Evaluation of a Creative Drama Practice for Noise Awareness in Primary School

Mızrap Bulunuz, Ph.D.
***Melike Tantan**, MA*
Jonida Kelmendi, MA
Bursa Uludag University, Turkey
Derya Bekiroğlu, MA
Istanbul University Cerrahpasa, Turkey

Abstract

This study aims to investigate students' awareness of the level, causes and negative effects of noise in schools through the utilization of creative drama activities. The objective of this sample application is to contribute to the development of a more tranquil and peaceful school environment. A single case study design was employed for this research, with the study group comprising 16 fourth-grade students from a primary school. Student interviews served as the primary data collection tool, supplemented by observations and video recordings. Thematic analysis was employed to analyze the data, resulting in the identification of four main themes related to noise awareness: "lack of tranquility," "noise phenomenon," "conflict exacerbation," and "creative ideas". By incorporating the Visual Arts and Science curriculum, students demonstrated important life skills such as innovative thinking, effective communication, and analytical reasoning. Additionally, this interdisciplinary approach allowed for the attainment of learning objectives within the Science curriculum's sound unit, while also addressing the "Visual Communication and Formation" domain of the Art curriculum.

Keywords: Visual arts, primary school, sound, noise pollution, creative drama

Introduction

Play serves as the primary means through which children express and explore their world. Vygotsky (1967) emphasizes the significance of play, stating that during play, a child surpasses their usual capabilities. Play is a fundamental activity for child development, and its integration into education

necessitates innovative teaching approaches that transcend traditional practices of teacher-centered instruction. As societal needs rapidly evolve, so do the expectations placed upon education. This dynamic environment presents an opportunity to introduce new approaches into the educational landscape.. According to Karakaya (2007), creative drama stands out as one such approach. Creative drama, emerging spontaneously within children's play, enhances their empathetic abilities, artistic sensibilities, and creativity (Pinciotti, 1993). Engaging students actively in the classroom and creating a dramatic environment with real-life examples are among the most effective methods of instruction (Moore, 2004). Drama in education proves invaluable in improving language skills, fostering social interaction, and teaching children the art of listening (Thompson & Evans, 2005). Numerous studies have highlighted the positive contributions of drama to student development, including the cultivation of empathy, communication and problem-solving skills, vocabulary acquisition, nurturing a positive self-image and imagination, as well as enhancing motivation in foreign language learning (Akbaş, 2011; Arieli, 2007; Başören, 2015; Güneş, 2019; Kadan, 2013; Karadağ & Göçer, 2018).

Drama in education is a process that is encompassed within national curricula, which outline not only what children should learn but also how they should learn, placing emphasis on the process itself (Baldwin & Fleming, 2003). However, according to Donbavand (2009), drama gradually diminishing from the educational environment as the curricula increasingly prioritize academic success. The literature offers various classifications for the stages of creative drama (Adıgüzel, 2006; Akyol, 2003; Çelikkaya, 2014; Karakaya, 2007; Özdemir & Üstündağ, 2007; Yeğen, 2003). For this study, the drama plan was developed based on several classifications, comprising three stages: preparation and warm-up, animation, and evaluation. Preparation and Warm-up: According to Bakkaloğlu (2017), The preparation and warm-up stage, as highlighted by Bakkaloğlu (2017), holds significance in terms of acclimating students to the activities. During this stage, if the group is engaging in creative drama for the first time, it is important to introduce simple-to-complex activities to facilitate adaptation. Animation: This stage encompasses the process of shaping and developing the subject matter over time, ultimately presenting it to other students (Adıgüzel, 2013). Evaluation: At this stage, evaluation takes the form of self-assessment by either the teacher or the student without the use of scoring (Adıgüzel, 1993). Each student is unique, and therefore,, teachers should approach assessment and evaluation processes flexibly, adopting alternative methods. These processes should encompass not only cognitive measures but also attitudes and actions (MEB, 2018). Curriculum: The curriculum is founded on the principle that development is holistic. Accordingly, lessons should be planned not only with

the desired learning outcomes in mind but also with the aim of developing skills alongside those outcomes (MEB, 2018).

Numerous studies have integrated the creative drama method into lessons to promote the acquisition of life skills (Aslan, 2008; Avcıoğlu, 2012; Bayrakçı, 2007; Kahriman, 2014; Kara & Çam, 2007; Önalan, 2006; Okvuran, 1995). Life skills encompass analytical thinking, decision making, creativity, entrepreneurship, communication and teamwork, all of which are related to accessing and utilizing scientific knowledge (MEB, 2018). In this study, the creative drama technique was applied through the integration of the Science and Visual Arts courses using the art integration method. Art integration is an instructional approach that combines art with different disciplines and fostering creative processes, and permanent and effective learning occurs (Dinç & Karahan, 2021). The assessment and evaluationof Science and Visual Arts achievements were conducted during the evaluation stage of creative drama process. The literatureincludes publications in which creative drama has been integrated into science or visual arts lessons (Dilmaç & Dilmaç, 2020; Gümüş, 2019; Kara & Aslan, 2018; Kök, 2011; Timothy & Apata, 2014; Uzun, 2019; Yalım, 2014; Yılmaz, 2006). These studies demonstrate that the creative drama method employed in the Science and Visual Arts courses contributes to students' skills, academic achievements, and attitudes. For instance, Dilmaç and Dilmaç (2020) found that the creative drama method used in Visual Arts lessons enhanced childrens' critical thinking skills. Additionally, Yeşiltaş et al., (2017) discovered that creative drama was more effective than the traditional methods in dispelling misconceptions in science lessons, while Yalım (2014) observed that dramain the Science course led to increased academic achievement.

Children perform tasks more effectively in quiet environments compared to noisy ones (Güler & Çobanoğlu, 1994). Slater (1968) demonstrated that students are more successful in a quiet environment than in a noisy one, emphasizing the disruptive nature of noise pollution in schools. Despite being a serious and potentially hazardous issue, noise is often overlooked in school settings (Bulunuz, Ovalı, Cıkrıkçı & Mutlu, 2017). Strategies for noise control can be categorized into three stages: control at the source, control at the receiver, and control in the environment. Raising awareness about noise is a critical aspect of environmental control (Güler & Çobanoğlu, 1994). In the 2018 Primary School Science curriculum, a total of 10 objectives related to the concept of sound were included at the 3rd and 4th grade levels. These objectives are also connected to the concept of noise. Sound is defined as the audible vibration detected by the ear (TDK, 1992). On the other hand, noise refers to unwanted sounds that interfere with each other and negatively affect individuals (Güler & Çobanoğlu, 1994). The Primary School 3rd and 4th-grade Science curriculum (2018) incorporates the topic of

sound through four units: "Sounds Around Us", "The Role of Sound in Hearing", "Sound Technologies" and "Sound Pollution". The learning outcomes revolve around the physical properties of sound, the role of sound in hearing, sound pollution, its effects, and control.

