazdı.

8) Aşağıdaki durum sizce nasıl devam etmelidir?

Zena bu davranışının tuhaf karşılandığını hissetti, ...

- ☐ kendi dilindeki sözlerini Zenceye çevirdi ve bu sözlerin karşılığında söylenmesi gerekeni masadakilere öğretti.
- ☐ kimseye aldırmadan masadan kalkarak ellerini yıkadı.
- ☐ davranışının inancına yönelik olduğunu söyledi ve anlamını açıkladı.



9) Zena'nın yerinde olsanız kendinize aşağıdakilerden hangisini sorardınız?

☐ Kültürel bir ögeyi yabancılardan saklamalı mıyım?

☐ Farklı kültürlerden kişilerin bana ön yargılı davranmasını nasıl engellerim?

☐ Kültürel birikimimi ortama uyumlu bir şekilde nasıl yansıtabilirim?

-----SON-----

Kültürel Zekâ Ölçeği Belirtke Tablosu & Puanlama Anahtarı

Soru No	Alan	Kazanım	Tam puan (2)	Kısmi puan (1)	0
1	DKZ	DKZ3 İletişimi başlatmak için selamlaşır.	C	A	B
2	MKZ	MKZ7 Tanımadığı kültüre ait biri ile iletişim kurarken kültürler üstü bir anlayış geliştirir.	A	B	C
3	MKZ	MKZ2 Farklı kültürel deneyimlere olumlu yaklaşır.	C	B	A
4	BKZ	BKZ11 Farklı kültürleri araştırır.	A	C	B
5	ÜKBZ	ÜBKZ2 Farklı bir kültüre ait kalıp yargılarının farkına varır.	A	B	C
6	ÜBKZ	ÜBKZ3 Kültürel etkileşim için tercihlerini gözden geçirir.	C		A-B
7	MKZ	MKZ6 Kültürlerarası belirsizlikten doğan çatışma ya da anlaşmazlığa karşı dayanıklılık gösterir.	A	C	B
8	DKZ	DKZ6 Yeni kültürel çevreye uygun davranır.	C	A	B
9	ÜBKZ	ÜBKZ7 Kültürel öğeler ile etkileşiminde kendi duygularını veya davranışlarını değerlendirir.	C	B	A

Appendix-7 Critical Thinking Skills Scale

Eleştirel Düşünme Beceri Ölçeği

Tanım: Eleştirel düşünme, bireylerin neye inanacakları ve nasıl karar verecekleri konusunda izledikleri düşünme süreçlerini nitelikli hale getiren bir özelliktir. Eleştirel düşünme becerisi olan kişilerin karar alma süreçleri mantıklı, bütüncül, araştırmacı, adil tutum ve davranışlara dayanmaktadır. Bu araç, bireylerin eleştirel düşünme düzeylerini belirlemeye yönelik bir ölçme aracıdır. Araç durumsal yargılardan oluşmaktadır. Her durumsal yargı için çeşitli seçenekler yer almakta ve katılımcıların yargıya bağlı kalarak seçeneklerden uygun bulduklarını seçmeleri beklenmektedir.

Ölçek Türü: Araç, durumsal yargı testidir. Bu test tipi konu ilgili durumlar ve durumlara olası tepkiler sunularak bireylerin seçim yapmalarının istendiği bir testtir (McDaniel, Hartman, Whetzel ve Grubb, 2007).

Hedef Kitle: Araç, ilköğretim öğrencileri için geliştirilmiştir. 4-5-6-7-8. Sınıf düzeylerinde öğrenim gören 9-14 yaş öğrencileri için kullanılabilir.

Kapsam: Eleştirel düşünmenin duyuşsal, bilişsel ve üst bilişsel alanlarına ve eleştirel düşünen bireyin özelliklerine yönelik durumsal yargılara yer verilen bu araç ile bireylerin eleştirel düşünme becerisine sahip olup olmadığı bütünsel bir açı ile ele alınmaktadır. NPEC (National Postsecondary Education Cooperative) (2000) eleştirel düşünme becerisinin yorumlama, analiz, değerlendirme, çıkarım yapma, zıtlıkları tespit etme, yansıtıcı düşünme, eğilim olmak üzere yedi alt boyuttan oluştuğunu belirtmektedir. Bu araç ile belirtilen tüm boyutları kapsayan göstergelere ait durumsal yargılara yer verilmektedir.

Uygulanışı: Araç katılımcılara dağıtılır ve bireysel olarak yanıtlamaları için yaklaşık olarak 20-30 dakika süre verilir. Katılımcılara her yargıya en uygun olan seçeneği işaretlemesi yönünde yönerge verilir.

Puanlanması: Araç toplam 12 puan üzerinden değerlendirilir. Her bir sorudan alınabilecek en yüksek puan 1, en düşük puan ise 0'dır.

Uygulayıcı ve puanlayıcının özellikleri: Aracı uygulamak için sadece yönergeyi okumak yeterli olurken özellikle kalabalık grupların puanlarını yorumlamak için temel düzeyde excel bilgisi gerekebilir.

Eleştirel Düşünme Beceri Ölçeği Uygulama Formu

Aşağıdaki görselde bir gazete haberi bulunmaktadır. Lütfen soruları yanıtlamaya başlamadan önce bu haberi dikkatlice okuyunuz.



Bağışıklık sistemini güçlü kılmak için insanların sağlığını koruması ve vücudunun ihtiyaçlarını düzenli ve dengeli olarak karşılaması gerekiyor. Bahsedilen koşullarda kendini ve sevdiklerini korumak için bir yol ararken Özgür bir moda dergisinde aşağıdaki reklam afişini gördü. Afişi dikkatlice inceleyiniz.

Çevre Bakanlığı Onaylı

VİTAMİN MTL

9 VİTAMİN
4 MİNERAL

YENİ FORMÜL İLE
ÜRETİLMİŞTİR.

ÖZEL MULTİVİTAMİN DESTEĞİ
KALSİYUM DÜZENLEYİCİ
STRES VE YORGUNLUK İLE SAVAŞIR
HASTALIKLARDAN KORUR
PERFORMANZINI ARTTIRIR

VİTAMİN KULLANAN 1000 KİŞİ
KENDİSİNİ DAHA SAĞLIKLI
HİSSETTİĞİNİ SÖYLÜYOR

Her 6-8 saat 30 vitamin

VİTAMİN MTL
50 mg

YILIN
ENİYİ
VİTAMİNİ

Bir vitamin takviyesini kullanmaya karar vermeden önce onun hangi özellikleri dikkate alınmalıdır? Aşağıda yan yana verilen özellik çiftlerini kendi aralarında karşılaştırınız. Hangisinin dikkate alınması gerektiğini düşünüyorsanız onun solundaki kutucuğu işaretleyiniz.

1) Bir özellik seçiniz.

- ☐ herkes tarafından kullanılıyor olması
- ☐ işe yarar olması

2) Bir özellik seçiniz.

- ☐ test edilmiş olması
- ☐ benim için faydalı olması

3) *Vitamin MTL kullananlar kendilerini daha sağlıklı hissettiklerini söylemişlerdir. Afişteki bu bilgiyi tekrar gözden geçiriniz. Bu bilginin doğruluğundan emin olmak için gerekli olan kanıt nedir?*

- ☐ Bu kişilerin MTL Vitamine ek olarak bir şey kullanıp kullanmadığı
- ☐ Bu kişilerin kendini daha önceden nasıl hissettikleri

4) Özgür afişte Vitamin MTL'nin yaptığını iddia ettiği şeylerden etkileniyor. Ancak afişin üzerinde aklını karıştıran bazı bilgiler de var. Bu nedenle bu konu ile ilgili bir araştırma yapmaya karar veriyor.

Sizce Özgür aşağıdaki araştırma yöntemlerinden hangisini seçerse daha doğru karar verebilir?

- ☐ İnternette sağlıklı yaşam konusunda açılmış blog sitelerini incelemek
- ☐ Vitaminlerle ilgili çalışması olduğu bilinen tanınmış bir tıp doktoruna sormak

5) Aşağıda doktorların göreve başlamadan önce ettikleri Hipokrat yemini yer almaktadır. *Dikkatlice okuyunuz.*

"Tıp fakültesinden aldığım bu diplomanın bana kazandırdığı statü, hak ve yetkileri kötüye kullanmayacağıma, hayatımı insanlık hizmetlerine adayacağıma, hastalarımı memnun edeceğime, insan hayatına mutlak surette saygı göstereceğime, mesleğim dolayısıyla öğrendiğim küçük sırları saklayacağıma, hocalarıma ve meslektaşlarıma saygı ve sevgi göstereceğime dil, din, milliyet, cinsiyet, takım, ırk ve parti farklarının görevimle vicdanım arasına girmesine izin vermeyeceğime, mesleğimi dürüstlük ve onurla yapacağıma namusum ve şerefim üzerine yemin ederim."

Bu yemin hangi varsayıma dayanmaktadır?

- ☐ Memnuniyetin her şeyden üstün olduğuna
- ☐ İnsan yaşamının her şeyden üstün olduğuna

Özgür bir de sağlıklı yaşam bloglarını inceliyor. Aşağıda bu bloglardan alınmış bir kesit bulunuyor.

Blogu dikkatlice inceleyiniz.

Vitamin MTL almalı mıyım?

| Grip olduğumda çabuk toparlamak için doktorun verdiği ilaçlarla birlikte aldım ve işe yaradı. Gribi neredeyse ayakta atlattım. Deniz Ö.

| Ben doktor tavsiyesiyle kullandım ama bir değişiklik hissettiğimi söyleyemem. Serhan Z.

| Yorgunluğa bire bir. Kesinlikle denemeli! Onur M.

| Bu güne kadar çok vitamin denedim en işlevseli bu diyebilirim. Emel K.

| Hiç ihtiyaç duymadım. Elif A.

| Vitaminler vücudumuz için gerekli mikro besin öğeleridir. Bazı durumlarda çok küçük miktarları bağışıklığınızı güçlendirici rol oynarken bazı durumlarda da yıkıcı etkileri olabilir. Okumanız için aşağıya MTL'nin prospektüsünü ekliyorum. Karar vermeden önce inceleyin. Banu A.

1. Vitamin MTL nedir?

Vitamin MTL bir besin takviyesidir içerisinde A vitamini (sığır), B1 vitamini, B2 vitamini, B6 vitamini, B12 vitamini, C vitamini, D3 vitamini (koyun), E vitamini bulunur.

2. Vitamin MTL kullanmadan önce dikkat edilmesi gerekenler

Vücudunda etken madde içerisinde sayılan vitamin eksikliği bulunan kişiler kullanabilir. Kullanmadan önce bir doktora danışınız.

3. Vitamin MTL nasıl kullanılır?

Doktor tarafından başka türlü önerilmedikçe günde bir tablet ağız yoluyla alınır.

4. Vitamin MTL saklama koşulları

Serin ve kuru yerde saklanması koşuluyla kutu açıldıktan sonra 6 ay içerisinde tüketmeniz önerilmektedir.



1 / 375 »

6) Blog içerisindeki prospektüste yer alan başlıklara aşağıdakilerden hangisinin eklenmesi daha önemlidir?

☐ Saklama koşulları

☐ Olası yan etkiler

7) Yukarıda okuduğunuz blog yazarları hakkında hangi yargı doğrudur?

- ☐ Soru ile doğrudan ilgisi olmayan içerikler yazan var.
- ☐ Yazdıkları çoğunlukla bilimsel verilere dayanır.

8) Blog yazarlarından hangi ikisinin bakış açısını iyimser-kötümser olarak sınıflandırabiliriz?

- ☐ **İyimser:** Deniz Ö.-**Kötümser:** Banu A.
- ☐ **İyimser:** Onur M.- **Kötümser:** Serhan Z.

9) Özgür'ün araştırma süreci temel olarak hangi kavram ile ilişkilendirilebilir?

- ☐ Vücudumuzun çalışma sistemi
- ☐ Vücudumuzun sağlığı

10) Siz Özgür'ün yerinde olsanız son kararınız ne olurdu?

- ☐ Edindiğim bilgilerden yola çıkarak satın almaya ikna olurdum.
- ☐ Edindiğim bilgileri yetersiz bulup karar vermeyi ertelerdim.

11) Sizce, bir karar vermeye çalışırken aşağıdakilerden hangisi daha önemlidir?

- ☐ Sonuca ulaşmaya çalışmak
- ☐ Durumun mantığını anlamaya çalışmak

Bir karar vermeye çalışırken hangi duygu destekleyicidir? Duygu çiftlerini karşılaştırıp birini seçiniz.

12) Birini seçiniz.

- ☐ bilginin ön yargılı olarak sunulmasına duyulan öfke
- ☐ yeni şeyler deneme korkusu

Eleştirel Düşünme Becerisi Ölçeği Belirtke Tablosu ve Puanlama Anahtarı

Soru No	KOD	Göstergeler	Doğru Yanıt (1puan)
1	EDB37	Düşünme süreçlerinde eleştirel düşünme standartlarını kullanır.	B
2	EDB37	Düşünme süreçlerinde eleştirel düşünme standartlarını kullanır.	A
3	EDB23	Bir sonuca varmak için gerekli kanıtları toplar.	A
4	EDB25	Bilimsel yöntem ile ulaşılan sonuçlara inanma eğilimindedir.	B
5	EDB38	Bir düşüncenin varsayımlarını keşfeder.	B
6	EDB6 EDB35	Ele aldığı konunun tüm yönlerini konunun ait olduğu disiplin çerçevesinde inceler. Bir yapıdaki parçaları inceleyerek sistemi belirler.	B
7	EDB2 EDB5	Konu ile ilişkili bilgileri ayırt eder. Bir konu ile ilgili iddiaları ve gerçekleri birbirinden ayırt eder.	A
8	EDB33	Farklı bakış açılarını karşılaştırır.	B
9	EDB1	Konunun temel kavramını ayırt eder.	B
10	EDB18	Mantıklı gerekçelere ulaşıncaya kadar karar vermeyi erteler.	B
11	EDB16	Karar verirken yürüttüğü zihinsel sürecin farkına varır.	B
12	EDB32	Eleştirel düşünme sürecinin gerektirdiği özelliklere önem verir.	A

Fifth Grade Differentiated Thinking Skills Curriculum

5th GRADE THINKING SKILLS TEACHING CURRICULUM DEVELOPMENT PROCESS

Curriculum development, encompassing the alignment of educational goals and the implementation of effective practices, plays a crucial role within both the school and broader national education context (Varış, 1988). It refers to the collaborative efforts of various stakeholders involved in creating and improving the curriculum content, employing suitable methods and techniques and developing appropriate tools to serve the educational objectives (Varış, 1988).

In the present study, a comprehensive examination of the processes involved in developing the Fifth Grade Differentiated Thinking Skills Curriculum was conducted. Following a sequential order of implementation, the following stages of curriculum development were explored:

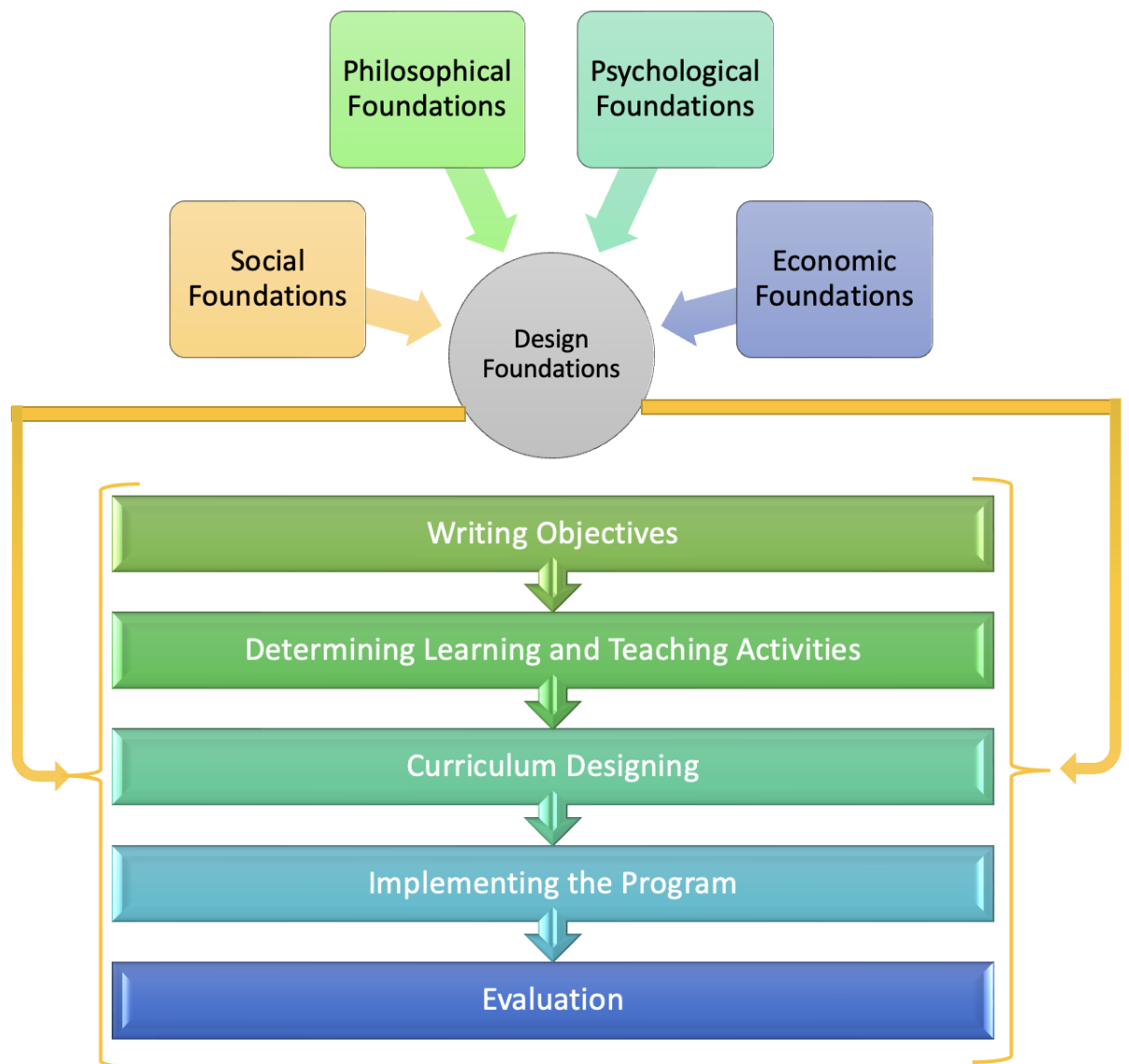
A. Conducting needs analysis: This initial stage involved conducting a thorough needs analysis to identify the specific requirements and preferences of the target group, in this case, fifth-grade students (Smith, 2005). The analysis provided valuable insights into key areas of focus and served as a foundation for subsequent curriculum development activities (Smith, 2005).