Recently, neuroscientists have dedicated efforts to unraveling the mechanisms behind the brain's generation of awareness. A significant aspect of human cognition, is closely tied to the pursuit of self-knowledge, as emphasized by ancient Greek philosophers (Köksal, 2018). In essence, awareness extends beyond mere consciousness; it involves the discovery and recognition of phenomena (Fromm, 2017). In order for students to assume responsibility and foster a calm and quiet school environment, they must develop an awareness of noise (Bulunuz & Özgür, 2021). While there is existing literature on noise prevention in schools (Bulunuz et al., 2017; Bulunuz & Özgür, 2021; Bulunuz et al., 2022; Shield & Dockrell, 2003; Shield & Dockrell, 2004; Shield & Dockrell, 2006; Klatte et al., 2010), a review of the literature did not yield any publications specifically addressing the use of creative drama to raise awareness of noise in educational settings. Therefore, this study presents an exemplary approach that utilizes creative drama to enhance students' awareness of noise issues at school and to contribute to the creation of a quieter school climate. The aim of this study is to utilize creative drama activities to unveil students' understanding of the scope, causes, and adverse effects of noise in the school environment, offering a practical model that promotes a more serene school atmosphere. The study focuses on creative drama practices, implemented in an interdisciplinary manner, at the 4th-grade level of primary education.

Methods
Research Design

This qualitative study isdesigned as a single-case study, incorporating interpretive paradigms. Qualitative research is a method in which the research problem is interpreted from the researcher's perspective using an interdisciplinary approach (Altınışık et al., 2010). Within interpretive paradigms, there is no pure reality and all elements are interconnected. A single case study is a research design that involves a detailed examination of an event through "why" and "how" questions within a real-life context (Balcı, 2011; Yıldırım & Şimşek, 2013). In essence, a single-case study is an in-depth investigation aimed at uncoveringthe patterns of a complex and functional event (Stake, 1995). The primary objective of this research is to enhance noise pollution awareness among primary school students through structured creative drama practices. In the study, sub-themes related to students' noise awareness were identified through creative drama practices. In the 3rd and 4th grade Science and Visual Arts courses, questions were posed regarding

potential sub-acquisitions, skills development, and values. The responses to these inquiries formed the interconnected sub-elements of the single case study. Data collection in this study relied on observation, followed by interviews and analysis of documents that emerged during the evaluation phase of the creative drama practices in order to augment the dataset.

Study Group

The study group for this application consists of 16 primary school students at the fourth-grade level. The selected school is one of the primary schools participating in the implementation of the TÜBİTAK project number 114K738. Creative drama activities were employed with the study group aiming to assess the students' awareness regarding the level of noise within the school environment, its underlying causes, and the resulting negative effects. The ultimate objective of these activities was to enhance the students' awareness of noise-related issues within the school.

Application Process of the Research

This study aimed to explore the learning domain of the "Visual Communication and Formation" lesson within the 4th-grade Visual Arts curriculum using creative drama activities. Specifically, within the unit focusing on Sound Technologies in Science, the study sought to assess students' awareness regarding the magnitude, causes, and detrimental effects of noise in the school environment. To achievethe study's objectives, the researchers were implemented creative drama activities with the student groups. The creative drama process comprised three stages: "preparation-warm-up", "animation" and "evaluation". The application was conducted over two 80-minute sessions. During the preparation and warm-up phase, introductory activities were incorporated to draw attention to the theme of noise pollution and facilitate group interaction among students.

Figure 1. Preparation Phase

During the animation stage, the students actively engaged in the improvisation technique by assuming roles that highlighted the detrimental effects of "Noise Pollution". The improvisation technique can be described as a pontaneous and unscripted development of situations that emerge from within. According to Üstündağ (1998), improvisation is considered the foundation of drama. Through this stage, students further solidified their acquired knowledge from the preparation phase and gained experiential understanding by immersing themselves in the roles they portrayed. Additionally, they developed empathy by exploring the diverse perspectives of various characters.

Figure 2. Preparation Phase

The animation studies commenced with the utilization of "Double Improvisation" techniques.

Figure 3-4. Double Improvisation

Following the initial activities, the study progressed towards the next phase known as "Group Improvisations".

Figure 5. Evaluation Phase

Finally, in the evaluation phase, students were tasked with creating a novel context for the issue of noise pollutionthey had encountered. Within this context, various products were generated by utilizing different disciplines and fields.
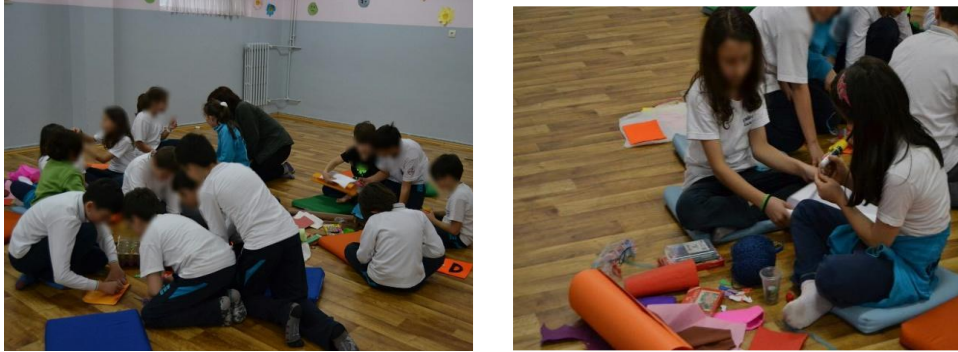
Figure 6- 7. *Product design*

Data Collection Process

The data collection process involved16 primary school students at the fourth-grade level. Prior to conducting the research, parental consent was obtained, and the participants were selected based on voluntary participation. The creative drama activities recorded using a camera, and data were purposefuly collected by the researchers through semi-structured observation forms. Additionally,, interviews were conducted with the students to provide further insight into their perceptions of noise.. These interviews aimed to explore their experiences, awareness, and perspectives, rather than assessing their knowledge. Within this context, the following questions were posed to the students:

1. Can you tell us about yourself? What is your name how old are you?
2. What did we do today? Can you explain a little?
3. Which of today's activities impressed you the most? Can you explain a little why?
4. Do you think silence is important? Why?
5. What is noise? Is it important to us? How does noise affect you?
6. Would you like more of these activities?
7. What did you do to avoid the noise? What did you name it? Why did you choose this name?
8. Can you show us what you designed? What is its purpose? Can you tell us about the connection between the materials you chose and noise pollution?

Data Analysis

The data set, comprised of audio recordings from observations and interviews, was transcribed and subjected to a thematic analysis to elucidate students' accomplishments, awareness, and perceptions regarding noise pollution. A case study was provided, showcasing direct findings derived from

the thematic table, observations, and interviews, systematically arranged using codes, categories, and themes.