B. Fundamentals of the curriculum: This stage entailed establishing the fundamental principles and concepts that guided the development of the curriculum (Tyler, 1949). It involved defining the overarching goals, objectives and desired learning outcomes that the curriculum sought to achieve (Tyler, 1949).

C. Curriculum development approach: The curriculum development approach encompassed the systematic design and development of curriculum components, including target audience identification, content selection and organization, learning and teaching processes and evaluation methods (Fitzgerald, 2014). These components were considered sub-dimensions within the curriculum development approach (Fitzgerald, 2014).

To aid readers in understanding the curriculum development process, Figure 1 provides a visual representation of the stages involved (Johnson, 2010). This diagram was also included at the culmination of the curriculum development process, showcasing the integrated structures and components outlined in the Fifth Grade Differentiated Thinking Skills Curriculum (Johnson, 2010).

Figure 1. Curriculum Development Stages



PART A

NEEDS ANALYSIS

The initial stage of the Innovative Situational Curriculum Development Model involves the analysis of the situation, which serves as the foundation for curriculum development by identifying the underlying needs (Smith, 2021). According to Tyler (2014, p. 7), needs can be defined as the disparity between the existing situation and accepted standards. In the case of developing the Thinking Skills Curriculum for fifth-grade students, the needs analysis study was structured as a synthesis of the differences approach and the analytical approach.

The differences approach entails identifying the gaps or variations between the desired educational outcomes and the current state of education (Dwivedi, 2020). Through this approach, the specific needs and deficiencies in the thinking skills development of fifth-grade students were discerned, providing valuable insights into areas that required attention and improvement.

Concurrently, the analytical approach involved conducting an in-depth examination of the existing curriculum, pedagogical practices and learner characteristics (Johnson, 2019). This analysis aimed to uncover the strengths and weaknesses of the current curriculum and instructional strategies in fostering thinking skills among fifth-grade students.

By integrating the differences approach and the analytical approach, the needs analysis study for the development of the Thinking Skills Curriculum successfully synthesized the identification of specific gaps and deficiencies in the existing curriculum with a comprehensive understanding of the contextual factors influencing the teaching and learning process.

1. Analytical Approach

In the analytical approach, which is an approach based on assumptions in determining needs, it is essential to determine the possible needs that may be encountered by examining national and international trends. In order to make a needs analysis in accordance with the analytical approach, the methods of literature review and examination of existing curriculum were used.

1.1 Literature Review

Various documents were examined in order to determine what kind of competencies students are expected to have in the future. One of the documents examined is the information document on the retrospective revision work in the curricula shared with the public by the Ministry of National Education. According to this statement, in high school programs, "Imagination, Activity and Life" (Hayal, Etkinlik ve Yaşam-HEY) and "Information Theory" courses are planned to be implemented from the 2020-2021 academic year. The explanations about the course content that can "transform them into social value" and "make them question the relationship

between theory and evidence, reasoning and reality" indicate the scope of critical thinking. In addition to the documents in the national field, the Organization for Economic Co-operation and Development (OECD) states that they aim to measure skills such as global competence in the Program for International Student Assessment (PISA). One of these skills is the ability to think critically. National Educational Technology Standards (NETS), on the other hand, ranks the skills of the 21st century and gives the first place to critical thinking skills (Cited by Anagün, Atalay, Kılıç, & Yaşar, 2016). In addition, in the Future of Jobs Report published by the World Economic Forum in 2020, critical thinking is also on the list of skills that will be most needed by 2025 (World Economic Forum [WEF], 2020). Being a critical thinker is an issue that both the education and business world agree on. Therefore, after the literature review, the teaching of this skill has been identified as a need.

1.2 Reviewing Existing Curricula

Since the subject of this study is for secondary school students, it was decided that the curricula examined should be limited to secondary school and compulsory courses. Compulsory courses determined at the fifth grade level of secondary school; Turkish, English, mathematics, science, social studies, information technologies, applied courses (physical education, visual arts, music) and religious culture and ethics. For this reason, the curricula of the listed ten courses were examined. While sharing the results of the examination on the handling of critical thinking skills in the curriculum, determinations about the parts common to all courses were tried to be included. In the introduction part, where the philosophy of the curriculum prepared by the Ministry of National Education is explained, it is stated that it is designed to raise individuals with the following profile characteristics:

- producing knowledge,
- able to use it functionally in life,
- able to solve problems,
- think critically,
- entrepreneur,
- determined,
- have communication skills,
- able to empathize,
- contributing to society and culture (MoNE, 2018).

As seen in the list, critical thinking skills are considered important and are considered as a profile feature in all curricula. However, although it was stated that the program was prepared in a simple and understandable structure with the aim of developing skills (MoNE, 2018), no part of the curriculum did not include an explanation of what the scope or limitation of the determined profile features are, how they will be developed or how they will be measured. In addition, it is not clear why critical thinking skill is specified as a profile feature and not considered as a skill. In addition, some skills were defined in

the competencies section of the curricula and critical thinking skills were not included in this section.

The case of critical thinking skills in the acquisition of the courses was analyzed in detail, but due to the breadth of the report, it was discussed in detail in the content of the thesis instead of the curriculum development process.

After examining the existing programs, it was concluded that the curriculum did not guide teachers in measuring or developing critical thinking skills, starting from the way they were handled.

2. Differential Approach

Another approach to needs assessment is the differential approach, which is based on identifying the lack of parallelism between the desired state and the current state. Conducting a needs analysis in accordance with the approach of differences involves the evaluation of reports, implementation of measurement tools and utilization of interview meetings techniques. This section provides detailed information on the implementation of these techniques.

2.1 Implementation of Assessment Tools

Before commencing the program development process, an achievement test, developed by Eđmir and Ocak (2016), was administered to students at the relevant grade level during the 2019-2020 academic year to measure critical thinking skills. Although this test was not designed as a performance-based assessment and was prepared in a multiple-choice format, which is not widely preferred for skill measurement, it was used to assess students' levels of achievement in critical thinking due to its status as a validated and reliable test (see Table 1). It was determined that the students' test scores were below expectations after the administration. The inadequacy of the current level of achievement, falling below the desired threshold of 70%, necessitates the development of a thinking skills instruction program based on critical thinking to equip students with this skill.

Table 1. Results of the Critical Thinking Skills Test

Number of Participants	Minimum Point	Maximum Point	Median	Standard Deviation	Variance	Mean
111	8,00	96,00	64,00	25,50	650,36	57,72

Table 1 presents the results of the Critical Thinking Skills Test administered to the participants. The table provides information on the number of participants, the minimum and maximum scores obtained, the median score, the standard deviation, the variance and the mean score.

In this study, a total of 111 participants took part in the test. The scores ranged from a minimum of 8.00 to a maximum of 96.00, indicating a wide variation in the participants' performance. The median score, which represents the middle value in the distribution of scores, was found to be 64.00. The standard deviation, a measure of the dispersion of scores around the mean, was calculated to be 25.50, indicating a moderate level of variability among the participants' scores.

The variance, which quantifies the spread of scores, was determined to be 650.36. This value indicates the average squared deviation of each score from the mean score. Finally, the mean score, calculated by summing all the scores and dividing by the number of participants, was found to be 57.72.

Overall, Table 1 provides a summary of the participants' performance on the Critical Thinking Skills Test, indicating the range of scores, the central tendency and the dispersion of scores among the participants. These findings contribute to a better understanding of the participants' critical thinking abilities in the context of the study.

2.2 Focus Group Interview

In addition to the implementation of assessment tools, focus groups were formed consisting of two teachers from each subject area, including Turkish, foreign language, mathematics, science, social studies and applied courses, at the fifth-grade level. When selecting the teachers for the focus groups, two teachers from each subject area teaching in the fifth grade were chosen, taking into account the number of years they had spent at the research school. Among the subject teachers teaching the same course at the fifth-grade level, one teacher with the longest experience at the research school was selected, while the other teacher had the shortest experience at the research school, ensuring a balanced representation.

In order to equally represent the views of teachers who are knowledgeable about changes in school practices and those who can compare the practices of their current institution with their experiences from different schools, the selection criterion for the interviews was based on the number of

years of experience at the respective school. The characteristics of the participating teachers are summarized in the table below.

Table 2. Characteristics of Focus Group Interview Participants

Code of participants	Subject	Years of Professional Experience	Years of Experience at the School
T1	Turkish	18	10
T2	Turkish	8	2
YD1	Foreign Language	22	12
YD2	Foreign Language	10	3
M1	Maths	20	15
M2	Maths	9	3
FB1	Science	18	8
FB2	Science	8	4
SB1	Social Science	20	11
SB2	Social Science	8	5
UD1	Applied Courses	20	14
UD2	Applied Courses	12	3

In the focus group interviews, the selected teachers have a total professional experience ranging from 8 to 22 years, while their experience at the school where the study is conducted varies from 2 to 15 years.

In the focus group interviews, semi-structured questions were asked to the teachers based on classroom observations, as outlined in Appendix 1. The purpose of the interviews was explained to the participants and their permission was obtained to record their answers. The researcher directed the interview questions to the participants. Subsequently, the data obtained from the recordings were transcribed into the forms provided in Appendix 1. In order to conduct the analysis, the qualitative data was quantified by grouping them according to similar characteristics. Quantification of qualitative data refers to the process of converting written data obtained through interviews,

observations, or document analysis into numbers or figures. Although numbers and figures are generally associated with quantitative research methods, it is possible to reduce qualitative data to a certain extent into numerical form. The quantification of qualitative data aims to increase reliability, reduce bias and enable comparisons between themes and categories that emerge from data analysis (Yıldırım & Şimşek, 2008). The responses received from the teachers were subjected to content analysis and the results are presented in the table.

Table 3. Content Analysis of Focus Group Interview Form

Themes from the Focus Group Interview	Frekans (%)	
Teachers' perception of students' proficiency in critical thinking skills	Enough 2 (%16.6)	Not Enough 10 (%83.4)
Teachers' perception of their own proficiency in enhancing critical thinking skills in their lessons	Enough 1 (%8.3)	Not Enough 11 (%91.7)
Obstacles to the development of students' critical thinking skills (frequencies) (%)	Lack of or minimal learning outcomes related to critical thinking in the curriculum (12) (100% agreement among participants) Insufficient time for skill development due to the density of the curriculum (12) (100% agreement among participants) Individual assumption of responsibility for skill development seen as feasible (12) (100% agreement among participants) Limited class hours (8) (66.6% agreement among participants) Absence of critical thinking skills in the curriculum (6) (50% agreement among participants) Lack of information on how to develop these skills in the curriculum (5) (41.6% agreement among participants) Lack of training in this area (5) (41.6% agreement among participants)	

Themes from the Focus Group Interview	Frekans (%)
	Large class size for such activities (3) (25% agreement among participants)
Recommendations for the Development of Students' Critical Thinking Skills (frequencies) (%)	Reduction of the content in the curriculum (12) (100% agreement among participants) Introduction of a separate course with the main responsibility for fostering critical thinking skills (11) (91.7% agreement among participants) Provision of in-service training on how to develop these skills (11) (91.7% agreement among participants) Increase in class hours (8) (66.6% agreement among participants) Inclusion of critical thinking courses in teacher education programs (7) (58.3% agreement among participants) Organization of textbooks based on critical thinking skills (6) (50% agreement among participants)

As seen in the table, teachers find their students insufficient in terms of critical thinking skills (83.4%) and they also perceive their own teaching to be inadequate in developing critical thinking skills (91.7%). Every teacher participating in the focus group interview agreed that the lack or minimal presence of critical thinking skill outcomes in the curriculum, lack of time for skill development due to the density of the curriculum and the perception that individual assumption of responsibility for skill development is not feasible are barriers to the development of critical thinking skills. Another unanimous agreement among the teachers is the need to reduce the content in the curriculum in order to cultivate individuals with critical thinking skills. The inclusion of a separate course with the main responsibility for fostering critical thinking skills and providing in-service training on how to develop these skills were also repeated recommendations expressed by the majority of the teachers.

PART B

THE FOUNDATION of THE CURRICULUM

In this section, the psychological, philosophical, social and economic dimensions that form the perspective of the program have been established. These dimensions provide insights into the overall structure that influences all stages of the program development process, from the selection of the program development approach to the formulation of objectives, determination of instructional situations and implementation of assessment activities.

1. Philosophical Foundations

Philosophy plays a crucial role in determining the aims, means and outcomes of a program (Goodlat, 1979) and the Fifth Grade Critical Thinking Skills Instruction Program is grounded in the philosophical approach of pragmatism. Pragmatists reject the notions of invariability and universal reality, arguing that the only constant guide is based on research and verification, emphasizing that teaching is focused on critical thinking skills (Orstein & Hunkins, 2018).

It is expected that the educational philosophy adopted by the curriculum will be shaped in accordance with the general philosophical foundation it is based on. In this case, the educational philosophy or philosophies that serve as the foundation should align with the branches of pragmatist philosophy. As noted by Orstein & Hunkins (2018), many institutions combine various educational philosophies in their program development process, aiming for inclusivity in terms of being politically and economically feasible and meeting the needs of students.

It can be said that the educational philosophy adopted by the Fifth Grade Critical Thinking Skills Instruction Program is eclectic, embracing progressivism and reconstructionism as educational philosophies in the program development process. The program predominantly adopts progressivism in terms of teaching methods and reconstructionism in terms of content creation process. Both educational philosophies are rooted in pragmatist philosophy and fall within the realm of contemporary educational philosophy. By taking an eclectic approach to these two educational philosophies, this program aims to minimize the criticisms brought by reconstructionist educational philosophers against progressivism educational philosophers for not addressing social issues (Ornstein & Hunkins, 2018). However, the comprehensive goals of reconstructionist educational philosophy, such as the full implementation of democracy in society (Oral & Yazar, 2017), exceed the limitations of this school-based program

development study. Therefore, it is not feasible to solely focus on reconstructionist educational philosophy in the program. The full realization of the program's objectives, which are solely based on reconstructionist educational philosophy, can only be achieved through its implementation at the national level. In democratic environments, the acquisition of critical thinking skills by individuals is emphasized (Mala, 2011). In this regard, in a program development study based on thinking skills, ignoring reconstructionist educational philosophy due to its lack of national implementation is believed to leave the program incomplete in many aspects. When adopting educational philosophies that shape education, it is not a sudden and abrupt shift to not prefer the philosophy that came before them. In this program development study, incorporating reconstructionist educational philosophy along with the preceding progressivist educational philosophy is hoped to pave the way for the wider acceptance of reconstructionist educational philosophy in future endeavors.

Progressivists have emphasized individuals' interests, the problems they encounter (Tyler, 1949) and the importance of teaching them how to think. They have opposed authoritarian teaching, excessive reliance on textbooks, rote memorization through constant repetition of facts and education methods that involve stagnant goals and materials while denying individual experiences (Orstein & Hunkins, 2018). Therefore, the chosen program development model and instructional design model in the implementation of the instructional program are approached in accordance with the progressivism educational philosophy. The inclusion of specific content within the program, which is a suggestion of the reconstructionist educational philosophy emerging from the idea that students have the capacity to think, question and be critical (Orstein & Hunkins, 2018), is seen as feasible and forms the basis of this program development study. In summary, in contemporary educational philosophies such as progressivism and reconstructionism, it is planned to include interdisciplinary sociocultural issues to be critically addressed in the course content and to incorporate differentiated instruction to meet students' interests and needs in the program development study.

2. Psychological Foundations

The Beşinci Sınıf Düşünme Becerileri Öğretim Programı (Fifth Grade Critical Thinking Skills Instructional Program) is grounded in cognitive psychology and humanism as its psychological foundations. Just like in educational philosophies, single understandings based on a single psychological perspective were considered inadequate in psychology and eclectic approaches started to be preferred in educational systems (Oral & Yazar, 2017). Therefore, the program development process is built upon these two psychological frameworks, taking into account the scope of critical thinking skills.

Cognitive psychologists emphasize that learning occurs through individuals' attempts to make sense of their environment (Demirel, 2017).

They highlight the learner as the subject and the environmental factors. According to cognitive psychology, teaching is not about what is transmitted but rather about the process of how individuals engage in a structuring process after interacting with their environment. In cognitive-based education, teachers organize learning environments by addressing problems and thinking skills and they guide individuals in their learning processes (Oral & Yazar, 2017). Vygotsky, one of the cognitive psychologists, considers the sociocultural foundations of individual development in his socio-cultural work based on cognitive psychology and he states that the purpose of education is the development of the individual, historical processes and culture (Bruner, 1990). The work of Ennis, Lipman and Sternberg, who were among the first researchers to explore critical thinking skills, also belongs to cognitive psychology (Orstein & Hunkins, 2018). The way these researchers approach critical thinking skills will be examined in the context of the curriculum's objectives.

Humanists define individuals as free beings who regulate their behavior and take responsibility, believing that this enables individuals to have options in perceiving their environment (Demirel, 2017). As a bio-cultural and social being, the fundamental question that humans seek an answer to is "How should I live?" (Senemoğlu, 2018). Drawing on humanistic psychology, an education program aims for individuals to be non-uniform, critical and reflective thinkers, productive, dynamic (Demirel, 2017) and to become rational and reasonable individuals in a society governed by laws (Hewitt, 2016).

3. The Social Foundations

The social foundations are the elements that ensure that educational programs are prepared to serve individuals' social development and their adaptation to society (Oral & Yazar, 2017). Economic foundations are considered in conjunction with social variables.

As detailed in the needs analysis section of the program, the cultivation of individuals with developed critical thinking skills, who can solve social problems and possess universal values, is stated as a national and global need. Due to the demand for individuals with critical thinking skills in the business world, the teaching of critical thinking skills can contribute to meeting our country's need for a qualified workforce. This, indirectly, can contribute to economic development. The rapid pace of technological advancement today has directed researchers to work on professions that will disappear in the future and those that are yet to be born. A study conducted by Oxford University in 2016 indicates that within the next 20 years, 47% of current professions will no longer be relevant due to artificial intelligence technology and critical thinking skills are among the 20 skills that need to be developed in 2020 to equip individuals for adapting to the future (Higher Education Council [YÖK], 2019). Undoubtedly, individuals' adaptation to technological and economic changes will impact their social lives. Our country is particularly receiving refugees from the ongoing wars in the Middle

East, while also experiencing emigration of skilled human resources. In addition to the economic effects of globalization, changes in social structures require individuals from different cultural backgrounds to live together in almost every field. This necessitates a critical perspective for individuals to understand those who are different from themselves, to evaluate the options presented to them before accepting or rejecting them with tolerance. In summary, it is considered that adapting to social, societal, economic and technological changes is possible through individuals being as equipped as possible. In the past decade, as we transitioned from the Information Age to the Age of Information Pollution, this competence mentioned can be achieved through thinking skills.