Validity and Reliability Studies

All stages of the study were founded on volunteerism. The interviews were conducted individually in a tranquil setting, allowingstudents to express themselves comfortably. The draft of the interview questions was submitted to expert lecturers in the field of "Classroom Education" from two distinct universities to ensure validity. Based on the feedback received, the questions were revised accordingly. Attempting to address a multidimensional problem through a single data source is insufficient (Miles & Huberman, 1994). In this study, noise awareness at school represents a complex issue encompassing multiple parameters in its causes and solutions. Rather than gathering data for such a multifaceted problem froma single data source, a diversified approach was employed, utilizing observation, interview, and video recordings. Experts in qualitative data analysis subsequently categorized the collected data into themes and sub-themes.

Ethical Permission Information of the Study

In this study, all the rules stated in the Committee on Publication Ethics (COPE) were followed.

Ethics Committee Permit Information

Etic Board that Conducts the Assessment: Bursa Uludag University Clinic Research Ethics Committee.
Date of Assessment Decision: 09.06.2015
Assessment Document Number:2015-12-7

Results

Creative drama studies were conducted with students to address noise at school. Semi-structured interview forms served as the primary data source, enablingstudents to explore the noise phenomenon in-depth within the school environment. Video transcripts of creative drama practices were utilized to reinforce the interview data. The themes, categories, and codes derived from the analysis are elaborated upon below. Four main themes emerged from the thematic analysis. The issue of noise awareness, which is examined through thematic analysis, comprises "lack of tranquility", "noise phenomenon", "conflict exacerbation" and "creative ideas".

Lack of Tranquility

During the interviews with the students the following questions were posed: "Do you think silence is important? Why?", "What is the noise?" "Is it

important to us? How does the noise affect you?" The thematic analysis of their responses revealed the emergence of the "lack of tranquility" theme, encompassing the challenges and issues students face due to the absence of silence. These problems experienced by the studentswere further categorized into "communication problems", "health problems" and "academic problems".

Communication Problem

Communication comprises two fundamental elements: the source and the receiver. Without these two components, effective communication cannot take place. For communication to be successful, both partiesmust be able to understand each other and provide appropriate responses. Achieving this requires mutual audibility and intelligibility of sound. Based on the students' responses, two codes were developed pertaining tothis topic. The first code, "inability to be heard", signifies the challenge of communicating one's messageto the other party due to excessive noise. Betül's statement serves as an exemplary instance of this code:"It is important because someone will respond to someone, but they cannot raise their voice excessively"(Betül, Interview, p. 2). The second code, "difficulty in hearing", highlights the difficulty of the other party hearing us due to the high level of ambient noise. The words of Fikri, one of the students, "It is important because if there is too much noise, no one can hear each other." (Fikri, Talk, p. 2) supports this code.

Health Problems

Studies have demonstrated that noise has physical and psychological effects. In a noisy school environment, students may experience symptoms such as tinnitus and headaches. These physical issues among students were categorized under the "physiological" code. For instance, Gamze's statement, "It is important because if there is too much noise, we get headaches..." (Gamze, Interview, p. 2) exemplifies the physical problems encountered by the students. Similarly, students also encounter psychological challenges resulting from the impact of noise. Through the interviews, these issues were classified under the "psychological" code. An example of this code can be found in Özlem's statement: "I feel bad"(Özlem, Observation, p. 6).

Academic Issues

The school environment should be organized in a manner that promotes effective learning. While elements such as light, sound, and color are considered in the design of contemporary teaching environments, the tranquility of the setting is often neglected. . Noise is one of the most significant barriers to learning today as it leads to excessive adrenaline release, which in turn diminishes the brain's learning capacity. In interviews, students

reported that classrom noise hinders their ability to work efficiently. Based on these statements, the code of "inefficiency in work" was established. As an example of this code, Gamze's statement: "...We couldn't perform our tasks well."(Gamze, Interview, p. 2) is given. Students concur that noise negatively impacts their academic performance,. giving rise to, the "performance anxiety" code has emerged. A clear example of this code is the statement, "Noise affects me and prevents me from engaging lessons." (Gamze, Interview, p. 3). In our country, where assessment and evaluation are exam-based, test scores have become a source of concern for students. This sentiment is evident in the expressions of the students within the "grade anxiety" code. A student named Jale articulated her grade anxiety by saying "…if we have an exam, and we can't study quietly, we may receive poor grades."(Jale, Interview, p. 2). Another code that emerged under academic issues is the "focus problem". Arguably, the first step for a student to succeed is to concentrate on the lesson they are attending, the homework they are completing, and the exam they are preparing for. A student who is distracted by noises from the garden, another room in the house, or the street cannot study effectively. In response to the question, "How does noise affect you?" Jale stated, "…it's distracting. While studying for an exam, my parents turn the TV volume up too high. This distracts me. It causes me to make mistakes while working and to receive a lower grade because my mind remains preoccupied during the exam. "(Jale, Interview, p. 3). The student's words provide a compelling and illustrative example of this issue, offering an opportunity to rectify the errors made.

Noise Phenomenon
In the interviews, students were posed the following questions: "What is the noise? "Is it important to us? "How does the noise affect you?" These inquiries led to the emergence of the "noise phenomenon" theme, derived from the participants' responses and the analysis of video recording transcripts. This theme encompasses students' perceptions and definitions of noise, as well as its causes. The students' opinions were categorized into five distinct classifications: It has been classified as "definitions", "perceptions", "transformation of sound", "noisy memories" and "contrary associations".

Definitions
Within the definitions category, the codes of "human origin", "effects of culture" and "technological resources" are described below. The code of "human origin" was derived by associating noise generation with people. İpek's statement, "Noise is an environment where all people talk." (İpek, Interview, p. 3) serves as an example. Students also discussed their tendencies, such as one student mentioning that "pampered children" cause noise (Özlem,

Observation, p. 4). Lastly, the "technological sources" code emerged, as mass media was identified as a source of noise. Dialogues between the teacher and students during the study support this classification. For instance; when one student mentioned "microphone" as a noise source, other students provided similar answers such as "headphone" and "speaker" (Observation, p. 13).

Perceptions

Students defined noise in three distinct ways: "confusion", "concretization" and "relativism". The "confusion" code refers to the perception of noise as a combination of multiple sounds at a high volume. An example of this is Gamze's statement, "I think it's a mixture of noisy sounds." (Gamze, Interview, p. 3). Some students did not perceive noise as separate from other forms of pollution. From these statements, the "concretization" code was derived. For example, Betül said "Noise is sound pollution" (Betül, Interview, p. 2). In the last code of "relativity", some students found noise to be necessary. Similar to individual tastes and preferences, noise is a relative concept. Some people find crowded environments friendly and warm, while others find them uncomfortable. For instance, while noise is a problem and an obstacle for many students, Deniz stated, "If there was no noise, we could not have fun."(Deniz, Interview, p. 2). This suggests that some people perceive noise as a means to support entertainment.

Transformation of Sound

As is known, noise occurs as a result of mixing sounds with high volume or frequency. Noise is the simultaneous use of multiple sounds, in the wrong place, at the wrong time, and in the wrong tone. From this perspective, the "concurrency" code was created. The data obtained from the observations made with the students can be exemplified by the following dialogue:

Student: When you're making a sound and suddenly other people start making it.

Teacher: So when the sounds are mixed.

Student: Yes.

Teacher: Another?

Student: When everyone shouts.

Student: When everyone starts making noises.

Teacher: Is it noise when the voices start to mix?

Meanwhile, the student said something, but his voice was not understood.

Teacher: I couldn't hear, can you repeat what you said?

 Student: When the sound of speech increases"(Observation, p. 5).

*Noisy Memories.*This category includes students' accounts of their experiences in noisy environments. There are two codes in this category:

"subjective life" and "cultural life". The "subjective life" code relates to students' experiences within their families. An example of observations and dialogues during the study is presented below:

> Student: My brother's noise.
> Practitioner: Is your brother making noise?
> Student: It's surprising! The building is shaking because of my brother's noise. For example, he is playing house, shouting like that... He says let's play together."(Özlem, p. 5)
> "Cultural life" encompasses social values. For example, in our culture, there are relatively noisy events such as, wedding, sending off soldiers, and social gatherings. One of the students, Özlem, shared, "I have such a memory. I was at a wedding, the music was too loud and everyone was shouting everywhere. When the person in the last corner shouted, the person in the other corner could hear him" (Özlem, Observation, p. 5).

Contrasting Associations

Under this category, two codes were identified as "sound concept" and "silence dilemma". It was observed that students evaluated the concept of sound as either silence or noise. In the category of "sound concept", students defined sound as "scream" and "noise" (Observation, p. 3). The "silence dilemma" code emerged as a result of some of the students stating that they liked noise, while others preferred silence. For example, Deniz said, "…We couldn't have fun even if there was no noise."(Deniz, Interview, p. 2) while Eren expressed, "…Because when we are quiet, we find peace"(Eren, Interview, p. 2).

Conflict Exacerbation

Within the scope of this study, warm-up activities and improvisation exercises with students were observed and recorded. By combining observations, recordings, and interviews, the theme of "*conflict exacerbation*" was identified. Two sub-categories of this theme, "precautions" and "solution suggestions" were classified. These classifications were based on improvisational drama studies.

Solution proposals

At the end of the improvisations, students were asked, "Is there a solution in case of a problem?" "If it didn't reach the solution, why didn't it reach it?" and "How can he reach the solution?" The data of this category was derived from the students' responses. Students' suggestions were classified as "distraction from the environment", "eliminating the source", "gradual practice", " sequential use of time", "sound reduction device", "disseminating the reward" and " implementing sanctions". An example of the code

"distraction from the environment," which refers to leaving a noisy environment and moving to another space, is Özlem's statement "I want to go to another room" (Özlem, Observation, p. 6). Noise always has a source. Eliminating, removing, or blocking this source will significantly reduce the noise. An example of this code, which is called "eliminating the source", is the sentence, "The melodica that causes noise is taken away" (Özlem, p.8). In double improvisations, most students chose to gradually move away from the noise source instead of suddenly stopping it. These approaches have been termed "gradual practice". An example of this is presented below:

Student: First I made the volume louder, then I turned it down gradually. Practitioner: Why did you do that?
Student: To get used to the dimming.
Practitioner: To understand the difference between high and low voice. How well your brother listened to you."(Ozlem, p. 7). In addition, some students mentioned the sequential use of environment and time. These views were categorized under the code "sequential use of time ". An example of this is Özlem's statement "One hour one would work, one hour the other would work" (Özlem, Observation, p. 9).

The codes and examples examined thus far pertain to dual improvisation studies. The following suggestions are expressed by students for school stakeholders and communities. One of the initial suggestions against noise is a "sound attenuator". This device was considered for warning against noise. Çiğdem explained this thought with the following sentences; "I think a device that reduces the sound should be used as soon as the noise gets louder during the lesson at school."(Çiğdem, Observation, p. 13). The "widespread effect of the rewards" aims to encourage students to maintain a noise-free school life. İpek said, "We can start something. What was his name? Anyway, that's how we can reward the quiet and the good. Then others will also be silent" (İpek, Observation, p. 13). These examples demonstrate how students can be encouraged to be calm. Finally, the tendency to resort to punishment or prohibition, which is common in the traditional education system, has been categorized under the "sanction code". For example, a student said, "Let's try to explain the situation to the students and punish them if they don't understand."(Özlem, Observation, p. 13).

Measures

The impromptu group activities with students focused on noise complaints, noise precautions, and solutions. Due to the improvisational nature, each student assumed a role and expressed their suggestions. The "measures" category derived from improvisation, is divided into two codes:"improving the environment" and "active participation of stakeholders". In addition to education on noise in schools, the necessity of

acoustically improvingthe school building is an indisputable fact. The code "improving the environment" highlights this requirement. One student said, "…the teacher of each class collects the necessary funds and the problem is fixed"(Özlem, Observation, p. 12). These stakeholders are not limited to just teachers and students. Uniting all stakeholders in the school with the common goal of creating a tranquil environment makes achieving this goal easier. Better results can be obtained when all stakeholders work together to prevent noise pollution. Students made similar points in their improvisations, leading to the code "active participation of stakeholders". Schools encompass numerous stakeholders. For example, the following dialogue took place between a student and the practitioner:

Student: Let the parents come to the lesson.

Practitioner: So you want parents to see toowhy the students are making noise?

Student: "Yes". (Observation, p. 13)

Creative Designs

At the end of the activities, students were asked to create a product based on the information they acquired about noise pollution. They were asked to consider the improvisations and warm-ups they participated in while creating the product. The products created were presented to the students, and two codes were determined based on this. These codes are called "associative" and "functional".

Associative

Associative code products are designs made by students to evoke noise or silence. Student products and the slogans they created for these products are provided below. The "Noiseless Hero" product designed by the students is shown in Figure 6.
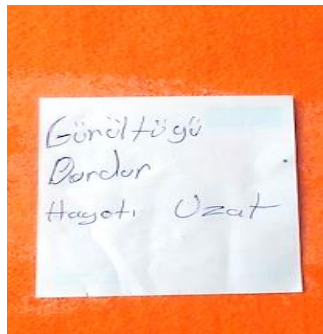
Figure 6. Hero Without Noise: Product example of associative code

Figure 6: The slogan "Stop Noise Extend Life": Product example of associative code. The slogan "Noiseless Hero" in Figure 6 is "Stop the noise, prolong life.".