In addition, this instructional program is designed to be adaptable to both face-to-face, remote and hybrid learning and teaching approaches. Despite aiming to provide a structure that can be used throughout life, it is quite economical in terms of not requiring costly infrastructure such as field trips or laboratories. Considering that it does not require high-cost facilities, it can be considered highly economical. The requirements of the program are solely a computer with an internet connection. Therefore, it can be said that maximum cost-effectiveness is achieved.

PART C

CURRICULUM DEVELOPMENT APPROACH

In this section, the selected curriculum development model will be introduced. The Fifth Grade Critical Thinking Skills Instructional Curriculum is a school-based curriculum development study and since it aims to develop skills, it has been developed based on the Innovative-Situational Curriculum Development Model. Developed by Skilbeck (1984) and influenced by the humanistic philosophical perspective, this curriculum development model focuses on the school, making it important to evaluate the school's context (Demirel, 2017).

The Innovative-Situational Curriculum Development Model consists of six stages. These stages can be listed as follows:

- ❖ Analysis of the situation
- ❖ Writing objectives
- ❖ Determining learning-teaching activities
- ❖ Designing the curriculum
- ❖ Implementing the curriculum
- ❖ Evaluation

The analysis of the situation stage refers to the needs analysis. In this part, a school-based needs analysis needs to be conducted. The details of this stage are provided under the title "Needs Analysis" in Section A.

The next stage is the writing of objectives. In this stage, the curriculum's goals have been determined. The details of this and the following stages are presented in Section C.

The stage of determining learning-teaching activities will provide information about instructional approaches, teaching models and teaching methods addressed in the curriculum, which will guide the implementation.

In the stage of designing the curriculum, the curriculum development design, content determination approach and lesson delivery model, which will shape the planning of the implementation, will be addressed.

In the stage of implementing the curriculum, sample activity examples prepared for the purpose of curriculum development will be included.

Finally, the evaluation stage will be examined under two separate headings: student assessment and curriculum evaluation.

1. Writing Objectives

During the objective writing stage of the Fifth Grade Critical Thinking Skills Instructional Curriculum, considerations were given to the alignment with the general objectives of national education, adherence to objective writing principles and compatibility with the structure of critical thinking skills. The results obtained from literature and teacher surveys were used to reveal the structure of the skill. In this section, the manner in which these elements, noted as being taken into account, will be explained sequentially.

According to the progressive educational philosophy, objectives that involve appreciation of interests, human relationships, historical perspectives, multiculturalism and diverse viewpoints require continuity (Orstein & Hunkins, 2018). Progressives believe that the aim of education is to promote democratic and social living, while reconstructionists aim to develop, recreate and bring about change and social reform in society. Considering that both educational philosophies are based on the same philosophical foundation, it was stated that this curriculum is based on an integrated version of these two educational philosophies. The general aim of the Fifth Grade Critical Thinking Skills Instructional Curriculum is **“to enable individuals with different backgrounds to critically examine their social habits and develop a complete understanding of democracy based on global tolerance and social reform.”**

The general aim set for the curriculum is consistent with the following national general objectives written by the Ministry of National Education.

1. To raise individuals who are committed to Atatürk's revolutions and principles and to the Atatürk nationalism expressed in the Constitution; who embrace, protect and develop the national, moral, humanitarian, spiritual and cultural values of the Turkish nation; who love and strive to elevate their family, homeland and nation; who are aware of their duties and responsibilities towards the democratic, secular and social rule of law state, the Republic of Turkey, based on human rights and the fundamental principles stated at the beginning of the Constitution; and who embody these principles in their behavior.

2. To educate individuals who have developed a balanced and healthy personality and character in terms of physical, mental, moral, emotional and intellectual aspects; who possess free and scientific thinking abilities; who have a broad

worldview; who respect human rights; who value individuality and enterprise; who have a sense of responsibility towards society; and who are constructive, creative and productive individuals.

3. To prepare individuals for life by developing their interests, talents and abilities; by equipping them with the necessary knowledge, skills, behaviors and the habit of working together; and by enabling them to have a profession that will make them happy and contribute to the happiness of society.

In this way, the aim is to increase the welfare and happiness of Turkish citizens and society, to support and accelerate economic, social and cultural development within national unity and integrity and ultimately to make the Turkish nation a constructive, creative and distinguished partner in contemporary civilization.

When formulating the objectives for this curriculum, the following values identified by Tyler (2014) were taken into consideration, based on a democratic understanding:

1. The recognition of every individual, regardless of race, nationality, or socioeconomic level, as valuable human beings.
2. Providing opportunities for the participation of social groups in their own activities within society.
3. Encouraging diversity instead of promoting a uniform personality.
4. Addressing problems using rational methods.

In addition to the fundamental principles considered in the formulation of objectives, the literature on critical thinking skills has also been taken into account. The principles of critical thinking identified by Ennis, Lipman & Sternberg include:

1. Concept formation
2. Making generalizations
3. Understanding cause-and-effect relationships
4. Making inferences
5. Recognizing consistency and contradictions
6. Making assumptions
7. Developing analogies and other mental processes to teach individuals how to think.

The findings obtained from the research conducted to define the structure of critical thinking skills, in addition to the listed principles, are presented in Table 4.

Table 4. Sub-dimensions of Critical Thinking Skills.

Dimension No	Dimensions	Glasser	Ennis	Facione	Matt hew & Lip man	Judge, Jones & McCreery	Number of repetitions
1	Using language with precision and clarity	✓	✓	✓ (With the purpose of explanation)			3
2	Interpreting data	✓	✓ (Without entering into conflict and doubt)	✓			3
3	Evaluating evidence and statements	✓	✓			✓ (Being confident in the subject)	3
4	Testing generalizations and conclusions	✓		✓ (And evaluation)	✓		3

Dimension No	Dimensions	Glas ser	Ennis	Facion ne	Matt hew & Lip man	Judge, Jones & McCr eery	Number of repeti tions
5	Being aware of assumptions	✓	✓ (Unexpressed)				2
6	Recognizing logical relationships between propositions	✓		✓ (Reasoning)			2
7	Reaching definite conclusions and generalizations	✓		✓ (Deduction)			2
8	Structuring thought patterns with experience	✓		✓ (And self-regulation)			2
9	Forming definite judgments	✓				✓	2
10	Analyzing and dissecting		✓	✓			2
11	Making inferences	✓				✓	2
12	Recognizing the problem	✓	✓				2

Dimension No	Dimensions	Glasser	Ennis	Facione	Matt hew & Lip man	Judge, Jones & McCreary	Number of repetitions
13	Finding appropriate tools to solve the problem	✓					1
14	Gathering information related to the problem	✓					1
15	Conceptualization				✓		1
16	Research				✓		1
17	Asking and answering questions		✓				1
18	Forming and evaluating value judgments	✓					1
19	Combining training and skills in decision-making and defense	✓					1
20	Engaging in context-appropriate thinking processes	✓					1
21	Being sensitive to others'	✓					1

Dimension No	Dimensions	Glas ser	Ennis	Facion ne	Matt hew & Lip man	Judge, Jones & Meer eery	Number of repeti tions
	levels of knowledge						
22	Being willing to question					✓	1
23	Being open-minded					✓	1
24	Confronting one's biases					✓	1
25	Being flexible when considering alternatives					✓	1
26	Having the ability to change one's mind with changing circumstances					✓	1
27	The number of sub-dimensions determined by the researcher.	17	7	7	3	8	

The sub-dimensions of the structure related to critical thinking skills, according to different researchers, have been compiled in Table 4. It is stated by the researchers that the structure consists of twenty-seven sub-dimensions. The wide range of dimension descriptions draws attention to the scope of the

structure, but the rarity of different researchers confirming the mentioned sub-dimensions also indicates how complex it is. The four sub-dimensions of critical thinking are confirmed by three researchers each and the other eight sub-dimensions are confirmed by two researchers each. The remaining sub-dimensions are not encountered in the scope of different studies. In fact, some sub-dimensions mentioned in multiple studies have minor differences between them, which are indicated within parentheses in the table.

After reviewing the literature, a questionnaire was sent to teachers (see: Appendix_2) and they were asked to provide responses based on their observations regarding critical thinking skills. The information obtained from the participants is summarized in the table below.

Table 5. Distribution of Teachers Expressing Views on Critical Thinking Skill for the Writing of Objectives

School of Employment	Preschool	Home room	Turkish	Foreign Language	Applied Lessons	Curriculum Development	Assessment and Evaluation	Guidance Counseling	TOTAL
Primary S.	1	15	-	1	1	-	-	1	19
Middle S.	-	-	1	2	1	1	1	-	6
High S.	-	-	-	3	-	-	1	-	4
University	-	-	-	1	-	-	-	-	1
TOTAL	1	15	1	7	2	1	2	1	30

Out of the 30 teachers who provided their opinions, 63.3% work in primary schools, 20% in middle schools, 13.3% in high schools and 1.3% in universities. As for the participants' teaching positions, 50% are classroom teachers, 23.3% are foreign language teachers, 6.7% are applied subjects teachers, 6.7% are assessment specialists, 3.3% are Turkish teachers, 3.3% are guidance and counseling professionals and 3.3% are curriculum development experts.

The responses from the thirty teachers were subjected to content analysis and the quantitative data obtained are summarized in the table below.

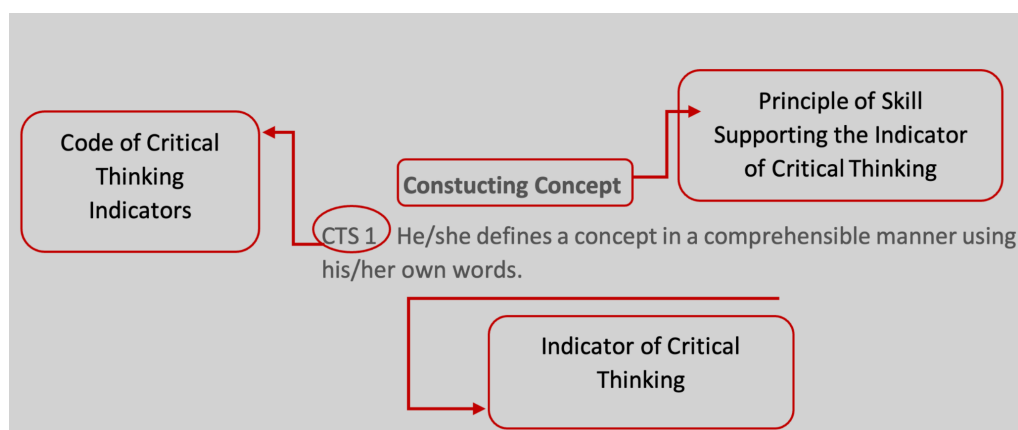
Table 6. Descriptions of individuals with critical thinking skills based on teachers' observations

Characteristics obtained from the teacher survey (Individuals with critical thinking skills...)	Frequencies (%)
Inquires	8 (%26.6)
Thinks logically	3 (%10)
Is creative	3 (%10)
Thinks multi-dimensionally	2 (%20)
Analyzes	2 (%6.6)
Evaluate	2 (%6.6)
Is not easily persuaded	2 (%6.6)
Has clear expression	2 (%6.6)
Is result-oriented	1 (%3.3)
Loves research	1 (%3.3)
Uses higher cognition	1 (%3.3)
Solves problems	1 (%3.3)
Makes interpretations	1 (%3.3)
Synthesizes	1 (%3.3)
Is curious	1 (%3.3)
Is confident	1 (%3.3)
Is consistent	1 (%3.3)
Is production-oriented	1 (%3.3)
Risk almayı sever	1 (%3.3)
Possesses leadership qualities	1 (%3.3)
Engages in observation	1 (%3.3)
Solution-oriented	1 (%3.3)

Tyler (2014) associates the reason for writing the changes that will occur in students' behavior in the formulation of objectives with the teaching

goal of creating changes in students' behavior. In line with the main objective of the Fifth Grade Thinking Skills Instructional Program, indicators of critical thinking skills for student behavior have been listed in the instructional program. Abbreviations for the indicators and explanations of the concepts covered are provided in Figure 2.

Figure 2. Explanations about the indicators and concepts mentioned



Concept Formation

CTS1 Defines a concept in understandable terms using one's own expressions.

CTS2 Identifies other concepts related to a particular concept.

CTS3 Examines the relationships between multiple concepts to understand the structure to which they are connected.

Generalization

CTS4 Examines all aspects of the subject within the framework of the discipline to which the subject belongs.

CTS5 Reaches conclusions by establishing relationships between situations.

Understanding cause and effect relationships

CTS6 When providing an answer to a question, is aware of the reasons on which the answer is based.

CTS7 Plans to test the learned information.

CTS8 Explains thinking patterns that shape others' thoughts.

CTS9 Delays decision-making until reaching logical justifications.

Making inferences

CTS10 Lists the data used when determining the nature of a problem.

CTS11 Makes inferences based on the logic of rules.

CTS12 Makes decisions using criteria within the framework of logic.

CTS13 Gathers the necessary evidence to reach a conclusion.

CTS14 Understands the importance of having the qualities required by the critical thinking process in the way individuals approach situations/events.

CTS15 Engages logical components when thinking about a problem.

CTS16 Generates solutions to the problems encountered.

CTS17 Determines the system by examining its components.

CTS18 Determines the components by examining a system.

CTS19 Classifies the real or potential positive and negative consequences of a decision.

Recognizing consistency and contradictions

CTS20 Asks questions related to the topic.

CTS21 Classifies relevant and irrelevant information about the topic.

CTS22 Distinguishes between claims and facts related to a topic.

CTS23 Evaluates events in a multidimensional manner.

CTS24 Approaches events and situations with an open mind.

CTS25 Develops a fair perspective.

CTS26 Uses logic to evaluate rules.

CTS27 Defines criteria to make a decision about a situation.

CTS28 Believes in the superiority of evidence.

CTS29 Tends to believe in conclusions reached through the scientific method.

CTS30 Tests a given hypothesis.

CTS31 Is open to reviewing thoughts when encountering new information that contradicts their existing beliefs.

CTS32 Uses critical thinking standards in thinking processes.

CTS33 Compares different perspectives.

Making assumptions

CTS34 When making decisions, is aware of the assumptions on which their decision is based.

CTS35 Anticipates how to use what they have learned.

CTS36 Forms hypotheses about a problem.

CTS37 Explores the assumptions of a thought.

Teaching how to think through mental processes such as making analogies

CTS38 Generates examples from one's own life related to the topic.

CTS39 Accepts changes in their thinking.

CTS40 Relates their experiences to new situations encountered.

CTS41 Engages in metacognitive processes about their thoughts.

CTS42 Recognizes the mental process they engage in when making decisions.

2. Determining Learning and Teaching Activities

After providing information about determining the educational approach that will serve as a basis for the implementation of the program in this section, the methods and techniques to be used are briefly explained.

2.1 Education Approach

Constructivism

The constructivist learning approach serves as the theoretical framework underlying the understanding that knowledge is not simply transmitted from the environment to individuals, but rather constructed through their individual experiences and existing mental frameworks, known as schemas (Erdem, 2001). This perspective emphasizes the active role of learners in constructing their knowledge and understanding of the world, employing higher-order thinking skills during the learning process.

Within the constructivist paradigm, several fundamental principles are considered integral to the learning process. These include the creation of problematic situations, the facilitation of conceptual development, the introduction of cognitive dissonance, the cultivation of awareness and the promotion of change (Ocak, 2020). By engaging students in problematic situations and encouraging them to explore and resolve cognitive conflicts, constructivist learning aims to foster deep understanding and the development of critical thinking skills.

To align with the constructivist learning approach, the learning environment should reflect real-life situations to enhance authenticity and relevance (Vygotsky, 1978). This may involve designing learning activities that simulate authentic contexts, allowing students to apply their knowledge and skills in meaningful ways (Ocak, 2020). Additionally, providing opportunities for social interaction and collaboration is essential, as interpersonal interactions are seen as foundational to the learning process according to Vygotsky's sociocultural theory (Ocak, 2020).

In the constructivist learning approach, learners are encouraged to take responsibility for their own learning, actively engaging in the process (Jonassen, 2019). This active involvement promotes a deeper level of understanding and long-term retention of knowledge.

By embracing constructivist principles, educators can design instructional strategies and learning experiences that promote meaningful and

effective learning outcomes. Students are empowered to construct their own knowledge, develop critical thinking skills and engage in authentic and collaborative learning experiences (Brooks et al., 2021).

Differentiated Instruction

Differentiated instruction is a method that acknowledges and accepts the diverse individual characteristics of students, such as their interests, prerequisite knowledge and learning styles and provides them with opportunities for success. It aims to enhance students' self-regulation, problem-solving, communication and metacognitive skills by offering designs that align with these characteristics (Heacox, 2002). In differentiated instruction, differentiation can occur in content, process, or product. In differentiated instruction, teachers strive to address students' age, skill level, interests and cultural backgrounds by implementing various flexible learning activities. In short, differentiated instruction means creating multiple pathways for students with diverse abilities, interests and learning needs to experience equally appropriate learning experiences.

2.2 Teaching Methods

During curriculum planning, one crucial aspect is establishing the pathway through which students can effectively achieve the defined objectives (Miller, 2020). This pathway is closely associated with the selection and implementation of appropriate instructional methods. The instructional methods employed in the curriculum play a vital role in determining how the interaction between various stakeholders, such as the student, their peers and the teacher, will be established (Blieck et al., 2022).

Effective instructional methods facilitate the meaningful engagement of students with the curriculum content, promoting active learning and knowledge acquisition (Hattie, 2021). They provide guidance on how the content should be presented, how students should interact with the material and how learning experiences can be designed to enhance comprehension and retention.

In the context of the Fifth Grade Differentiated Thinking Skills Curriculum, careful consideration was given to selecting instructional methods that align with the specific learning goals and objectives of the curriculum (Schunk et al., 2021). The chosen methods aim to foster critical thinking, problem-solving and creativity among fifth-grade students.