Figure 7. Cyber Character: Product example of associative code

In Figure 7, Hüseyin, one of the students, explained the reason for designing the product he named "Cyber", "I created a character to prevent noise." (Hüseyin, Interview, p. 3).


Figure 8. Silence Design: Product example of associative code

Fikri, one of the students in Figure 8, explains the product he designed: "He tells that making too much noise is harmful. He told it to be silent and named it "Silence" (Fikri, Interview, p. 3). While some students preferred to create associative designs, others opted for functional designs. The designs in the "functional" code include products that can be used to prevent noise in daily life. Students' functional design products are provided below with their explanations.

Functional Designs

The designs created by the students to reduce noise or to promote quietnesswere coded as "functional". Student products and their functions are provided below with student descriptions.
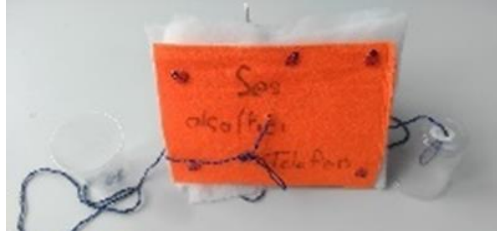
Figure 9. Noise Reduction Phone: Product example of functional code

One of the students, İpek, named the product she made a "Noise Reducing Telephone". "I made a telephone with wires to avoid noise. I named it a sound-reducing phone. I chose this name to find out how the phone came to this time"(İpek, Interview 1, p. 3).

Figure 10-11.   Bell: Product example of functional code

In Figure 10 and Figure 11, we can examine the products named "Bell" designed by the students with the slogan "It is in your hands to prevent the noise".

Discussion, Conclusion, and Recommendations

This study aimed to raise awareness about the dimensions, causes and effects of noise in schools by incorporating creative drama activities into Science and Visual Arts classes. In this context, the themes derived from student interviews, which serve as the primary source of study data, are presented in this section as conclusions, discussions, and suggestions. The

themes obtained from the interviews include lack of tranquility, the noise phenomenon, conflict exacerbation, and creative ideas.

Lack of Tranquility

Students reported that they could not hear their peers during noisy periods at school and struggled tomake their own voices heard. Consequently, students are aware of the lack of tranquility at school. This issue was addressed in terms of communication. Communication is a means of expressing one's thoughts and emotional needs and understanding others. Simultaneously, it is a social tool that inflences individuals' behavior towards their environment (Dağ, 2014). However, children's inability to express themselves or feeling misunderstood by their peers in an educational setting goes beyond a mere communication problem. Communication issues in the classroom are not just barriers to communication; they also hinder learning and may lead to social and emotional problemsIn fact, this study found students were negatively affected both physically and psychologically. Additionally, communication problems are particularly significant for disadvantaged students such as those in inclusive education and refugee children. Numerous studies in the literature demonstrate the negative effects of communication problems in the educational settings (Moralı, 2018; Erdem, 2017; Gök, 2013). Furthermore, it was concluded that students experience "grade anxiety". As anxiety increases, academic success decreases (Polat, 2017; Karaman, 2020). Thus, students' academic success is negatively impacted in noisy environments.

Noise Phenomenon

The theme of the noise phenomenon encompasses the categories of definitions, perceptions, sound transformation, noisy memories, and contrasting associations. In the interviews, students defined noise as originating from human and technological sources, attributing their peers' noisy behaviors to family upbringing and cultural influences. The concept of noise may be perceived differently across cultures. A behavior considered noisy in one culture might be deemed ordinary in another. The meanings societies attribute to noise are constantly evolving, with noise becoming increasingly commonplace and widespread in modern societies (Tan, 2021). This situation may be linked to changing perceptions in a globalizing world. Noise is a relative perception. In this study, some students characterized noise in the "Perceptions" category as a mixture of sounds and pollution, while others viewed noise as a trigger for pleasure.

Cultural habits, such as weddings, social gatherings, and military farewells, can contribute to noise. Almost everyone has experienced these noisy activities at some point in their lives. In this study, students found the sounds of such traditional activities from their neighbors to be noisy and

disruptive . The study group consists of children from families with medium and low socio-economic levels. This situation may be related to the poor insulation systems in buildings and the socio-economic status of the neighbors. In fact, according to Kagge (2017), noise is associated with class differences and socio-economic level. Low-income families are more exposed to noise from neighbors than high-income families. No publications contradicting this finding were identified in the literature. While students described the concept of sound as "silence" or "screaming", they characterized noise as both disturbing and entertaining. From this point of view, it can be said that noise creates contrasting connotations for students. This situation may arise from individual differences and gender disparities among students. Erdal and Tepe (2021), in their study examining individuals' music preferences based on certain variables, found that men prefer violent and loud music more than women. In addition, more active and extroverted children in the school environment found noise entertaining, while calmer introverted children found noisy activities disturbing. Contrary to this study, Erdal and Tepe (2021) discovered that introverts prefer intense music more than extroverts.

Conflict Exacerbation

At the conclusion of their improvisations, the students proposed solutions to address the issue of noise. These suggestions included "noise reduction" and "active student participation". Active learning, on the other hand, is an approach that necessitates active engagement in learning process (Açıkgöz, 2003). Students actively participated in the process through creative drama which led to improved suggestions and a clearer understanding of the situation.. In general, the students considered leaving the noisy environment or eliminating the source of the noise. Subsequently, they discussed implementing sanctions or a reward-punishment system for students. In this context, it appears that students tend to rely on general application methods.

Creative Designs

During the evaluation phase of creative drama, students were asked to develop designs that were functional and possessed symbolic associations. The designs created by the students featured names such as "Noiseless Hero", "Cyber", and "Silent". Additionally, they developed functional products such as telephones and bells. In terms of symbolic associations, students designed posters depicting unhappy human figures and heroic characters disturbed by noise, accompanied by supportive slogans. Regardingfunctionality, they conceived materials with the idea that communication and school tools could be silent. Consequently,, this research demonstrates that students achieved the Visual Arts lesson's Visual Communication and Formation learning objective,

"G.4.1.6. Creates three-dimensional studies using different materials.. This accomplishment will contribute to both the child's awareness and creativity by enabling them to develop their own solutions to current problems. Tantan (2022), found that three-dimensional studies enhance Children's creativity skills in his research examining the visual arts curriculum. According to Uysal (2005), creating three-dimensional designs allows children to strive to positively transform their environment. Furthermore, multidimensional art education alters the way children perceive the external world.