By incorporating a variety of instructional methods, such as cooperative learning, inquiry-based learning and project-based learning, the curriculum design acknowledges the importance of active student engagement and promotes the development of higher-order thinking skills (Darling-Hammond et al., 2017).

Moreover, the selection of appropriate teaching methods is essential for catering to the diverse learning needs and preferences of students (Dunlosky et al., 2020). By utilizing a range of instructional strategies, educators can

accommodate different learning styles and create inclusive learning environments that support the success and growth of all students.

In summary, the choice of instructional methods in curriculum planning is of utmost importance as it influences the quality of student engagement, the acquisition of knowledge and skills and the overall effectiveness of the learning process (Marzano et al., 2017). By selecting appropriate instructional methods, curriculum developers and educators can create a conducive learning environment that facilitates student-centered, active and meaningful learning experiences.

Opinion Development

Opinion development, which is one of the discussion-based methods, aims to enable students to construct their own opinions by engaging in thinking on topics that involve clear contradictions and polarized views (Gözütok, 2006). The success of the method is directly related to the preparatory process that takes place before its implementation. In summary, it consists of preparing materials to elicit students' perceptions about the topic, arranging the learning environment to be conducive to discussion, maintaining objectivity in implementation, providing guidance that encourages students to think and speak and concluding the topic with an impartial main idea after sufficient discussion. In face-to-face education, the classroom environment should be organized in a way that allows students to comfortably gather in areas where degrees of participation in opinions are indicated and move from one area to another. This is because during the discussion, individuals whose opinions have changed should be able to physically move to an appropriate area. At the core of the method is the cultivation of individuals who are open-minded, shape their opinions on a subject and are comfortable with changing their views within a logical framework. Therefore, it can be said that this method may be suitable for educating individuals in democratic societies. You can examine lesson plans 2 and 4 to see an example of the method's implementation.

Group Discussion

Group discussion is a method that involves students engaging in discussions with the whole class or in small groups to reach a common decision on a specific topic. When properly implemented, this method provides an opportunity for peer teaching and is known to enhance critical thinking skills (Gözütok, 2006). Additionally, the nature of this method fosters the emergence of individuals with leadership qualities and promotes the development of communication skills, particularly in small group discussions (Gözütok, 2006). When group discussions are conducted with a small number of students, it is referred to as small group discussion. Examples of such group work include "buzz 22" and "buzz 66." Buzz groups are formed in various ways and are named according to the number of participants. For example, in buzz 22, two students discuss a topic for two minutes. In a buzz 66, six students discuss the same topic for six minutes. In buzz groups, it is important for each student to have equal speaking time on the topic and for the decisions

reached to be shared at the end. Discussions that involve the participation of the entire class are referred to as large group discussions. The implementation of this method is included in all lesson plans of the Fifth Grade Thinking Skills Teaching Curriculum.

Cooperative Learning (Jigsaw)

This method, based on peer teaching and collaboration, enhances students' communication skills. Students are divided into groups. Then, various activities are conducted to help the groups develop group awareness, such as assigning names to their groups. Each group member is then sent to a new group to work on a different area. These groups are called expert groups. While in the expert groups, students analyze the presented content in depth and engage in discussions among themselves. The teacher provides guidance to the groups during this process. Afterwards, the students who have separated from the expert groups return to their new groups and share the knowledge they have acquired with their group mates.

Case Study

This method, which enhances critical thinking, decision-making and problem-solving skills (Gözütok, 2006), is based on a deep analysis of real-life problems and finding solutions to these problems through student participation. The case studies included in the instructional process are based on structured or unstructured authentic problems. After sharing the case study with the group and ensuring that the group understands it thoroughly, participants are asked questions to analyze the case. Questions such as how the incident occurred, what factors contributed to it, under what conditions it developed, etc., are answered by the participants. Then, possible solution paths are discussed. The case is reconstructed by considering the most appropriate solution and if necessary, new solution paths are considered. You can refer to Lesson Plans 1 and 4 to see an example of the application of this method.

Learning Centers

This method involves the establishment of centers consisting of different materials with different content, based on the same objective in the learning environment. It allows for differentiated instruction as it gives students the opportunity to choose based on their interests. It is not expected for students to participate in all the organized centers and this method is suitable for teaching and developing a concept or skill (Tomlinson, 2014). The successful implementation of this method depends on enriching the materials in the centers to align with the objective and clearly and in writing preparing the steps that students will follow in these centers. While students work in the centers, the teacher's role is to guide and observe. You can refer to Lesson Plan 3 to see an example of the implementation of this method.

Orbit Studies

It consists of individual project work conducted within a three to six-week period to serve the similarities and differences within the learning community (Tomlinson, 2014). Instead of choosing specific topics prepared for them in advance, students work within a self-determined problem

framework that is connected to the content of the lesson. However, the teacher assumes an advisory role throughout the entire process, monitors the process through intermediate meetings and provides necessary guidance for enrichment. The implementation of this method provides opportunities for differentiation in terms of pace, learning needs, process, content and product. You can refer to Lesson Plan 3 to see an example of the implementation of this method.

Flipped Learning

This method, which is the reversed version of traditional teaching based on lecture in class and reinforcement activities outside the classroom, takes its name from this approach. Scientific studies report that the method contributes even more to student achievement than traditional face-to-face instruction (Ocak, 2020). In flipped learning, the teacher shares materials containing text, audio and video that they have prepared themselves or compiled from resources with students to review before coming to class. Students review the materials at their own pace and as many times as they want before coming to class. During the lesson, individual or group activities that reinforce the topic are conducted and the teacher acts as a guide. Thus, the student does not remain alone while experiencing what they have learned and continues learning by solving the steps they are stuck on with expert guidance. This method transfers learning responsibility to the students, enhances communication and problem-solving skills and increases students' motivation (Ocak, 2020). You can refer to Lesson Plan 6 to see an example of the implementation of this method.

Brainstorming

Brainstorming is a method where a large number of individuals are asked to come up with solutions to a specific problem simultaneously, utilizing their creative thinking skills (Gözütok, 2006). During the implementation process of this method, students are presented with a defined problem with specific boundaries. Rules such as everyone having an equal amount of time to respond, students being able to pass their turn to the next person if they don't have a response and the possibility of multiple rounds of the same problem among students are explained. The responses from students are recorded in a shared space (classroom board, shared printed or online documents, etc.) by two students taking on the role of secretaries, as predetermined at the beginning of the process. Each student is given a designated time to express their ideas. To enhance the quality of the process, the teacher should encourage student participation, create a democratic environment and refrain from providing positive or negative feedback on the responses. If brainstorming continues with multiple rounds, the process can be organized from the end to the beginning. You can refer to Lesson Plan 6 to see an example of the implementation of this method.

Question-Answer

Questioning and shaping instruction based on answers is a teaching method that may seem simple, but the necessary characteristics for its

effective use are often overlooked and its importance is not fully understood. It is considered as the foundation of instruction due to its ability to engage students in the learning process (Gözütok, 2006). When considering the taxonomic structure, starting from the lower levels and gradually progressing towards higher levels with questions as the student is able to answer, allows for step-by-step advancement in learning. This approach provides feedback to the teacher regarding what the student understands about the topic and identifies which stage of instruction requires more practice. Preparing questions at different levels during the preparation process before implementation will ensure that students receive questions appropriate to their level, allowing students at different learning levels to experience a sense of achievement and thereby increasing their learning motivation. After asking questions, carefully examining the student's response, providing necessary hints and offering appropriate feedback are essential requirements for the proper use of this method. You can refer to Lesson Plans 1, 2, 4, 5 and 6 to see examples of the implementation of this method.

Lecture

Lecture is the organized delivery of content from a scientific framework to students in an orderly and coherent manner. It is important to differentiate between lecture and presentation. Presentation is based on delivering the content taking into account the prior knowledge of the specific group. On the other hand, the lecture involves conveying the scientific integrity of the subject matter. One disadvantage of both methods is that students are in a passive position. This goes against the instructional approaches emphasized in the curriculum, which is why this method has never been placed ahead of the process of exploration. The lecture method is used to address any gaps in content knowledge during problem-solving and exploratory planning stages or to correct possible misconceptions when students organize information. The implementation of this method is included in all lesson plans of the Fifth Grade Differentiated Thinking Skills Curriculum.

The limitation of the subheadings listed under the "Learning Methods" is their coverage in the activity plans. Since the activities are planned for a limited time, the variety of methods covered is also limited accordingly. When planning different activities in the implementation of this program, it should not be forgotten that other methods that serve higher-order thinking skills such as debates, Socratic seminars and speaking circles can also be included.

3. Curriculum Design

In this section, information is provided about the design of the Fifth Grade Differentiated Thinking Skills Curriculum, drawing on the constructivist design approach, skill-based instructional approach, technology-centered methods such as modular instruction and distance learning and modular content editing approach.

3.1 Determining the Curriculum Design Approach

The design approach of the Fifth Grade Differentiated Thinking Skills Curriculum is based on the Constructivist Design Approach, which is one of the Problem-Based Design Approaches that are grounded in real-life problems and societal issues faced by individuals and communities. In Problem-Based Design Approaches, emphasis is placed not only on student development but also on the content, with a focus on reconstructing society in the face of social problems (Ornstein & Hunkins, 2018). It is known that the Constructivist Design Approach allows students to contribute to the creation of a more equitable society (Ornstein & Hunkins, 2018). Rugg (1932) suggests that schools, through this approach, can contribute to the improvement of society by enabling critical analysis. Contemporary educators, who believe that programs should address social inequality and injustice, refer to themselves more as reconstructivists or reconceptualists rather than constructivists (Ornstein & Hunkins, 2018).

3.2 Skill-Based Instructional Approach

The Fifth Grade Differentiated Thinking Skills Curriculum is based on the Skill-Based Instructional Approach, which is one of the critical thinking instructional approaches used for teaching critical thinking skills. In this approach, critical thinking skills are addressed as a separate subject, independent of any specific discipline. Ennis (1998) argues for teaching critical thinking independently of specific disciplines because he believes it aligns with the content of life, while Lipman (1988) argues that not being tied to a specific discipline allows for a greater emphasis on the skill (cited in Eđmir, 2020). The Skill-Based Instructional Approach allows for the exploration of cultural, social, environmental and global issues. It is worth noting that the range of problem sources to be addressed is extensive. However, establishing a framework that serves the content of the program by setting limitations on this range would facilitate the planning and implementation stages. An attempt has been made to create a context based on the scope context proposed by both the Skill-Based Instructional Approach and the Constructivist Design Approach. In order to provide a foundation for the program's content, the problems to be addressed have been formulated within the context of cultural intelligence. Cultural intelligence refers to individuals' ability to effectively adapt to unfamiliar cultural contexts. The inclusion of cultural, social and global issues within the context of cultural intelligence can potentially contribute to the reconstruction of an egalitarian societal structure in an era of increased individual and mass mobility. Therefore, the context of cultural intelligence shapes the scope of the program. To identify the problems related to cultural intelligence to be addressed in the Fifth Grade Differentiated Thinking Skills Curriculum, the dimensions and indicators of cultural intelligence are listed as follows:

Motivational Cultural Intelligence (MCI)

MCI1: Prefers cultural elements that have not yet been experienced from the options presented.

MCI2: Approaches different cultural experiences positively.

MCI3: Willing to experience cultural differences.

MCI4: Manages stress arising from cultural differences.

MCI5: Demonstrates self-confidence when encountering cultural contradictions.

MCI6: Exhibits resilience against conflicts or disagreements arising from intercultural uncertainties.

MCI7: Develops a transcultural understanding when communicating with someone from an unfamiliar culture.

MCI8: Feels secure when encountering intercultural differences.

Cognitive Cultural Intelligence (CCI)

CCI1: Recognizes the beliefs and values of different countries.

CCI2: Understands the concept of bias.

CCI3: Defines stereotype judgments.

CCI4: Describes ethnocentrism.

CCI5: Provides examples of culture shock.

CCI6: Gives examples of artworks or artists from different countries.

CCI7: Provides examples of traditions from different cultures.

CCI8: Compares the rules of their native language with those of a foreign language.

CCI9: Explains the relationship between bias and discrimination.

CCI10: Draws a schema explaining the meaning of similar gestures and facial expressions in different countries.

CCI11: Researches different cultures.

CCI12: Draws inferences about the influence of culture on management styles.

CCI13: Identifies similarities and differences in lifestyles between countries.

CCI14: Identifies when cultural differences are the source of disagreements.

CCI15: Classifies factors that hinder communication.

CCI16: Develops suggestions for eliminating stereotypical judgments related to a culture.

Metacognitive Cultural Intelligence (MCCI)

MCCI1: Recognizes the use of cultural knowledge.

MCCI2: Recognizes their own stereotypical judgments of another culture.

MCCI3: Reflects on their preferences for cultural interaction.

MCCI4: Actively questions their assumptions about a culture.

MCCI5: Plans how to overcome biases stemming from cultural differences.

MCCI6: Adapts their cultural knowledge to the environment.

MCCI7: Evaluates their own emotions or behaviors when interacting with cultural elements.

Behavioral Cultural Intelligence (BCI)

BCI1: Makes efforts to create a shared culture.

BCI2: Replicates gestures and facial expressions different from their own culture.

BCI3: Greets to initiate communication.

BCI4: Adopts a moderate approach to initiate and maintain communication.

BCI5: Adjusts their behavior (verbal/non-verbal) if the cause of communication disagreement is cultural differences.

BCI6: Behaves appropriately in a new cultural environment.

3.3 Technology-Centered Methods

In the Fifth Grade Critical Thinking Skills Instructional Program, modular teaching and distance learning methods have been employed as technology-centered approaches.

Modular teaching involves organizing learning elements into meaningful modules (Alkan, 1989). According to Gömleksiz (1999), the objectives, input, necessary resources, instructional activities and assessment and evaluation activities of each module should be pre-planned (cited in Güneş, 2016).

Distance learning, on the other hand, is a learning-teaching system where students and teachers are not physically present together. Distance education, which encompasses both synchronous and asynchronous activities, is considered beneficial due to its ability to provide alternative learning options, reduce opportunity inequality, offer a rich learning environment and accommodate the pace of individual students (Güneş, 2016).

Expanding the discussion on technology-centered methods, it is evident that these approaches have become increasingly prevalent in education due to the advancements in technology and their potential to enhance learning experiences. Modular teaching, with its structured and organized format, allows for focused learning on specific topics or skills. It enables students to engage with content in a systematic manner and promotes independent learning (Alkan, 1989).

On the other hand, distance learning has gained significant attention in recent years, especially in situations where physical presence is challenging or not feasible. The flexibility provided by distance education allows students to access educational materials and participate in learning activities remotely, thereby overcoming barriers of time and location. Additionally, it offers a range of digital tools and resources that can enhance interactivity, collaboration and engagement among students (Güneş, 2016).

3.4 Determining Content and Content Organization Approach

When determining the content, the following principles can be prioritized:

- Serving self-efficacy development

- Being significant
- Being valid
- Being engaging
- Being useful
- Being learnable
- Being applicable (Ornstein & Hunkins, 2018).

Tyler (2014) views enriching students' interests as one of the functions of education, emphasizing that this can ensure the continuity of education even after formal education. In addition to the listed principles for content determination, interdisciplinary topics that focus on real-life problems based on students' interests and experiences are included in the instructional program, drawing on the critical thinking-oriented approach of pragmatist philosophy (Ornstein & Hunkins, 2018) (Bayles, 1956).

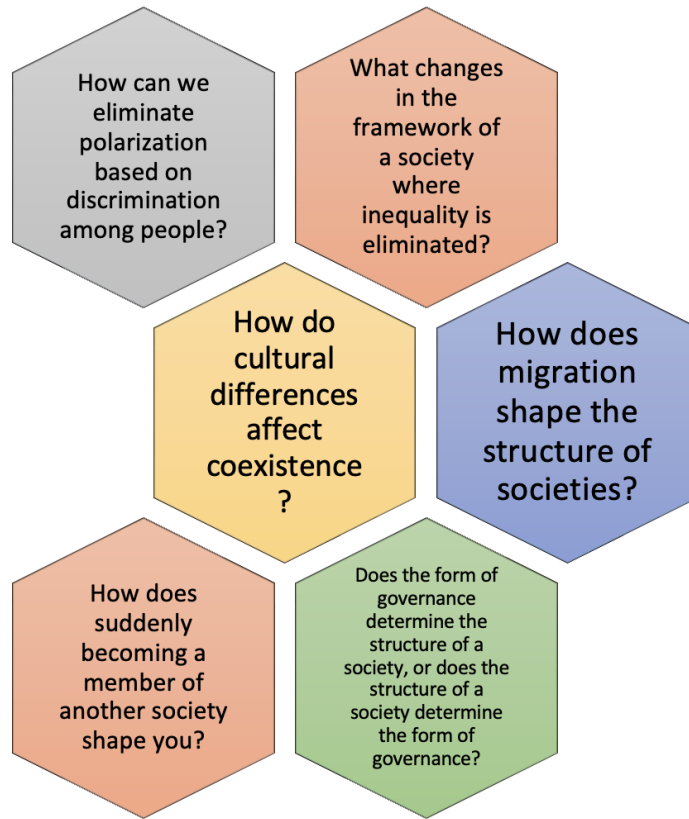
Progressive educational philosophy and humanism aim to provide academic experiences that focus on students' self-perceptions, increase personalized learning and take into account students' individual needs and interests (Ornstein & Hunkins, 2018). Progressives argue that important issues of contemporary life may not be interesting to children and that such content may not engage them (Tyler, 1949). However, reconstructionist education philosophers criticize progressive educational philosophy for ignoring social problems such as discrimination, poverty and unemployment. They propose a structure that critically examines the cultural heritage of society, delves into controversial issues and promises constructive social development, focusing on future-oriented education and supporting equal opportunities (Ornstein & Hunkins, 2018).

According to the reconstructionist educational philosophy, students should acquire the knowledge and skills necessary for universal peace and unity. This process is possible through addressing international elements and universal issues in the curriculum (Garter, 1987, cited in Ornstein & Hunkins, 2018). Reconstructionist educational philosophers suggest that students should gain awareness of global social, political, economic, physical, cultural, communicative and historical systems (Spring, 2006). Achieving this requires incorporating these concepts into the goals and content organization of instructional programs. Therefore, the content of the Fifth Grade Critical Thinking Skills Instructional Program has been shaped by considering student characteristics and addressing current, universal and social problems from an interdisciplinary perspective. As discussed in detail under the Skill-Based Instructional Approach, the scope of this problem-based content has been narrowed within the context of cultural intelligence.

During the organization of the determined content, the Modular Content Organization Approach developed by Vygotsky has been adopted. This approach, which emphasizes the meaningful integrity within each module, allows for flexibility in the sequence of modules while ensuring clear outcomes at the end of instruction. The modules in this approach, consisting of independent learning elements that are not necessarily sequentially related, should be designed in a complementary manner in terms of their functional

relationships (Ocak, 2020). The content of the instructional program, developed based on a problem-oriented approach, visualized in Figure 3, encompasses all the modules.

Figure 3. Problems Taken as the Basis in Instructional Modules



In this regard, the concepts that should be addressed in the instructional program can be summarized as globalization, culture, social and societal relations based on equality and migration. The values that are addressed can be summarized as respect and empathy.

3.5 Designing the Learning-Teaching Process

Designing the teaching-learning process is a crucial aspect of instructional program development. It involves planning and organizing the instructional activities to facilitate effective learning experiences for students. In the context of the Fifth Grade Critical Thinking Skills Instructional Program, several factors need to be considered to design a meaningful and engaging learning process. These factors may include:

Learning objectives: Clearly defining the desired learning outcomes helps guide the instructional design process. The objectives should align with the program's goals and focus on developing critical thinking skills.

Instructional strategies: Selecting appropriate instructional strategies is essential to promote active engagement and enhance students' critical thinking

abilities. Strategies such as problem-solving, inquiry-based learning, cooperative learning and technology integration can be employed.

Assessment methods: Incorporating various assessment methods enables teachers to evaluate students' progress and measure their critical thinking skills. Both formative and summative assessments should be utilized to provide ongoing feedback and monitor learning outcomes.

Differentiation: Recognizing and accommodating the diverse needs and learning styles of students is crucial in designing an inclusive learning environment. Differentiated instruction ensures that students receive personalized support and opportunities to develop their critical thinking skills.

Resources and materials: Selecting appropriate resources, including textbooks, supplementary materials, technology tools and real-world examples, enhances the learning experience and reinforces critical thinking skills.

Collaboration and reflection: Encouraging collaborative activities, discussions and reflection opportunities fosters critical thinking and allows students to engage in meaningful interactions with their peers and teachers.

Integration of technology: Integrating technology into the teaching-learning process can enhance critical thinking by providing access to a wide range of information, promoting problem-solving skills and enabling collaborative learning.

By considering these factors and employing effective instructional strategies, the teaching-learning process can be designed to foster critical thinking skills in fifth-grade students. It is important to adapt and refine the instructional design based on ongoing assessment data and feedback from students to ensure continuous improvement and optimize the learning experience.

Tyler (2014) has identified the following principles in the selection of learning experiences:

- Learning experiences should provide opportunities for experiential learning.
- Learning experiences should allow students to enjoy the work they do.
- The desired relationships within learning experiences should be appropriate for the student's level.
- Learning experiences for the same objective should be diversified.
- Recognizing that learning experiences can have multiple outcomes, leveraging multiple outcomes should be utilized to enhance the effectiveness of teaching.

For the planning of learning experiences, an instructional design model has been chosen. Instructional design is the process of bringing together

appropriate teaching methods and practices using predefined content and for a predefined group of students to develop desired behaviors in individuals related to educational situations, in other words, the teaching-learning process (Doğan, 1997). This process also enables the design of instructional materials and/or activities while charting the course of learning and teaching experiences. With a constructivist understanding, the role of the teacher has evolved from content delivery to that of a designer and guide. Wiggins and Mctighe (2005) state that a teacher in the role of a designer is constantly questioning and creating to use the instructional program correctly and make it more effective. For the teacher, the majority of the creation process occurs before the lesson, allowing for suitable time for student observation during the process. When the literature is examined, it can be seen that there are design models developed to facilitate the teacher's role as a designer and to implement the constructivist learning approach. Instructional design models provide conceptual tools to visualize, guide and manage processes to create quality learning materials and by choosing the right models, lessons that are compatible with educational philosophy can be designed (Spector, Merrill, Elen, & Bishop, 2014). The 5E Model can be considered as an example of a design model that exemplifies the constructivist learning approach based on pragmatist philosophy. The basic principles of a process reflecting the constructivist learning approach, as identified by Lebow (1993), are as follows: being as authentic as possible, containing cognitive conflicts, being problem-based, considering students' prior knowledge and including experiences that allow for social interaction. The stages of the 5E model are as follows. This model, developed by Rodger Bybee, takes its name from the initial letters of its stages in English.

1. Engage:

During the engagement stage, it is important to uncover students' prior knowledge about the topic and foster their interest in the subject. This stage aims to activate students' cognitive background and learning curiosity. Designing materials that cater to the students' cognitive level and curiosity enhances the quality of the instructional plan (Wilson, 2004). Additionally, incorporating authentic problems related to the topic in this stage facilitates the design of subsequent learning processes (Novak, 2010). By introducing real-world problems, students can connect their prior knowledge to the new concepts, making the learning experience more meaningful and engaging.

Explore:

The explore stage requires students to actively participate in solving the problem or exploring the topic presented during the engagement stage. It involves providing students with guidance and materials that enable them to navigate through the learning environment. Students may work individually or in

groups, using the resources provided by the teacher to solve the elements presented in the learning environment (Jonassen, 2000). This stage encourages students to explore different aspects of the topic, engage in hands-on activities and conduct experiments or investigations, depending on the nature of the subject matter (Piaget, 1952). By actively exploring and experimenting, students construct their understanding of the topic and develop critical thinking skills.

Explain:

In the explain stage, students share their suggestions and the steps they have taken to solve the problem they have been working on since the beginning of the topic. This stage emphasizes collaborative learning and knowledge sharing among students, as they communicate their thought processes and deductions (Hattie & Donoghue, 2016). Students are encouraged to articulate their understanding, reflect on their learning journey and receive feedback from both the teacher and their peers. The teacher plays a facilitative role by providing necessary feedback and delivering content that complements the subject matter. It is during this stage that the teacher may engage in more direct instruction, ensuring that essential concepts are effectively conveyed (Wilson, 2004).

Elaborate:

The elaborate stage aims to deepen students' knowledge and understanding of the concept, problem, or subject area. It builds upon the processes carried out in the previous three stages, introducing different scenarios, research activities, investigations and discussions (Jonassen, 2000). Students are encouraged to delve deeper into the topic, explore related concepts, conduct further research and engage in in-depth analysis and critical thinking. This stage promotes higher-order thinking skills and encourages students to make connections between different aspects of the subject matter.

Evaluate:

The evaluate stage focuses on assessing what students have gained from the learning experiences provided to them. It encompasses both process and outcome evaluations, allowing students to reflect on their progress and achievements (Hattie & Donoghue, 2016). The information gathered during this stage is valuable for informing future instructional planning and evaluating the extent to which students have achieved the desired learning outcomes. Various assessment methods can be employed, including formative assessments during the learning process and summative assessments at the end to gauge

students' understanding and mastery of the subject matter (Novak, 2010).

Overall, the stages of engage, explore, explain, elaborate and evaluate provide a systematic and constructivist approach to designing effective learning experiences, catering to students' prior knowledge, curiosity and deep understanding of the subject matter. By incorporating diverse instructional strategies and activities at each stage, educators can foster meaningful learning experiences that promote active engagement, critical thinking and knowledge construction.

4. The Implementation of the Curriculum

The implementation of a curriculum is a crucial step in the educational process as it brings the curriculum to life and allows students to engage with the planned activities and learning experiences. It is through implementation that the intended goals and objectives of the curriculum are put into practice and students have the opportunity to actively participate in the learning process (Elmore, 2004). Effective implementation ensures that the curriculum is delivered as intended, fostering student engagement, understanding and achievement.

In the present study, the implementation of the program was based on the program development model outlined in Figure 4, which is a derivative of the Innovative Contextual Program Development Model explained in Section A (Smith, 2010). The researcher developed activity plans in accordance with this model to guide the implementation process.

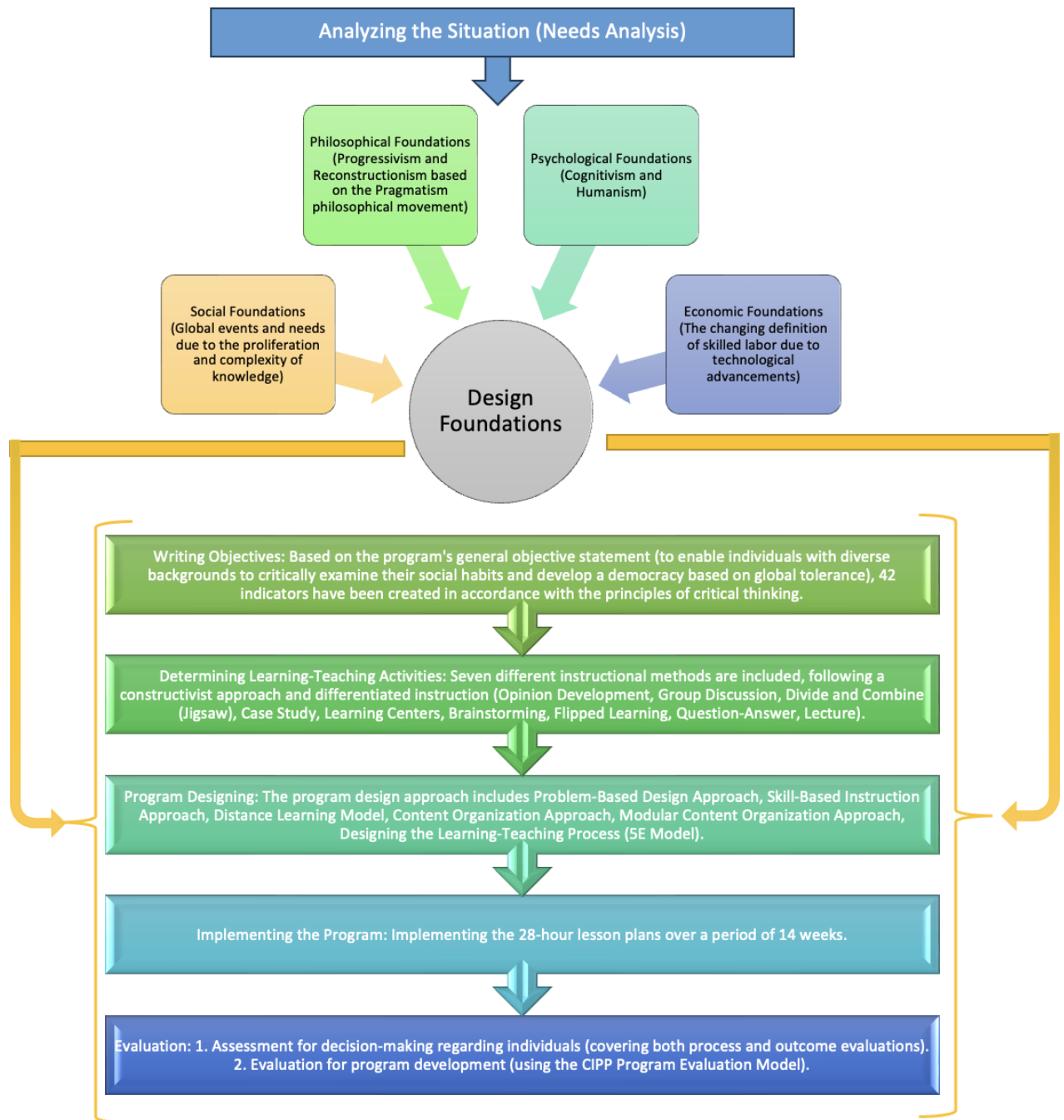
To facilitate the preparation of the plans, a three-hour in-service training session was conducted, during which the researcher provided detailed explanations to the implementing teachers. Prior to program implementation, the 28-hour plan prepared by the researcher, was reviewed by the implementing teacher using the Plan Control Checklist provided in Appendix_4. The teacher's suggestions were taken into account and adjustments were made to align the program with the program development model.

Before implementing the plans in the instructional environment, the Critical Thinking Skills Scale and the Cultural Intelligence Scale were administered to the experimental group. Subsequently, the plans were shared with the implementing teacher and a 14-week implementation process consisting of two hours per week was initiated. Throughout the implementation, the researcher actively participated as an observer in all classes. The implementation schedule is presented in the table below.

Table 7. The Implementation of the Differentiated Thinking Skills Curriculum

Implementation	WEEKS
Pre-test	
Plan 1	
Plan 2	
Plan 3	
Plan 4	
Plan 5	
Plan 6	
Post-test	

Figure 4. Stages of Curriculum Development for the Fifth Grade Critical Thinking Skills Instructional Program



5. Curriculum Evaluation

Evaluation is a comprehensive term defined as the process of gathering information to make decisions about students, programs, schools and educational policies (Nitko & Brookhart, 2016). Based on the definitions and explanations of evaluation, it can be stated that evaluation can serve multiple purposes. Cronbach (2000) distinguishes between decision necessitating evaluation and provides the following explanations of different types of evaluations conducted in program evaluation.

Formative Evaluation: Formative evaluation focuses on providing ongoing feedback and assessment during program implementation to improve the program's effectiveness (Scriven, 1991). It aims to identify strengths and weaknesses, monitor progress and make necessary adjustments to enhance the program's outcomes. This type of evaluation is crucial for ensuring that the program aligns with its intended goals and objectives (Rossi et al., 2004).

Summative Evaluation: Summative evaluation is conducted at the end of the program to assess its overall effectiveness and outcomes (Scriven, 1991). It aims to determine the program's impact and its alignment with the desired learning outcomes and goals. Summative evaluation provides a comprehensive analysis of the program's achievements and helps in making decisions about its continuation, modification, or termination (Rossi et al., 2004).

Internal Evaluation: Internal evaluation involves the use of internal personnel or experts within the program or organization to assess the program's effectiveness (Rossi et al., 2004). It focuses on examining the program's processes, implementation strategies and outcomes from an internal perspective. Internal evaluation provides valuable insights into the program's strengths and areas for improvement, allowing for timely adjustments and enhancements.

External Evaluation: External evaluation involves the use of external experts or independent evaluators who are not directly associated with the program or organization being evaluated (Rossi et al., 2004). This type of evaluation brings an objective perspective and provides an unbiased assessment of the program's effectiveness and impact. External evaluation ensures credibility and accountability in the evaluation process and helps in gaining a broader understanding of the program's strengths and weaknesses.

Evaluation for making decisions regarding individuals:

Evaluation is conducted to determine student needs, identify student characteristics for planning instruction and provide information to students about their own development and areas of weakness, to be used in the selection and grouping stages of instruction planning. The evaluation for the Beşinci Sınıf Düşünme Becerileri Öğretim Programı for this purpose utilized the following forms:

For Formative Evaluation:

- Self-Assessment Form
- Group Evaluation Form
- Rating Scale
- Exit Card
- KWL Table

Formative evaluation aims to determine the student's level of learning in order to provide feedback to the student and adjust instruction. William & D. Leahy (2007) emphasize that the main focus of assessment through this approach is to shape instruction (cited in Mcmillan, 2015). Data obtained from formative evaluation is not used alone to make decisions related to students' achievement level (promotion to the next grade, school admission, etc.).

For Summative Evaluation:

- Critical Thinking Scale
- Cultural Intelligence Scale

Summative evaluation, although it can be used to improve the learning process, is primarily conducted at the end of the teaching process to make decisions about students based on their achievement levels. The main focus of this type of evaluation is to make decisions about students based on their performance at the end of a unit, term, or year.

APPENDIX OF THE CURRICULUM

Appendix_1 Focus Group Interview Form

<i>Interview date/time</i>		
<i>Interviewer</i>		
<i>Interviewee</i>		
<i>Purpose of the interview:</i> <i>The purpose of this interview is to determine the current state of critical thinking skills among 5th-grade students based on teacher observations.</i>		
<i>No</i>	<i>Question</i>	<i>Answer</i>
1	What skills do you think our students need to develop? Among the skills you mentioned, which one do you consider the most important? Why?	
2	Critical thinking is defined as "shaping one's beliefs and actions through analysis and evaluation." In your opinion, what characteristics do individuals who think critically possess?	
3	Do you believe that your students possess critical thinking skills? Could you explain why you think so with examples?	
4	Is it possible to enhance your students' critical thinking skills through your teaching? If your answer is yes, how? If your answer is no, could you explain why?	

5	When designing your lessons, do you make any efforts to enhance your students' critical thinking skills? If your answer is yes, could you provide an example? If your answer is no, could you share the reason?	
6	How do you expect your lessons to be shaped when you have students who possess critical thinking skills?	
7	Are there any obstacles or practices that hinder the development of our students' critical thinking skills? If yes, what are they?	
8	Do you have any suggestions for the development of our students' critical thinking skills? If yes, what are they?	

Appendix_2 Teacher Survey Form

Dear colleagues,

I am conducting a research study on identifying indicators of critical thinking skills and I am in need of your opinions. I kindly request you to write a paragraph expressing your views by considering the questions provided below. Your contributions are greatly appreciated.

Thank you for your valuable input.

Yeditepe University, Institute of Educational Sciences

Department of Curriculum and Instruction

Ph.D. Student

Esra Mutlu

- 1) What are the differences between students who possess strong and weak critical thinking skills?
- 2) For your students whom you believe have developed critical thinking skills:
 - a) What behaviors and attitudes stand out?
 - b) How can you tell they are engaging in critical thinking based on their characteristics?
 - c) What are the noticeable differences in their daily life or classroom behaviors?
 - d) What are the advantages and disadvantages of being a critical thinker?
 - e) What are the most significant challenges they face?
- 3) How would you recommend teachers to interact with students who think critically?