Results related to outcomes

While the students were describing the noise, they asserted that it was human-induced, that their cultural upbringing influenced the formation of the noise, and that technological sources were the primary causes of noise. Based on these findings, "FB 4.4.5.1. It can be concluded that the acquisition of "questioning the causes of sound pollution" has been achieved. Findings that noise is perceived as an environment of confusion, expressed through embodiment, and is a relative perception can be interpreted as negative views on the absence of calmness. In addition to these, in cases of tranquilitydeficiency, students experienced communication problems such as not being heard and having difficulty hearing; They stated that these situations might cause physiological and psychological health problems and that the lack of silence also causes academic problems such as inefficiency, focusing difficulties and success anxiety. Based on these views, "FB 4.4.5.2. It can be inferred that the acquisition "explains the negative effects of sound pollution on human health and the environment" has been achieved.

During the animation phase of creative drama, to the aim is to produce solutions for the existing problem by considering various conflict situations. In these conflict situations, the solution suggestions that students found during their encounters with noise included: distancing from the environment, eliminating the noise source, gradual practice by adjusting the sound levels, sequential use of time, sound-reducing devices, widespread impact of the rewards, and enforcement. These findings, through research, have demonsrated that students achieved the goal of "FB 4.4.5.3. producing solutions to reduce sound pollution". When evaluating the gains, the concept of noise is not directly included in the program, but can be associated with the gains under the title of the sound unit. During the interviews, misconceptions about the concept of sound and noise were identified. It is thought that this can be prevented by incorporated gains related to noise into the program. There are studies in the literature that support the current study, in which misconceptions about sound have been identified (Demirci & Efe, 2007; Küçüközer, 2009; Öztürk & Atalay, 2012).

Results on skills

In the research, behaviors towards various skills were observed by integrating creative drama into the fields of visual arts and sciences. Interviews conducted during and after the event were interpreted; it has been observed that students exhibited behaviors related to life skills such as analytical thinking, decision-making, innovative thinking, entrepreneurship, communication, and openness to teamwork. Similarly, Çakmakçı and Özabacı (2013) found that drama significantly improved their decision-making skills in their study with fourth-grade primary school students. Aslan (2008) concluded that the drama technique has a supportive effect on cooperative behavior in children. In addition, creative drama activities have positive effects on the development of communication skills (Arslan, Erbay & Saygın, 2010; Bayrakçı, 2007; Binici, 2013; Dere, 2019; Görgülü, 2009; Kahriman, 2014). There is no publication in the national literature examining the effects of drama on analytical thinking, innovative thinking, and entrepreneurship.

Recommendations
1. To enhance the transferability of the research, it is recommended to diversify the context by examining various application groups and educational levels with similar objectives.
2. Given the interdisciplinary nature of the research, it is suggested to expand the research structure by incorporating knowledge and skills from diverse disciplines such as Social Studies, Turkish, or Music to the practice.
3. In light of the research's implications for knowledge and skills across multiple fields, it is advisable to implement interdisciplinary case studies.
4. The research design can be adapted based on the specific aims and questions being addressed, thereby yielding a range of outcomes.
5. The research can be replicated by employing various research designs while adhering to the principles of qualitative research.
6. Given the interdisciplinary nature of the research, new research proposals focusing on diverse themes can be developed to assess the skills of specified grade levels.

References:

1. Açıkgöz, K. Ü. (2003*). Aktif öğrenme*. Eğitim Dünyası Yayınları.
2. Adıgüzel, H. Ö. (2013). *Eğitimde yaratıcı drama.* Pegem Akademi.
3. Adıgüzel, Ö. (1993). *Oyun ve yaratıcı drama ilişkisi* [Yayınlanmamış yüksek lisans tezi]. Ankara Üniversitesi.
4. Adıgüzel, Ö. (2006). Yaratıcı drama kavramı, bileşenleri ve aşamaları. *Yaratıcı Drama Dergisi*, *1*(1), 17-30.
5. Akbaş, H. Ş. (2011). *Fen Eğitiminde problem çözme stratejisi olarak drama uygulamalarının başarı, tutum, kavramsal anlama ve hatırlamaya etkisi* [Yayınlanmamış doktora tezi]. Marmara Üniversitesi.
6. Akyol, A. K. (2003). Drama ve dramanın önemi. *Türk Eğitim Bilimleri Dergisi*, *1*(2), 129-192.
7. Altunışık, R., Coşkun, R., Bayraktaroğlu, S., & Yıldırım, E. (2010*). Sosyal Bilimlerde Araştırma Yöntemleri SPSS Uygulamalı.* (6. Baskı). Sakarya Yayıncılık.
8. Arieli, B. B. (2007). *The integration of creative drama into science teaching* [Yayınlamamış doktora tezi]. Kansas State University.
9. Arslan, E., Erbay, F., & Saygın, Y. (2010). Yaratıcı drama ile bütünleştirilmiş iletişim becerileri eğitiminin çocuk gelişimi ve eğitimi bölümü öğrencilerinin iletişim becerilerine etkisinin incelenmesi. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, (23), 1-8.
10. Aslan, E. (2008). *Drama temelli sosyal beceri eğitiminin 6 yaş çocuklarının sosyal ilişkiler ve işbirliği davranışlarına etkisi* [Yayınlanmamış yüsek lisans tezi].Adnan Menderes Üniversitesi.

11. Avcıoğlu, H. (2012). Zihinsel yetersizliği olan çocuklara sosyal beceri kazandırmada işbirliğine dayalı öğrenme ve drama yöntemlerinin etkililiği. *Eğitim ve Bilim*, *37*(163),122-124.

12. Bakkaloğlu, N. (2017). İlkokul çevre konularında uygulanan yaratıcı drama yönteminin öğrencilerin başarılarına, kalıcılığa ve ilgilerine etkisi [Yayınlanmamış doktora tezi]. Hacettepe Üniversitesi.

13. Balcı, A. (2011). *Sosyal bilimlerde araştırma yöntem, teknik ve ilkeler*. (9. baskı). Pegem Akademi Yayıncılık.

14. Baldwin, P., & Fleming, K. (2003). *Teaching literacy through drama: Creative approaches*. Routledge.

15. Başören, M. T. (2015). *Drama öğretim tekniğinin yabancı dil kelime öğretimine ve öğrencilerin kelime öğrenmeye yönelik tutumlarına etkisi* [Yayınlanmamış doktora tezi]. Necmettin Erbakan Üniversitesi.

16. Bayrakçı, M. (2007). *Okulöncesinde yaratıcı drama etkinliklerinin iletişim becerilerinin gelişmesi üzerindeki etkisi* [Yayınlanmamış yüksek lisans tezi]. Kafkas Üniversitesi.

17. Binici, B. K. (2013). İlköğretim okullarında uygulanan mesleki çalışmalarda yaratıcı drama uygulamasının öğretmenlerin iletişim becerilerine etkisi. *Yaratıcı Drama Dergisi*, *8*(15), 104-113.