Appendix_3 Learning Plans

Plan No:	1
Class:	5
Time:	5x35
Indicators	
Cultural Quotient:	Critical Thinking Skills:
CCQ2 To know the concept of prejudice. CCQ3 To know the concept of stereotypes. CCQ7 To give examples of the traditions of different cultures. CCQ11 To explore different cultures. CCQ15 To classify the factors that prevent communication. CCQ16 To develop suggestions for eliminating stereotypes belonging to a culture. MECQ2 To become aware of the stereotypes of a different culture.	CTS1 To define a concept in an understandable way in its own words. CTS38 To create examples of her/his life related to the subject. CTS5 To achieve results by establishing relationships between situations. CTS16 To generate solutions to the problems s(he) encounters. CTS33 To compare different perspectives.
Methods-Techniques	Case study, question and answer, small group discussion, presentation
Materials:	Ek-1 The History of Jax ve Reddy Ek-2 The Concept of Prejudice Organizing Map Links: <i>Identification Cards:</i> https://wordwall.net/resource/7373260 <i>Song of Kids United "You and Me":</i> https://www.youtube.com/watch?v=aNL4wg2oC_0 <i>Jafar Video:</i> https://www.youtube.com/watch?v=sGL6eJHzKIs <i>Bias-stereotype classification:</i> https://learningapps.org/watch?v=pwd6oyq6t20 <i>The History of Jax ve Reddy nearpod link:</i> https://share.nearpod.com/tvZhDYQdneb <i>Evaluation 1 padlet link:</i>

	https://padlet.com/esrasezginn/culturaldiversity
Differentiation:	Interest groups, flexible grouping, differentiated products
Process	
Engage 20'	· Identity cards are distributed randomly to the students by clicking on the link. Everyone is asked to review only their identity card and not to share their new identity with other friends. Each student is asked to imagine their answers to the following questions in terms of the person on their identity card to impersonate their new identity. Meanwhile, the song You and Me by Kids United opens without words. Questions: 1. What kind of house does the person on your ID card live in? 2. What kind of climate might he be living in right now? 3. How can (s)he have a family? 4. How might he be spending her/his days? 5. Would you like to be in this person's shoes? Why? · After the students are made to imagine the person they replace, they are asked to find their country on Google maps and determine which continent this country is located in. · The students are grouped according to the continent where their character's country is located and the students are asked to share with their groupmates about the country of the child on their card.

Explore 40'	- Students are shown an award-winning short film called <u>Jafar</u>. The short film is analyzed by making use of the following questions with the case study method. Questions: 1. Did Jafar's feelings change from the beginning to the end of the event? Why is that? 2. Did the family's feelings change from the beginning to the end of the event? Why is that? 3. Did the doctor's feelings change from the beginning to the end of the event? Why is that? 4. What might the people involved in this incident think of each other? Why? 5. How does the event continue to make everyone feel good? 6. What would you do if you were a witness to this event? 7. Who would you like/not want to be in? Why? - Students are asked to form new small groups by choosing one of the continents. Meanwhile, students are freed to choose a country that interests them and the continent in which these countries are located. Those who want to work individually can also work. The important thing is that the number of groups does not exceed three. Students are asked to make a concept map regarding the term "prejudice". This map can be prepared with print or <u>web 2 tools</u>. - Öğrencilerin grup tartışması bittikten sonra tüm sınıf ile birlikte ön yargı sözcüğüne ait bir tanım oluşturmak üzere temel özellik/destekleyici özellikler/örnek&örnek olmayan durumların yer aldığı bir <u>örgütleyici online harita</u> (boş şablonu ek-2'de görebilirsiniz). hazırlanır. Bu örgütleyiciden yola çıkarak ön yargı tanımı yapılır.

Explain 60'	· After the group discussion of the students is over, an organizing online map with key features/supporting features/example & non-example situations to create a definition of the word prejudice together with the whole class (you can see the blank template in Appendix 2). is prepared. Based on this organizer, the definition of prejudice is made. · Afterwards, students are expected to give examples from their own lives. Volunteer students are first asked to give an example of a situation in which they are exposed to prejudice. Each student is then asked to think about their own behavior and list any prejudices they have. Students are not asked to share what they have written if they do not want to, but they are asked to practice for a week on their prejudice, which is at the top of the list. Students will then be asked to write this in their learning diary as a reflection paper. · Students are asked what the concept of stereotype is and if students have opinions, their guesses are listened to. Explain the difference between the concepts of prejudice and stereotype. It is ensured that they make the classification of prejudice and stereotype by giving various example situations. (https://learningapps.org/watch?v=pwd6oyq6t20) · Students are asked to return to the groups on the ID cards they chose at the beginning of the lesson and the groups are asked to list the stereotypes that may occur for these people. · Afterwards, each list is sent to a different group to discuss the measures that can be taken to eliminate these stereotypes.
Elaborate 35'	· Students are presented with the story of Jax and Reddy. They are asked to fill in the judgments on the worksheet in Annex-1 based on what they know about the two children. (This work will be carried out with nearpod. nearpod link: https://share.nearpod.com/tvZhDYQdneb)

	· After the students have completed their individual work, the answers are discussed as a class.
Evaluate 20'	· Students are asked what they have learned that can contribute to their lives (cognitively or affectively) and whether they participate actively enough in the process so that they can reflectively evaluate the process. For the second question, everyone gives themselves 1 to 5 stars. · Students are asked to identify activities and practice for a week in order to eliminate the first item of the list where they have trouble with their prejudices. They are asked to write a reflection piece for this work in their learning diary. · Students are asked to choose one of the following three assessment methods and submit their work to the teacher. 1. Students are expected to explore a different culture of their choice and add its traditions that will be interesting to other cultures (which are likely to lead to stereotypes) on their padlet board. 2. Students are asked to record in their learning diaries what they learned during this topic and how it made them feel. 3. Students are asked to watch the movie "The Green Book" and to identify and report the cultural elements, stereotypes and prejudices in the movie.

The History of Jax and Reddy

5-year-old Jax Rosebush and his best friend Reddy decided to get a haircut because they wanted to play a great prank on their teacher.

So they thought that their teachers would not be able to tell them apart.

Jax's mother, Lydia Stith Rosebush, posted the two boys' diabolical plot on Facebook, along with pictures of them together:



“This morning, Jax and I were talking about how to find a solution to his messy hair. I told him he needed a haircut for the weekend. She said she wanted to cut her hair short so it would look like her friend Reddy. Then she explained that she couldn't wait to go to school on Monday because her teacher couldn't keep them apart. She thought it would be great if her teachers couldn't separate them because they had the same hair. I'm sharing with you a photo from Jax and Reddy's New Year's program. I'm sure you've all noticed their similarities.”

Source:

<https://onedio.com/haber/siyahi-arkadasiyla-arasindaki-tek-farkin-sac-kesimi-oldugunu-soyleyen-guzel-cocuk-jax-760495>

TASKS

1) Tick the following statements based on what you know about the two children.

Judgments	Yes	No	May be	I can not decide
Jax and Reddy have different cultural backgrounds.				
Jax and Reddy realize that they have good communication.				
Jax and Reddy speak the same language.				
Jax and Reddy have the same prayer habits.				
When Jax goes to Reddy's house, he is disturbed by a dish that he has not encountered in his own house.				

2) Answer the given questions.

a) What do you think is the main reason why Jax and Reddy's cultural backgrounds do not interfere with their communication? How can this cause be made widespread among other people?

b) Jax raises his eyebrows as he moves his head from bottom to top to say no. Reddy shakes it left and right. In this case, they sometimes realize that they do not understand each other. What is your suggestion to resolve this situation?

Plan No:	2
Class:	5
Time:	5x35
Indicators	
Cultural Quotient:	Critical Thinking Skills:
CCQ1 To know the beliefs and values of different countries. CCQ9 To explain the relationship between prejudice and discrimination. CCQ13 To identify the similarities and differences between the lifestyles of countries. MECQ5 To plan how to deal with prejudices arising from different cultural characteristics.	CTS22 To distinguish between claims and facts about a subject. CTS4 To examine all aspects of the subject in the framework of the discipline to which the subject belongs. CTS23 To evaluate events multidimensionally. CTS11 To make inferences about the logic of the rules. CTS12 To make decisions using criteria within the framework of logic. CTS15 To use logic components while thinking about the problem. CTS13 To gather the evidence needed to reach a conclusion. CTS28 To believe in the supremacy of evidence. CTS15 To use logic components while thinking about the problem. CTS3 To examine the relationships between more than one concept to understand its structure.
Methods-Tech niques	Buzz groups (3x3), debate survey, large group discussion, question and answer, presentation

Materials:	Ek-1 Moritonia Worksheet Ek-2 Scoring Ek-3 3-2-1 Exit Card Ek-4 RAFT Evaluation Links: Mauritania Word Cloud: https://www.menti.com/g3pc99xhfa Debate Survey: https://www.menti.com/bva3cmvp8e Moritonia Video: https://tr.euronews.com/2018/06/28/moritanya-bat-afrika-n-n-ti-caret-merkezi-olma-yolunda Discrimination and Prejudice Venn Diagram: https://join.groupmap.com/A24-D11-1F2 Gender Discrimination in Working Life Through Children's Perspectives: http://elmaaltshift.com/cocuklarin-gozunden-calisma-hayatinda-cinsiyet-ayrimciligi/ Women&Men Board: https://padlet.com/esrasezginn/girls_boys 3-2-1 Exit Card: https://join.groupmap.com/B56-AF4-F27
Differentiation :	Differentiated products
Process	
Engage 20'	- Students are asked what comes to mind when they say “Mauritania” and a word cloud is created. This work can be done on the board or using a <u>web 2 tool</u>. - The location of Mauritania is shown on the map and the students are asked to predict individually what kind of place this place is and how the people living here live and to carry out the first instruction of the Mauritania Worksheet in Annex-1. Then, the students form groups of three and everyone shares their answers with their group friends in a maximum of one minute.

Explore 55'	· Students are asked to read the first part of the text in the Mauritanian Worksheet and to follow the instructions. Students' individual responses are then treated as a large group discussion and the responses are discussed. Afterwards, the scoring created for this part (appendix-2 scoring) is reflected to the students. Each student is asked to determine the appropriate score for their answer and take notes on the worksheet. It is not necessary to tell the teacher that this scoring will be used in the next category, but the importance of students being objective is explained. · The other six instructions in the worksheet are addressed in a similar way (reading the text, giving individual responses, group discussion and self-assessment).

Explain 35'	· The students are asked what they have learned about the cultural characteristics of the country in the text they read and their answers are listed. · They are asked to determine how much they agree with the idea of this country having a developed order. They are asked to choose their level of agreement on a five-point scale (1 strongly disagree-5 strongly agree). This work can also be done with a <u>web-2 tool</u>. Students are given the opportunity to explain the reasons for their views. · Students are shown the <u>Mauritania video</u>. The languages that students hear in the video are spoken. · Students are asked to take note of 3 information they learned from the video, 2 content that is interesting to them and 1 situation that they do not like. · Whether their views on Mauritania have changed or not are asked again on a five-degree scale. Students are given the opportunity to explain the reasons for their views. · Students are asked whether they want to live in Mauritania or not, about the similarities and differences of this country with our country. · A large group conversation is held on how they would deal with situations arising from their cultural differences if they had to live in Mauritania. · It is debated whether the situation in Mauritania can be called gender inequality or discrimination. By emphasizing these two concepts, they are made to realize that gender inequality is an example of discrimination.

Elaborate
50'

- Students are shown a video on Gender Discrimination in Working Life through the Eyes of Children.
- 1. What could be the reason for doing the same job and getting different rewards?
- 2. What do you think the children's reactions will be when they learn why they receive different rewards?
- 3. How can children find a solution for unequal rewards?
- 4. Are there any examples of this situation that happens to children in life? If so, what are they?
- 5. What do you think the nationalities of these children are? On what basis did you make this prediction?

- Men's and women's titles are noted. What do you think are the differences between boys and girls? questions are asked and answers are written. Group chat is done by asking the following questions in order.
- 1. Do you think men are better at some things than women? What topics are these?
- 2. Are there any subjects where women are better than men? What?
- Notes are taken of what the participants say. This work can be done with a web-2 tool.
- The women's and men's titles are swapped. Can't women do what men do? The question is asked and examples from daily life and television programs are given. Then, can't men do what women do? The question is asked and examples from daily life and television programs are given.
- Students are reminded of the prejudice decision and a venn diagram is created with the participation of the whole class to explain the relationship between discrimination and discrimination. This work can also be done with a web-2 tool.
- Students are asked to research the situation of countries on gender equality by working individually or in pairs. The groups report the research results with any method they want (poster, presentation, article, etc.) and share the results they reach with their friends in a way that does not exceed two minutes.

Evaluate 20'	· Students are asked what they have learned can contribute to their lives (cognitively or affectively) and whether they participate actively enough in the process so that they can reflectively evaluate the process. For the second question, everyone gives themselves 1 to 5 stars. · The 3-2-1 exit card in Annex-3 is applied to the students as a printed or <u>web-2 tool</u>. · The RAFT worksheet in Annex-4 is distributed to the students and they are expected to select a task by making differentiation according to their interest in creating sensitivity against gender discrimination and perform it as homework. The students' works are exhibited and each student is asked to read the works of other friends, write their evaluations on the post-its and paste them in the form of a gallery walk for a month.

Plan_2- Appendix-1

Mauritania Worksheet

Dear Students,

In the text in your hand, a news article about the cultural characteristics of Mauritania taken from the website "mynet.com" is included in short sections. Follow the instructions as you read the given sections.

Note: You should not use an eraser during this study. If you need to edit your answers, you can cross out and retype the relevant part.

Instruction 1: How do you think the lives of individuals living in Mauritania are?

1. Part of the Text

Hell of the weak.

While the whole world is chasing weight loss, the women of this country are destroying themselves for the sake of getting fat. So why?

There is such a country in the world that beauty norms work in reverse: Mauritania

Instruction 2: Moritanya'nın dünyanın geri kalan kısmından daha az demokratik olduğu söylenebilir mi? Düşüncenizin nedenini aşağıdaki kutucuk içerisine yazarak açıklayınız.

2. Part of the Text

In the small country of Mauritania, located between Western Sahara and Senegal in West Africa, women's thinness is not welcomed or even banned. But how? **If you are a fat woman in this society, you are lucky, you are considered the most beautiful and most acceptable.** But if you are thin and have a hard time eating more. You are considered too poor to buy food and excluded from society. **In this society, which suffers from hunger and drought, obesity is an indicator of prosperity and weakness is an indicator of poverty.**

Instruction 3: Is the inference made by the Mauriticians from the weight situation a definite inference? Write if you think there might be a different possibility.

3. Part of the Text

If you are a woman of marriageable age, being under 60 kilos is the first condition to 'not get married'. Weight loss diets have become a scourge for women of marriageable age. In this fattening diet, there is a calorie-rich menu consisting of camel milk, bread dipped in olive oil and goat meat. Women who consume it try to feed until they crack. This norm of beauty, which is the opposite of the world, does not liberate women, it causes them to suffer again. **The name of this tradition is "gavage". Another meaning of the name gavage means "eating geese by overfeeding".** Even this name shows the attitude towards women in Mauritania. Fortunately, reactions to this tradition are growing. That's why the Mauritanian government has started to be flexible on this issue. We wish for a world where women are truly free and not forced to do things against their will.

Instruction 4:

Someone who reads the news shares the following view.

“The journalist who made the news despises Mauritania.”

(to despise: to look at someone as unworthy)

Do you agree with this thought? Express your opinion by showing evidence from the text.

Instruction 5:

Someone who reads the news shares the following view.

“The journalist who makes the news has an international perspective.”

(international: pertaining to multifaceted relations between nations)

Do you agree with this thought? Express your opinion by showing evidence from the text.

Instruction 6: What do you think is the accuracy rate of the information you have obtained about Mauritania out of a hundred? What is the proof of your thought? Please explain.

Instruction 7: If you had to use what you learned about Mauritania in an assignment, what would you do?

Note: You should not use imprecise information in your assignment.

Instruction 8: Before reading the text about the lives of individuals living in Mauritania, indicate the correctness/falseness of your opinion by showing evidence from the text.

SCORING

Instruction 1 Answer Key:

Since this question deals with the predictive dimension of critical thinking, it was excluded from the scoring in this study.

Instruction 2 Answer Key:

Correct Answer	Point
(S)he falsified the idea by stating that the said practice consisted of a social perception.	2
Partially Correct Answer	Point
(S)he falsified the idea, but could not clearly explain its basis.	1
Wrong Answer	Point
S(he) confirmed or didn't write anything.	0

Instruction 3 Answer Key:

Correct Answer	Point
(S)he offers a plausible possibility by explaining that the variable weight is not only linked to food consumption.	2
Partially Correct Answer	Point
(S)he said there might be a different possibility, but (s)he couldn't give an example.	1
Wrong Answer	Point
S(he) confirmed or didn't write anything.	0

Instruction 4 Answer Key:

Correct Answer	Point
(S)he explained whether (s)he agreed with the view or not, by quoting from the text.	2
Partially Correct Answer	Point
(S)he said that (s)he agreed with the opinion, but could not quote the text.	1
Wrong Answer	Point
S(he) didn't write anything.	0

Instruction 5 Answer Key:

Correct Answer	Point
(S)he explained whether (s)he agreed with the view or not, by quoting from the text.	2
Partially Correct Answer	Point
(S)he said that (s)he agreed with the opinion, but could not quote the text.	1
Wrong Answer	Point
S(he) didn't write anything.	0

Instruction 6 Answer Key:

Correct Answer	Point
(S)he specified a score that would require critical reading using the website's extension for the reliability of the information.	2
Partially Correct Answer	Point
(S)he specified a score that required a critical reading of the thought, but could not explain its basis.	1
Wrong Answer	Point
(S)he made a statement regarding the complete reliability of the data or didn't write anything.	0

Instruction 7 Answer Key:

Correct Answer	Point
(S)he exemplified that (s)he will include it in her/his homework (edu, gov, etc. addresses; encyclopedias, etc.) after supporting it with reliable information sources.	2
Wrong Answer	Point
(S)he gave examples that news sources or websites with "com" extensions would be sufficient or didn't write anything.	0

Instruction 8 Answer Key:

Correct Answer	Point
(S)he stated that her/his opinion about the country is right or wrong, basing it on logical evidence from the text.	2
Partially Correct Answers	Point
(S)he presented information from the text without stating whether her/his opinion about the country was right or wrong.	1
(S)he states that her/his view of the country is right or wrong, but not based on (logical) evidence from the text.	1
Wrong Answer	Point
S(he) didn't write anything.	0

Plan_2 Appendix-3

Bu dersten öğrendiğiniz 3 önemli bilgi nedir? : + 3	Bu dersten öğrendiğiniz ve kullanacağınız 2 yeni şey nedir? : + 2	Bu konu ile ilgili hala aklınıza takılan soru nedir? : + 1

Evaluation Worksheet

Below is a RAFT table with four columns. When working in RAFT tables, work is done by selecting a cell from each column.

In this activity, you are expected to choose one of the cells in each column and create a product describing the subject of “gender inequality”. For example, assuming that you have chosen the options in the first line for all four headings, you can play the role of a "woman from Morocco" and prepare a "poster" about "discrimination" for "children".

It's entirely up to you to create different combinations!

RAFT TABLOSU

(Role)	(Audience)	(Format)	(Topic)
A Moroccan woman	Children	Banner	Discrimination
An American black student	Female workers	Letter	
A Berber man	Male politicians	Story	Prejudice
Turkish woman driver	Mom's	Cartoon	
A male nurse	Teachers	News	Inequality
Human rights defender	State	Presentati on	
A European activist	State	Paper	Stereotyping

Plan No:	3
Class:	5
Time:	5x35'
Indicators	
Cultural Quotient: MCQ2 To approach different cultural experiences positively. MCQ3 To be willing to experience cultural differences. CCQ1 To know the beliefs and values of different countries. CCQ10 To draw a diagram explaining what similar gestures and facial expressions mean for different countries. CCQ11 To explore different cultures. CCQ13 To identify the similarities and differences between the lifestyles of countries. MECQ3 To review their preferences for cultural interaction. MECQ7 To evaluate her/his own feelings or behaviors in interaction with cultural elements.	Critical Thinking Skills: CTS40 To associate experiences with new situations encountered. CTS10 To list the data s(he) uses to determine what the problem is. CTS27 To define criteria for making a decision about a situation. CTS34 To be aware of the assumptions on which s(he) bases her/his decision while making a decision. CTS19 To categorize the actual or potential positive and negative consequences of the her/his decision. CTS10 To list the data s(he) uses to determine what the problem is. CTS17 To examine the parts in a structure and determine the system. CTS39 To accept the change of thinking.
Methods-Tech niques	Centers, buzz 22, buzz 44, small group discussion, debate survey
Materials:	Appendix: Appendix-1 Where is my soul from? Activity Paper Links: Body Language Web Post: https://www.turizmgunlugu.com/2018/07/23/yurt-disinda-dikkatli-kullanilmasi-gereken-6-isaret-dili/ Excerpt from Shantaram novel: https://share.nearpod.com/rb49wO5V1bb Globalisation video: https://www.youtube.com/watch?v=JJ0nFD19eT8

Differentiation :	Differentiation in content, differentiation in method (centers), flexible grouping, trajectory study, narration
Process	
Engage (35')	Students are asked whether body language differs from culture to culture. The percentage of the students' answers is shared with the class, inferences are made about the general profile of the class and the volunteer students who want to share the reasons for their thoughts are promised. <u>A web article</u> describing how body language differs according to countries is displayed on the screen. Students are asked whether they have experienced situations where they did not understand gestures and mimics before, or what they would think/feel if they encountered the gestures in the article being read. They are asked to think about the factors that affect the formation of signs that have different meanings in different cultures and to write them in a post-it. (The same question will be discussed again at the end of the topic.)

Explore (60')	● <u>An excerpt from the Shantaram novel on the nearpod</u> is read to the students. The country, city, etc. The places are hidden and students are asked to guess where they are talking about based on what they have read. ● After the students notice the nonverbal communication mentioned in the text, they are asked to find the location of India on the map where the event took place. ● Afterwards, a virtual trip to the Taj Mahal is organized. Starting from the Taj Mahal, information is given about the World Wonders in the UNESCO and Cultural Heritage. ● After discussing the criteria constituting the World Common Cultural Heritage, it is discussed what would happen if the task of choosing the cultural heritage was left to the monopoly of countries instead of an international organization and whether there would be a socio-cultural predisposition that affects them even if countries try to make their own choices. ● Where is my soul from? The worksheet is sent. From the judgments in this activity, they are expected to choose the one that suits them. According to their choices, students are divided into groups such as America-Asia-Europe. ● Students are asked to examine the materials in the centers in Annex-2 prepared according to the groups they belong to and to determine what kind of culture the continent, which is the subject of the center, has, based on the items in this center. Finally, the students in the same center participated in a small group discussion, where is my soul from? They fill in the blank space in the activity.

Explain (30')	• Theories of intercultural differences are briefly mentioned so that people realize that the way they perceive the world consists of social influences and individual preferences. In particular, information is given about the Value Orientations Theory, which is taken as a basis for the work paper in Annex-1. • Small group discussions are held on how globalization affects social habits or perceptions of the world. This work is done in pairs in two minutes, then the students are regrouped, this time they discuss the same topic in 4 minutes in groups of 4. Discussions in groups are briefly shared with the whole class.
Expand (30')	· Students are shown <u>a video</u> about globalization. In the video, they are asked to share the information that strikes them and a class discussion is made over the video with the following questions. 1. Can it be said that globalization affects every aspect of our lives? Please explain. 2. Can it be said that globalization is beneficial/harmful to humanity? Please explain. 3. Is globalization a dimension that people can control? Please explain. 4. Is it possible to stop globalization? How? · After deciding that the students have enough knowledge about globalization, an activity to develop an opinion on the positive/negative effects of globalization on cultures is carried out. <u>The form link</u> is shared with the students. They are given time to choose the appropriate degree based on their views. Then, volunteer students from each degree are given a voice and are asked to share why they find that degree more appropriate. After the first round of discussion, students are asked to review their thoughts and again choose the degree to which they are closest. Volunteer students whose opinions change and remain the same are given the opportunity to share. Finally, “With the increase in global mobility individually and massively, it has become necessary for individuals to be

	equipped with more cultural tolerance and competence.” The discussion ends with a message.
Evaluate (20’)	• The question asked at the beginning of the lesson is repeated. Students are asked to review their answers (what are the factors affecting the formation of signs that have different meanings in different cultures) and make updates if necessary. Each student is asked to write their new answers to this question in the form of a learning diary, including what they learned in the process. · Students are asked what they have learned that can contribute to their lives (cognitively or affectively) and whether they participate actively enough in the process so that they can reflectively evaluate the process. For the second question, everyone gives themselves 1 to 5 stars. · Students are asked to draw a diagram showing what gestures and facial expressions mean in different cultures. Those who want to do this work can do it by using electronic tools and paper and pen. • Students are asked to choose a place individually and to do a research about its cultural features. Students are not presented with a specific topic to produce products and manage the process. It is said that it is sufficient to have “culture” and “selected place name” in the study title. In other words, it is sufficient to consider the study in a trajectory of the culture of the chosen place. Students are asked to decide on the product and the content of the study. Students are given 3 weeks to complete their orbital work. The topics to be checked with the teacher by week are as follows: · Week 1: The subject of the orbital study and the titles to be included in it. · Week 2: Contents and final product to be included in the study. · Week 3: Delivery of the product to be exhibited.

WHERE IS MY SOUL FROM?

Dear Students,

You are expected to read the judgments in the boxes below and choose only one of each column containing the judgment. Make sure that the judgment you choose is the one that best reflects you.

□	Humans rule nature.	Humans are future-oriented, they are interested in planning their goals.	Humans are evil, there are strict rules.	Humans are people-oriented, it is important to complete the task.	Human relations are linear, social class rules are passed down from generation to generation.
◇	Humans are in harmony with nature.	Humans are present oriented, he seeks to enjoy life.	Humans are a mixture of good and evil, individual and environmental factors are important.	Being human is oriented and enjoying life is important.	Human relations are individual, individual rights are important.
○	Humans serve nature.	People are past oriented, honor their ancestors with their deeds.	People are good, relationships are built on trust.	The human being is focused on becoming and the spiritual satisfaction pays off.	Human relationships are complementary, strong ties are essential.

If you have more marks on the lines with the ◇ sign in the judgments you choose, your soul is an American in spirit.

If you have more marks on the lines with the □ sign in the judgments you choose, your soul is a true European.

If you have more marks on the lines with the ○ sign in the judgments you choose, your soul is pure Asian.

Plan_3 Appendix-2

Center:
Continent of
America

**Continental
Countries**

United States
(USA)

Canada

Mexican

Belize

Antigua and Barbuda

Bahamas

Barbados

Dominica

Dominican Republic

El Salvador

Grenada

Guatemala

Haiti

Honduras

Jamaica

Costa Rica

Porto Rico

Cuba

Nicaragua

Panama

Argentina

Brazil

Bolivia

Ecuador

Guyana

French Guiana

Colombia

Paraguay

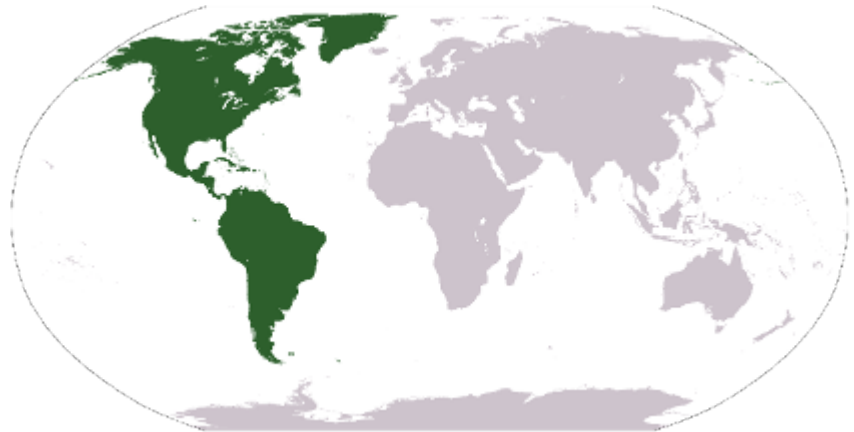
Peru

Suriname

Chile

Uruguay

Venezuelan



**You can use the links below to learn about some of the features
that distinguish Americans from others.**

[Link 1](#)

[Link 2](#)

[Link 3](#)

[Link 4](#)

Plan_3 Appendix-2

Center: Continent of Europe

Continental Countries

Azerbaijan

Belarus

Bulgaria

Armenia

Georgia

Kazakhstan

Moldova

Romania

Russia

Ukraine

Czech Republic

Hungary

Poland

Slovakia

Slovenia

United Kingdom

Denmark

Estonia

Finland

Iceland

Ireland

Latvia

Lithuania

Norway

Sweden

Albania

Andorra

Bosnia and
Herzegovina

Croatia

Turkey

Greece

Italy

North Macedonia

Malta

Montenegro

Greek Cypriot
Administration of
Southern Cyprus

Turkish Republic of
Northern Cyprus

Kosovo

Portugal

San Marino

Serbia

Spain

Western European
countries:

Austria

Belgium

France

Germany

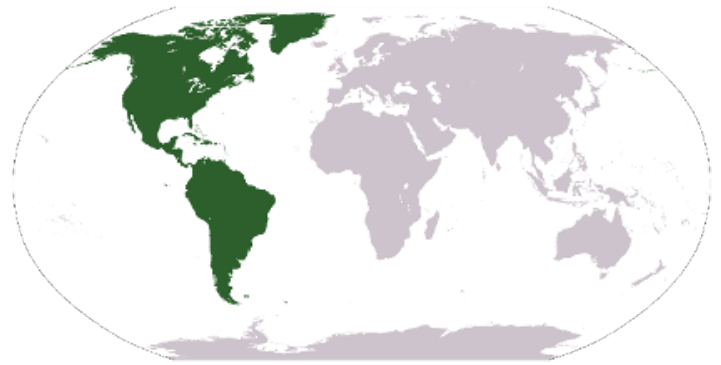
Liechtenstein

Luxembourg

Monaco

Holland

Switzerlan



You can use the links below to learn about some of the features that distinguish Europeans from others.

[Link 1](#)

[Link 2](#)

[Link 3](#)

[Link4](#)

Plan_3 Appendix-2

Center: Continent of Asia

Continental Countries

Turkmenistan

Kazakhstan

Uzbekistan

Kyrgyzstan

Tajikistan

Iranian

Afghanistan

Pakistan

India

Nepal

Sri Lanka

Maldives

Bhutan

Bangladesh

Iraq

Syria

Lebanon

Israel

Palestine

Jordan

Saudi Arabia

Oman

Yemen

Train

Kuwait

Bahrain

United Arab
Emirates

Japan

Mongolia

Chinese

North Korea

South Korea

Myanmar

Thailand

Cambodia

Laos

Vietnamese

Malaysia

Indonesia

Singapore

Brunei

Philippines

East Timor

Papua New Guinea

Russia

Georgia

Azerbaijan

Turkey

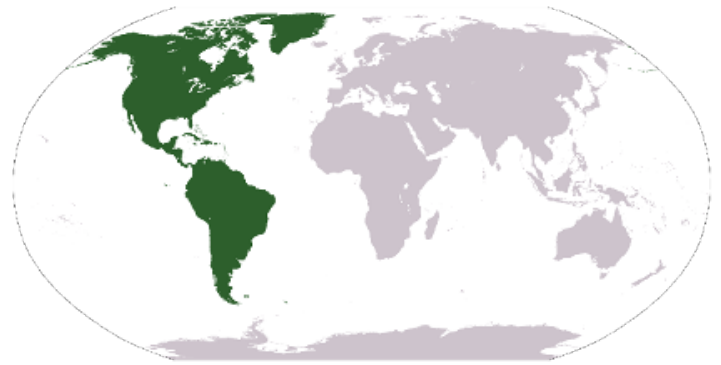
Republic of Cyprus

Armenia

Turkish Republic of
Northern Cyprus

South Ossetia

Abkhazia



You can use the links below to learn about some of the features that distinguish Asians from others.

Link 1

Link 2

Link 3

Plan No:	4
Class:	5
Time:	3x35
Indicators	
Cultural Quotient: MCQ5 To be confident when faced with cultural contradictions. CCQ12 To take inferences about the impact of management styles on culture. CCQ14 To identify when the source of conflict is cultural. MECQ1 To realize using cultural knowledge.	Critical Thinking Skills: CTS2 To identify other concepts related to a concept. CTS38 To create examples of her/his life related to the subject. CTS10 To list the data s(he) uses to determine what the problem is. CTS6 To be aware of the reasons on which (s)he bases her/his answer when answering a question. CTS31 To be open to revising her/his thoughts when (s)he receives new information that contradicts her/his thoughts. CTS33 To compare different perspectives. CTS32 To use critical thinking standards in thinking processes.
Methods-Tech niques	Opinion development, group discussion, case study, question and answer, presentation
Materials:	Appendix-1 Respect themed idea wheel Appendix-2 RAFT Worksheed Appendix-3 “3-2-1” Self Evaluation Form Links: Presentation: https://drive.google.com/file/d/1auz3MTvAvhfebNZ9ILJh567eI-xCrCnL/view?usp=sharing Listening text on Martin Luther King: https://drive.google.com/file/d/1b4FK6cN67qepIGt_pJLS-fGGnb5QtRxR/view?usp=sharing Understanding different cultures video: https://www.youtube.com/watch?v=TWrhWTQXI6Y

Differentiation	Differentiation in the product, tasks suitable for individual differences
Process	
Engage (20')	- Students are shown the video titled "<u>A Little Respect</u>" and the concept of "respect" is emphasized with the help of the questions below. It is explained that the concept of respect will be considered together. (It is shared that the video received the 1st Prize in the 2nd EU Human Rights Short Film Competition.) - What did you watch in the video? - What is the relationship between the images used in the video and the slogan (respect please)? - What is the message of the video? - What makes this video 1st in the competition? - In what other situations can the targeted respect be reflected based on the style of eating in the video? - It is discussed why it is necessary to respect different cultures. - Students are asked to give positive examples of respect in their lives. - They are asked whether they have been in a difficult situation due to their cultural characteristics or whether they have observed a similar situation before.

Explore (40')	• A three-point Likert form is reflected on the screen between I agree, I am undecided and I agree, while the method and the rules of the method (presentation 1st slide) are informed to the students. • <u>The listening text on Martin Luther King</u> opens. The first proposition (presentation, slide 2) is projected on the board and students are given the opportunity to think for a while. • Students are asked to take place under the cardboard showing their opinions. After the students take their seats, the discussion begins. • Students are provided with explanations about why they are standing where they are, listening to each other and trying to persuade. While the students are asked whether they are affected by their friends' explanations, they should be encouraged to change their places. Efforts are made to involve everyone in the discussion. • The second proposition (presentation, slide 3) is projected on the board and students are given a chance to think for a while. The work is rotated one more round. • When it is ensured that the subject has been adequately discussed, the main idea will be emphasized and "Almost every country can have laws against human rights and the constitution and they should be questioned." (presentation Slide 4.) The discussion can be ended. • Students are asked to summarize the stages of the opinion development method and they can be provided with examples of how it can be used in their own fields.

**Explain
(20')**

- Students are told that a mind map will be made.
- “RESPECT” is written in the middle of the screen and students are asked at what stages in our lives respect should be. A mind map is created on the board with the answers from the students. (for example: respect for nature, respect in traffic, respect for the elderly, respect for the disabled, etc.) This study can also be done online at <http://mindmapfree.com/>.
- Students are divided into four groups by counting the seasons. Each student is told the name of a season in turn and then asked to combine spring, summer, autumn and winter. Thus, the class is randomly divided into 4 groups.
- It is used on the idea wheel for students to express their ideas about “RESPECT”. The idea wheel in Appendix-1, which says "Respect", is sent to the middle point of the wheel to the students. Each student in the group determines a section on the idea wheel and writes their thoughts on the subject in the designated section. After all the students in the group write their ideas about “Respect” on the idea wheel, they make the definition of respect jointly, starting from the divisions on the wheel. It is ensured that each group shares the definition of respect created as a result of the wheel of ideas with the class. Feedback can be given to groups based on the following definition of respect.

Respect:

1. (name) The feeling of love, respect, respect that causes to be careful, attentive and measured towards someone or something because of its value, superiority, old age, usefulness and sanctity:

"When you lose respect for people, you're done, it means you're worth ten pennies." - Yasar Kemal

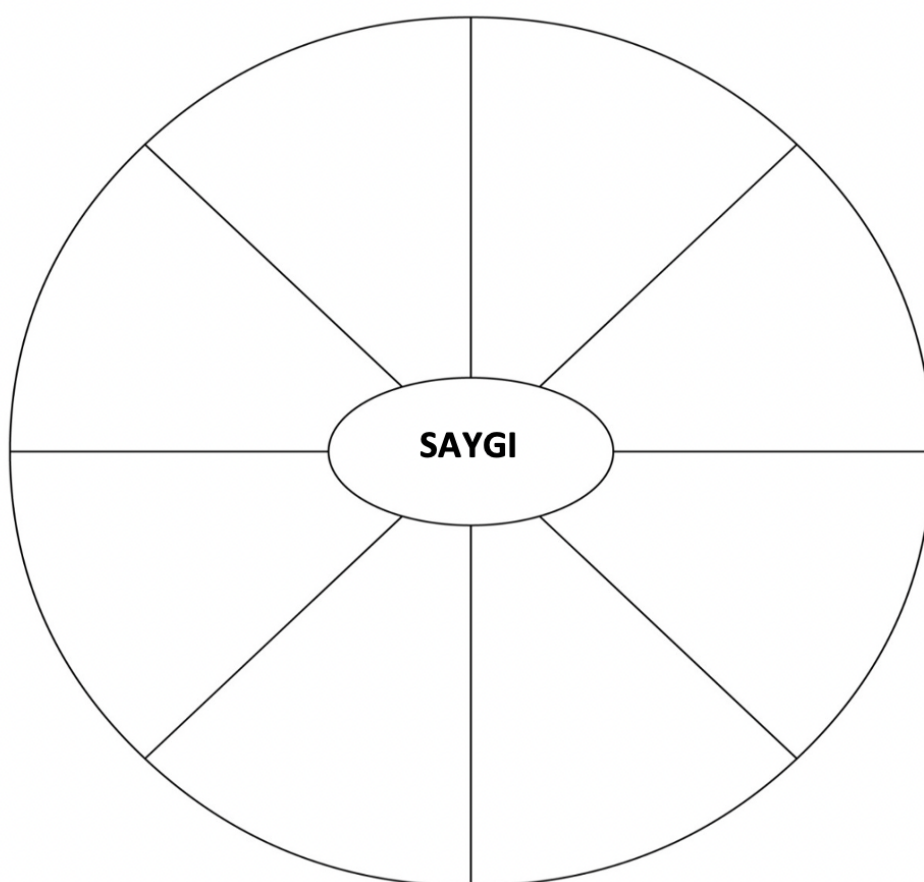
2. (noun) A feeling of reluctance to offend others.