18. Bulunuz, M., Bekiroğlu, D., Tantan, M., & Bulunuz, N. (2022). A Semiotic Analysis of Children's Pictures:"A School Polluted by Noise. *International Journal of Educational Research Review, 7*(4), 380-394.

19. Bulunuz, M., & Özgür, K. (2021). Analysis of parental opinions on sound and noise pollution in learning environments. *Journal of Family Counseling and Education*, *6*(2), 1-32. https://doi.org/10.32568/jfce.958595.

20. Bulunuz, M., Ovalı, D. E., Çıkrıkçı, A. İ., & Mutlu, E. (2017). Anasınıfında gürültü düzeyi ve kontrol edilmesine yönelik eğitim uygulamalarının değerlendirilmesi: Eylem araştırması. *Eğitim ve Bilim*, *42*(192), 211-232. http://dx.doi.org/10.15390/EB.2017.7215.

21. Çakmakçı, E., & Özabacı, N. (2013). Drama yolu ile karar verme becerilerinin kazandırılması. *Elektronik Sosyal Bilimler Dergisi*, *12*(44), 18-30.

22. Çelikkaya, T. (2014). Sosyal bilgiler dersinde drama yönteminin önemi ve uygulama örnekleri. *Electronic Turkish Studies*, *9*(2), 447-470. https://doi.org/10.7827/TurkishStudies.6160.

23. Dağ, İ. (2014). Etkili iletişimin eğitim yönetiminde rolü. *Journal of Qafqaz University*, *2*(2), 199-214. https://doi.org/10.37583/diyalog.1030779.

24. Demirci, N., & Seda, E. F. E. (2007). İlköğretim öğrencilerinin ses konusundaki kavram yanılgılarının belirlenmesi. *Necatibey Eğitim Fakültesi Elektronik Fen ve Matematik Eğitimi Dergisi*, *1*(1), 23-56.

25. Dere, Z. (2019). Dramanın öğretmen adaylarının iletişim becerilerine etkisinin incelenmesi. *Başkent University Journal of Education*, *6*(1), 59-67.

26. Dilmaç, S., & Dilmaç, O. (2020). Görsel sanatlar dersinde yaratıcı drama yönteminin öğrencilerin eleştirel düşünme becerilerine etkisi. *Yaratıcı Drama Dergisi*, *15*(1), 85-100. https://doi.org/10.21612/yader.2020.005

27. Dinç, N. D., & Karahan, Ç. İ. (2021). Sanat Entegrasyonu Yöntemi: Fen Bilimleri Ve Görsel Sanatlar Dersi Örneği. *Akademik Sosyal Araştırmalar Dergisi*, 9 (115), 259-279. http://dx.doi.org/10.29228/ASOS.49932

28. Donbavand, T. (2009) *Making drama out of a crisis improving classroom behaviour through drama techniques and exercises*. Continuum International Yayıncılık

29. Erdal, B., & Tepe, Y. K. (2021). Bireylerin duygu durum, içedönük-dışadönük kişilik özelliği ve müzik tercihleri arasındaki ilişkiler. *Psikoloji Çalışmaları*, *41*(2), 549-580. https://doi.org/10.26650/SP2021-852069.

30. Erdem, C. (2017). Sınıfında Sinifinda mülteci öğrenci bulunan sınıf sinif öğretmenlerinin yaşadıkları öğretimsel sorunlar ve çözüme dair önerileri. *Medeniyet Eğitim Araştırmaları Dergisi*, *1*(1), 26-42.

31. Fromm, E. (2017*). Olma Sanatı*, (Çev. Orhan Düz). Say Yayınları.

32. Gök, R. (2013). *Kaynaştırma eğitimi öğrencisi bulunan ilkokul sınıf öğretmenlerinin sınıf yönetiminde karşılaştıkları zorluklar ve bu zorluklara başa çıkma yöntemleri* [Yayımlanmış yüksek lisans tezi]. Akdeniz Üniversitesi.

33. Görgülü, F. (2009). *Drama destekli kubaşık öğrenme etkinliklerinin okul öncesi 5-6 yaş çocuklarının iletişim becerilerine etkisi* [Yayımlanmış yüksek lisans tezi]. Adnan Menderes Üniversitesi.

34. Güler, Ç., & Çobanoğlu, Z. (1994). *Gürültü: Çevre sağlığı temel kaynak dizisi*. Aydoğdu Ofset.

35. Gümüş, K. (2019). *Drama yönteminin fen bilgisi öğretmenliği öğrencilerinin ses konusundaki başarılarına etkisi ve yönteme yönelik tutumları* [Yayımlanmamış yüksek lisans tezi]. Balıkesir Üniversitesi.

36. Güneş, S. (2019). *Sosyal bilgiler dersinde yaratıcı drama yöntemiyle tarihsel empati becerisinin kazandırılmasına yönelik etkinlik temelli bir eylem araştırması* [Yayımlanmamış Yüksek Lisans Tezi]. Bartın Üniversitesi.

37. Kadan, Ö. F. (2013). *Yaratıcı drama yönteminin ortaokul 7. sınıf öğrencilerinin İngilizce dersindeki başarı, tutum ve motivasyonlarına etkisi* [Yüksek lisans tezi]. Mustafa Kemal Üniversitesi.
38. Kagge, Erling (2017). *Silence: In the Age of Noise*. Pantheon.
39. Kahriman, M. (2014). *İlkokul 3.sınıf Hayat Bilgisi dersi benim eşsiz yuvam temasındaki konuların drama yöntemine dayalı öğretiminin öğrencilerin iletişim, empati becerileri ve değer algıları üzerine etkisi*[Yüksek Lisans Tezi]
40. Kara, Y. & Aslan, B. (2018). Drama temelli fen etkinliklerinin okul öncesi öğrencilerinin sosyal beceriler üzerine etkisinin incelenmesi: Besinler konusu örneği. *Van Yüzüncü Yıl Üniversitesi Eğitim Fakültesi Dergisi, 15*(1), 698-722.
41. Kara, Y., & Çam, F. (2007). Yaratıcı drama yönteminin bazı sosyal becerilerin kazandırılmasına etkisi. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, *32*(32), 145-155.
42. Karadağ, B. F., & Göçer, A. (2018). Türkçenin yabancı dil olarak öğretiminde drama yönteminin akıcı konuşma üzerindeki rolü. *Uluslararası Türkçe Edebiyat Kültür Eğitim (Teke) Dergisi*, *7*(1), 431-446.
43. Karakaya, N. (2007). İlköğretimde Drama ve Örnek Bir Uygulama. *Gazi University Journal of Gazi Educational Faculty (GUJGEF)*, *27*(1), .103-139.
44. Karaman, G. (2020). *Üniversite öğrencilerinin akademik başarısı ile stres ve kaygının ilişkisi* [Yayınlanmamış Yüksek lisans tezi]. İstanbul Gelişim Üniversitesi.
45. Klatte, M., Hellbrück, J., Seidel, J. &ve Leistner, P. (2010). Effects of classroom acoustics on performance and well-being in elementary school children: A field study. *Environment and Behavior*, *42*(5), 659-692. https://doi.org/10.11771/0013916509336813.
46. Kök, A. (2011). *İlköğretim okulları görsel sanatlar dersinde müze bilinci öğrenme alanına yönelik yaratıcı drama uygulamaları ve öğrenci görüşleri* [Yayımlanmamış doktora tezi]. Anadolu University.
47. Köksal, H. (2018). "Bireyden okula ve topluma yayılan kalite farkındalığı". (Ed.) Şahin, Ö. 2. Uluslarası Farkındalık Konferansı Bildiriler (1-8).
48. Küçüközer, A. (2009). Fen bilgisi öğretmen adaylarının ses konusundaki kavram yanılgılarının incelenmesi. *İlköğretim Online*, *8*(2), 313-321.
49. Miles, M. B., & Huberman, A. M. (1994). Qualitative data analysis: An expanded sourcebook. Sage Publications.
50. Milli Eğitim Bakanlığı [MEB] (2018). *Fen bilimleri dersi öğretim programı(3-8.sınıf)*. Milli Eğitim Yayınları.

51. Milli Eğitim Bakanlığı [MEB] (2018).*Görsel sanatlar dersi öğretim programı (1-8.sınıf)*. Milli Eğitim Yayınları.

52. Moore, Mandie M., "Using drama as an effective method to teach elementary students" (2004). *Senior Honors Theses and Projects*. 113. https://commons.emich.edu/honors/113.

53. Moralı, G. (2018). Suriyeli mülteci çocuklara Türkçenin yabancı dil olarak öğretiminde karşılaşılan sorunlar. *OPUS International Journal of Society Researches*, *8*(15), 1426-1449. https://doi.org/10.26466/opus.443945

54. Okvuran, A. (1995). Çağdaş insanı yaratmada yaratıcı drama eğitiminin önemi ve empatik beceri ve empatik eğilim düzeylerine etkisi. *Ankara University Journal Of Faculty Of Educational Sciences (Jfes)*, *27*(1), 135-194.

55. Önalan, F. A. (2006). Sosyal yeterlilik, sosyal beceri ve yaratıcı drama. *Yaratıcı Drama Dergisi*, *1*(1), 39-58.

56. Özdemir, P., & Üstündağ, T. (2007). Fen ve teknoloji alanındaki ünlü bilim adamlarına ilişkin yaratıcı drama eğitim programı. *İlköğretim Online*, *6*(2), 226-233.

57. Öztürk, N., & Atalay, N. (2012). Öğretmen adaylarının ses konusundaki kavram yanılgılarının incelenmesi. *İnönü Üniversitesi Eğitim Fakültesi Dergisi*, *13*(1), 43-58.

58. Pinciotti, P. (1993). Creative drama and young children: The dramatic learning connection. *Arts education policy review*, *94*(6), 24-28.

59. Polat, E. (2017). *Kaygı düzeyi ve akademik özyeterlik inancının akademik başarı ile ilişkisi*. Seçkin Yayıncılık.

60. Shield, B. & Dockrell, J. E. (2003). The effects of noise on children at school: A review. *Building Acoustics*, *10*(2), 97-116. https://doi.org/10.1260/135101003768965960

61. Shield, B. & Dockrell, J. (2004). External and internal noise surveys of London primary schools. *Journal of the Acoustical Society of America*, *115*(2), 730-738. https://doi.org/10.1121/1.1635837

62. Shield, B. & Dockrell, J. (2006). Acoustical barriers in classrooms: The impact of noise on performance in the classroom. *British Educational Research Journal*, *32*(3), 509-525. https://doi.org/10.1080/01411920600635494

63. Slater, B. R. (1968). Effects of noise on pupil performance. *Journal of Educational Psychology, 59*(4), 239.

64. Stake, R. E. (1995). *The art of case study research. California*: Sage Publications.

65. Tan, M. (2021). Modernite, gürültü ve sessizlik: Sosyolojik bir eleştiri. *Sosyolojik Bağlam Dergisi*. https://doi:10.52108/2757-5942.2.2.7

66. Tantan, M. (2022). Evaluation of the outcomes in the 2018 primary school visual arts curriculum in terms of creativity. *Academy Journal of Educational Sciences, 6* (2), 69-76.

67. TDK (Türk Dil Kurumu), (2015*). Genel Açıklamalı Sözlük*. TDK Yayınları.+

68. Thompson, G., & Evans, H. (2005). *Thinking it Through: Developing Thinking and Language Skills Through Drama Activities.* David Fulton Publishers.

69. Timothy, J., & Apata, S. (2014). Effects of creative drama - based ınstruction on basic science achievement and scientific attitudes ın lagos state.. *ATBU Journal Of Science, Technology And Education, 2*(2), 59-65. Retrieved from http://www.atbuftejoste.com/index.php/joste/article/view/14

70. Uysal, A. (2005). İlköğretimde verilen sanat eğitimi derslerinin yaratıcılığa etkileri. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi*, *6*(1), 41-47.

71. Uzun, E. (2019). *Ortaokul 5. sınıf görsel sanatlar dersinde yaratıcı drama yönteminin öğrencilerin eleştirel düşünme becerilerine etkisi.* [Yayımlanmamış yüksek lisans tezi]. Atatürk Üniversitesi.

72. Üstündağ , T. (1998). Yaratıcı drama eğitim programının ögeleri. *Eğitim ve Bilim, 22*(107), 28-35.

73. Vygotsky, L. S. (1967). Play and its role in the mental development of the child. *Soviet Psychology*, *5*(3), 6-18.

74. Yalım, N. (2014). *İlköğretim dördüncü sınıf fen bilgisi dersinin yaratıcı drama yöntemi ile öğretiminin öğrencilerin akademik branşlarına etkisi* [Yayınlanmamış doktora tezi]. Anadolu University.

75. Yeğen, G. (2003). Yaratıcı drama. *İlköğretim Online*, *2*(2),1-4.

76. Yeşiltaş, H. M., Taş, E., & Özyürek, C. (2017). Yaratici drama destekli fen öğretimin kavram yanilgilarina etkisi. *Dicle Üniversitesi Ziya Gökalp Eğitim Fakültesi Dergisi*, (32), 827-836.

77. Yıldırım, A. & Şimşek, H. (2013). *Sosyal bilimlerde nitel araştırma yöntemleri*. Seçkin Yayıncılık.

78. Yılmaz, G. (2006). *Fen bilgisi öğretiminde drama yönteminin kullanımı* [Yayınlanmamış yüksek lisans]. Pamukkale Üniversitesi.