Expand (10')	· Students are shown <u>a video about understanding different cultures</u>. The students are asked which country's cultural elements are included in the video and which features need to be developed in individuals for cultural respect. · Students are informed about the standards of critical thinking. Whether these standards are appropriate for an individual who respects cultures is debatable.
Evaluate (15')	Homework: The RAFT activity in Annex-2 is given as homework. In the continuation of the raft study, the students are provided to make a self-evaluation with the 3-2-1 tool in Annex-3. ● After the completion of 3-2-1, willing students are given the opportunity to share.

IDEA WHEEL

Each member of your group individually determines one characteristic of the term "respect" and writes it in a section of the wheel.

Then, as a group, define the term "respect" based on these characteristics.



DEFINITION OF RESPECT:

.....

.....

.....

Plan_4 Appendix-2

Dear Students,

This assignment will be done individually. Below is a RAFT table consisting of four columns. When working on RAFT tables, you should choose one cell from each column to work on.

In this activity, you are expected to create a product by choosing one option from each column.

For example, if we assume that you choose the options in the first row for all four headings, you can create a "cartoon" with the theme of "respect for different cultures" by taking on the role of an "immigrant" for "the entire community."

Creating different combinations is entirely up to you!

RAFT TABLOSU

Rol (Role)	Okuyucu (Audience)	Yazı Türü (Format)	Konu (Topic)
Immigrant	Public	Cartoon	Respect for different cultures
Refugee	Children	Letter	
Citizen of a host country	Teachers	Advertise ment	
Student studying abroad in a different country	Scientists	Announce ment	
	Non-Govern mental Organizations	Newspaper article	
	Artists	Banner	
Foreign worker employed in our country	Politicians	Poster	

Plan_4 Appendix-3

3-2-1 Self-Assessment Form

3	Share 3 positive examples from your own experience regarding the concept of "Respect for Different Cultures."
2	Share 2 negative examples from your own experience regarding the concept of "Respect for Different Cultures"
1	"I realized that with the concept of "Respect for Different Cultures"... (write 1 situation).

Plan No:	5
Class:	5
Duration:	4x35
Indicators	
Cultural Intelligence: CCQ3 To know the concept of stereotypes. CCQ4 To define ethnocentrism. CCQ5 To give an example of culture shock. BCQ1 To attempt to create a common culture. BCQ4 To follow a moderate path to initiate and maintain communication. BCQ5 To change her/his behavior (verbal/non-verbal) if the reason for the conflict in communication is due to cultural differences.	Critical Thinking Skills: CTS3 To examine the relationships between more than one concept to understand its structure. CTS9 To delay decision making until logical justifications are reached. CTS11 To make inferences about the logic of the rules. CTS12 To make decisions using criteria within the framework of logic. CTS27 To define criteria for making a decision about a situation. CTS16 To generate solutions to the problems s(he) encounters. CTS25 To develop a fair perspective. CTS15 To use logic components while thinking about the problem. CTS8 To explain thinking patterns that shape other people's thoughts. CTS37 To discover the assumptions of an idea.
Methods-Techniques	Opinion development, group discussion, presentation, jigsaw, question-answer, narration.

Materials:	Annex-1 Group Evaluation Form Link: Opinion development video: https://www.youtube.com/watch?v=Bl1FOKpFY2Q Migration presentation https://prezi.com/view/XOzSGrDxgJUuyjCsURsZ/ Haber analizi: Grup 1 https://goformative.com/formatives/603400fc36463258127cb59a Grup 2 https://goformative.com/formatives/603403ca514b42938d006793 Grup 3 https://goformative.com/formatives/60340577e709d127b58c6bf7 Migration group discussion Grup 1: https://padlet.com/esrasezginn/immigration Grup 2: https://padlet.com/esrasezginn/immigrate Canada Cultural Integration Video https://www.youtube.com/watch?v=MkxcuhdgIwY
Differentiation:	In the content, differentiation, tasks suitable for individual differences
Process:	

**Attracting
attention
(25')**

- Students engage in a conversation about the cities they currently live in or have lived in before. If there are students who have gone through a city change, the discussion can focus on their experiences during the relocation process, adjusting to the new city and other related topics.
- The students are shown the video provided in the [link](#). The event is examined through the method of opinion development. For this purpose, the video is paused at suitable points and the following questions are asked.
 - Where could the girl be going?
 - Why might she feel unhappy?
 - Why might the boy be excited when he sees the umbrella?
 - If you were in the place of the girl whose umbrella is hidden, what would you do?
 - Why do you think they might have migrated?
 - How might it feel to be a child who has migrated? What emotions might they experience?
 - Do you think the country where the event takes place has good rights for immigrants? Explain why you think so.
 - What can you say about the relationship between the citizens of the country where the event takes place and the immigrants?
 - Where have the migrants come from?
 - When comparing their culture to the culture of the country they have migrated to, what can be said?
 - Can it be said that the migrating culture is subordinate to the receiving culture? (ethnocentrism will be defined.)

Exploration (40')	- The class is divided into 3 groups. Each group is given a separate news article and a study link to examine the news, answer the questions and complete their tasks. Grup 1 https://goformative.com/formatives/603400fc36463258127cb59a Grup 2 https://goformative.com/formatives/603403ca514b42938d006793 Grup 3 https://goformative.com/formatives/60340577e709d127b58c6bf7 - The students present their work to the class. After reading the news article to their peers, they share the discussions, emotions and answers that took place among their group members. - During the sharing, the students who are listening can also participate by taking the floor and asking questions. - In this process, the class is divided into two groups. The students are asked to discuss "Questions and Answers about Migration" and "Challenges that Immigrants may Encounter". Grup1 https://padlet.com/esrasezginn/immigration Grup2 https://padlet.com/esrasezginn/immigrate - After the completion of the work, the groups can review each other's work and make additions if necessary.
Explanation (15')	- The students are provided with information about the concept of "migration" using the presentation available in the link. - The difference between assimilation and integration is examined by providing examples of newspaper articles for the students to analyze and discuss. - The discussion revolves around how the relationship between a country's citizens and migrants is determined and influenced by various variables. By considering these variables, the

	need for states to have migration policies and recognizing that this is a global issue is emphasized. Homework: Students are asked to gather data on the migration issue in our country (newspaper articles, oral history studies, official statistics, etc.). Everyone summarizes their findings in a maximum of ten lines in a Google Drive document, based on the data they obtained from their chosen sources.
Elaboration (40')	· The students are given time to share their research findings with their classmates. Inferences about our country's migration policy are drawn from the collected data and each inference made by the class is written on the screen. · Then the class is divided into two groups. Half of the class is assigned the role of advocating for efforts to increase the rights of migrants, while the other half is assigned the role of protecting the resources of the host state. · The class is divided into two groups and everyone is given 5-7 minutes to discuss and reach a consensus on what they need to do to achieve their group's objective. · Once everyone is clear about their roles, the class is divided into small groups, with two migrant advocates and two resource protectors assigned to each group. Students are expected to create a procedure specific to a country with potential for immigration in their new groups. They are given 12-15 minutes for this task. · Students are shown a <u>video</u> prepared for cultural integration in Canada, or it is sent to them to watch after the class.

Assessment (20')	· Students are asked to evaluate, in a reflective manner, how what they have learned can contribute to their lives (cognitively or affectively) and whether they actively participated enough in the process. For the second question, everyone rates themselves on a scale of 1 to 5 stars. · Students are encouraged to conduct a group evaluation using the criteria provided in Appendix 1 group evaluation form. · The products generated by students during the group discussion are presented. During each presentation, students are asked to predict and note the reasons behind the decisions made. Then, voluntary students are given the floor to share their insights on the reasons behind the decisions.

Plan_5 Appendix-1

Dear Students,

You are expected to evaluate your group work process and product based on the following items.

During our group work process:	Yes	Partially	No
Sufficient time was given for everyone to share their ideas.			
All the presented ideas were discussed.			
The tasks were distributed fairly.			
The decisions made were as follows:	Yes	Partially	No
The decisions made are fair for both migrants and the country's own citizens.			
It is logical.			
Different dimensions such as economy, education and language that are necessary for it have been discussed.			

Plan No:	6
Class:	5
Duration::	5x35
Indicators	
Cultural Intelligence:	Critical Thinking Skills:
MCQ4 To cope with stress caused by cultural differences. MCQ6 To be resistant to conflict or disagreement arising from intercultural ambiguity. MCQ7 To develop a supracultural understanding while communicating with someone belonging to a culture (s)he does not know. MCQ7 To feel safe when faced with intercultural differences. CCQ6 To give examples of artworks or artists from different countries. CCQ8 To compare the rules of a native language with a foreign language.	CTS5 To achieve results by establishing relationships between situations. CTS16 To generate solutions to the problems s(he) encounters. CTS8 To explain thinking patterns that shape other people's thoughts. CTS14 To understand the importance of having the features required by the critical thinking process in the way individuals handle situations/events.
Methods-Techniques	Flipped learning, brainstorming, group discussion, presentation
Materials:	Links: World Cultures video https://www.youtube.com/watch?v=RwSYrsjTiW4 New Year's Eve Celebration Traditions blog post: https://www.turizmgunlugu.com/2020/12/16/6-ulke-nin-ilginc-yilbasi-gelenekleri/ Newspaper News Link: https://www.cumhuriyet.com.tr/haber/sanatin-birlestiren-gucu-1750963
Differentiation:	Interest groups, centers
Process	

Engagement 15'	· The students are sent the <u>video</u> titled "World Cultures" to watch before coming to the lesson. After watching the video, the students are asked to determine which aspect of culture they enjoyed the most through a multiple-choice question added to the continuation of the video. (Options: food, religious rituals-special days, gestures and facial expressions, sports-clothing, language-history-architecture) · Later, a specific country's cultural elements are revisited from the video by watching a one-minute segment related to that country. This serves as a reminder of the part of the video that will be discussed in the lesson and also ensures that any unprepared students can stay engaged without feeling disconnected from the lesson. · Students are encouraged to discuss the video by asking questions such as which cultural difference surprised them the most, which lifestyles are similar to our own culture and other related questions. This prompts them to engage in conversations about the video and its cultural aspects.
Exploration 70'	· The students are divided into groups based on the cultural element they have chosen. Each group is guided by a foreign teacher. The students are asked to prepare interview questions in English to ask individuals from different countries about the cultural element they have selected. The guiding teachers accompany the groups to provide answers to their questions and provide feedback on the clarity and expression of their questions. · The students are encouraged to conduct internet research on the practices of the cultural element they have chosen in different countries while preparing their questions. · The prepared questions, along with the answers provided by the guiding teacher regarding European culture, are recorded in a Google Drive file on behalf of the teacher. · The prepared questions by the groups are sent to teachers from different countries via e-Twinning.

	When the answers come from teachers abroad, they are shared with the students.
Explanation 20'	· An <u>article</u> about New Year's Eve traditions in different countries is opened. Students are asked to imagine themselves participating in the celebrations with a group of people in a country where these traditions are practiced. They are asked which experience they would most like to have and which experience they would prefer to avoid. The situation is examined through questions that encourage students to empathize and challenge any negative perceptions they may have about other cultures. · K�lt�rl�raras� etkileşimin saėlanabilmesi i�in gerekli iletiřimin hangi �zelliklere sahip olması gerektiėi �zerinde fikir birliėine varılır. · The newspaper article provided in the <u>link</u> is shared with the students. The discussion revolves around whether art is a cultural element or a transcultural element. Considering that cultural elements vary across societies, students are asked for their opinions on whether art also changes from one society to another. They are asked if they are familiar with art movements and given examples of prominent movements and representatives from different countries. The discussion further explores whether artists incorporate cultural elements in their works, using examples such as Picasso's "Guernica," Archimboldo's portraits, Mondrian's geometric works and Michelangelo's "Creation of Adam."

Elaboration 35'	· A two-stage brainstorming is conducted. In the first stage, students are asked the question, "To ensure that culture becomes a unifying tool rather than a divisive one, which element should we focus on?" Once the most frequently mentioned element is determined, the question "What concrete step should be prioritized to foster intercultural integration with this element?" is addressed. The responses from students are recorded in a Google Drive document created by the two students assigned as secretaries at the beginning of the process. A maximum time limit of 20 seconds is agreed upon for each student to express their thoughts. A digital timer is used to initiate the activity. The process concludes with a large group discussion on how the solution proposed by the majority of the class can be implemented.
Evaluation 35'	· Students are asked to reflect on how what they have learned can contribute to their lives (cognitively or affectively) and whether they actively participated enough in the process. For the second question, everyone rates themselves from 1 to 5 stars. · Students are asked to review their learning journals they have been keeping since the beginning of the process. They are requested to write a letter to their future selves, including the qualities and examples they believe they have developed within themselves.

Appendix_4 Plan Evaluation Control List

CRITERIA	Yes	No
The contents of the headings in the citation are complete.		
The selected method/technique is appropriate for the targeted achievement.		
The design of the method/techniques is academically sound.		
All materials used (worksheets, process evaluation tools, technological tools, presentations, visuals, etc.) are prepared and included in the plan.		
The introductory activity is related to daily life.		
The introductory activity is related to prior learning and facilitates making connections (reminds of prior learning in other disciplines).		
The activities are suitable for the class/age level.		
The activities are engaging and arouse interest.		
The activities are aligned with the intended outcomes in the plan.		
The activities are aligned with the intended outcomes in the plan.		
The activities enable students to explore the subject, make inferences and provide comments.		
The activities facilitate the use of prior learning in the relevant lesson and support new learning (if applicable, also involve prior learning from other disciplines).		
The activities include methods/techniques that involve learner activity, student-student and teacher-student interaction.		
The activities provide opportunities for students to demonstrate their understanding of the topic (through products, comments and answers).		
The activities accurately and completely incorporate the information related to the outcomes in the curriculum.		
The activities demonstrate that the learner has achieved the outcomes through at least two practical experiences.		

The activities include all materials and implementation details.		
It aims to periodically determine the student's performance level in process activities.		
The activities provide opportunities for students to assess and evaluate themselves/peers (self/peer assessment).		
It provides feedback on the student's affective level in learning experiences.		
It includes the measurement tools to be used and implementation details.		
Recommendations:		

Appendix_5 Plan Check List Form

Observed Lesson Date:

Implemented Plan No:

Criteria	Yes	Partially	No	Explanation
The stages of the lesson were conducted in accordance with the plan.				
The necessary democratic environment was provided.				
Differentiation elements were used appropriately.				
The time specified in the lesson plan was adhered to.				
The methods addressed in the lesson were correctly implemented.				

Appendix_6 Interview Form (For Teacher)

<i>Interview date/time:</i>	
<i>Person conducting the interview:</i>	
<i>Person interviewed:</i>	
<i>Purpose of the interview:</i> <i>The purpose of this interview is to gather your opinions in order to evaluate the Fifth Grade Critical Thinking Skills Curriculum.</i>	
<i>CONTEXT</i>	
Should the instructional program be proposed for implementation or dissemination? Why? Which student community will the instructional program serve in terms of its characteristics? Which business or organization will the instructional program serve in terms of its characteristics? Will it cater to both public and private school students? Could you elaborate? Which content should continue to be included in the instructional program? What should be the objectives of the instructional program? Which objectives should be used in the instructional program? Is any modification necessary?	
<i>INPUT</i>	
Which instructional materials can be most beneficial in the specified educational environment? In what aspects? Which materials are most acceptable for teachers and students? How can personalized instruction be best implemented? What are the relative effects of different materials on student achievement?	

PROCESS
How well are students performing? What is the quality level of the education and support staff? What are the costs associated with the implementation of the instructional program? To what extent are students satisfied with their education? Which component of the instructional program is inadequate, if any?
PRODUCT
How was the attendance of students involved in the program? How satisfied are the students involved in the program with their roles? To what extent does the instructional program prepare individuals for further education? To what extent does the instructional program prepare individuals for employment?

Appendix_7 Interview Form (For Students)

<i>Interview date/time:</i>	
<i>Person conducting the interview:</i>	
<i>Person interviewed:</i>	
<i>Purpose of the interview:</i> <i>The purpose of this interview is to gather your opinions in order to evaluate the Fifth Grade Critical Thinking Skills Curriculum.</i>	
CONTEXT	
Do you think the lesson is prepared according to your needs? Why? How do you think the studies we cover in the lesson are related to each other? How meaningful do you find the lesson activities?	
INPUT	
Do you think the way we address the learning materials aligns with your prior knowledge? How knowledgeable do you think the teacher is about the subject? Do you find the used resources interesting? Do the used resources seem instructive to you? How important do you find the topics we cover in the lesson? Do you find the technological tools we use in class useful? Do you think the duration of the lesson is sufficient? Why?	
PROCESS	

How is the lesson conducted? Are the students at the center of it?

How are the topics we cover related to real-life problems?

How do you evaluate the learning environment created by the lesson?

Do you think a democratic environment is established within the lesson?

Did the lesson provide you with the opportunity to form your own ideas on social issues?

PRODUCT

How did the lesson contribute to developing a positive attitude in you?

Do you think there have been changes in your behavior as a result of the lesson? Can you provide an example?

How do you think the lesson has helped in the development of your mind?

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