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Disrupting Art Curriculum: A Design-Based Research Approach to Integrating Visual and Auditory Awareness: A Case Study in Iran's Elementary Schools

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Abstract

This paper presents a micro-cycle of design, detailing an experiential art workshop conducted with first to third-grade students in an elementary school in Iran. The four-session educational program aimed to prompt children to explore the school environment through leveraging visual and sound arts as investigative tools. Drawing on a Design-Based Research approach, the objective of this project is to design an educational toolkit to be adapted by art educators. The toolkit aims to enhance children's knowledge and awareness of their environments, promote collaborative and interactive learning incorporating both visual and auditory stimuli. The main research questions revolve around how to motivate elementary school children to explore their surroundings and how we can support art educators in facilitating this exploration. Data was collected in the form of digital video and audio recordings, photographs, children's artworks and their explanations. The lessons learned from this stage of the research provide guidance to refine the design of the multi-sensory educational toolkit. The toolkit, once improved, has the potential to assist educators in facilitating the exploration process and enabling children to establish a more profound connection with their environment.

Introduction

Over the past three decades, there has been extensive discourse worldwide on the significance of visual arts in both theory and practice within elementary education (e.g., Bamford, 2006; Bresler, 1992; Gadsden, 2008; Harlin & Brown, 2007; Tyler & Likova, 2012; Zhou & Brown, 2018). In Iran, art education has been integrated into the elementary school timetable for nearly a century, aligning with the inception of modern education in the country. However, despite its historical presence, the responsibility for devising the arts curriculum has largely been delegated to schools and teachers, with educational authorities not deeming it necessary to produce textbooks or other educational materials for arts education, especially in primary grades (Mehrmohammadi, 2008).

Findings from various studies underscore the challenges within the visual arts education landscape in Iran. The limited importance accorded to teaching visual arts compared to other school subjects (Greenier, Fathi & Behzadpoor, 2023), coupled with constraints on time and the absence of dedicated spaces for visual arts curriculum, calls for a serious re-evaluation by educational policymakers to enhance the status of visual arts education (Javaheri Pour et al., 2021). Nouri and Farsi (2018) believe the primary impediment to successful arts education is the absence of a dedicated space for the arts within the school curriculum, akin to that allocated for science and mathematics. Another challenge that must be addressed in future curriculum revisions is the insufficient availability of adequately trained teachers with a background in arts education. The neglect of aesthetics and critical thinking components, as evidenced in teachers' handbooks, contributes to an imbalance in the essence of art contents. As Aiatollahi (2015) mentions, teachers face challenges in accessing materials and equipment, hindering improvements in Iranian students' art knowledge.

In contrast to the extensive discussion surrounding visual arts, sound education remains an underexplored domain within the art curriculum in elementary schools in various educational settings in the world (e.g., Giacco & Coquillon, 2016; Johnson Jr., 2004; Leong, 2011), and this holds true in Iran's art curriculum as well. Abramo (2014) interprets sound, listening, and hearing as contrasting elements to image, seeing, and watching, effectively perpetuating what Sterne (2012) refers to as the "audiovisual litany". In another line of inquiry, which is beyond the scope of this study, sound education has been explored within the domain of music education curricula (e.g., Imada 2020; Schafer, 2005; Schafer & Imada, 2009). Schafer (2005) highlights a concern regarding contemporary music education, suggesting that it overemphasizes the value of music created by others and prioritizes attaining a high level of skill. Consequently, this focus may lead children to overlook the genuine pleasure of creating music themselves, while educators may feel powerless amidst the influence of the entertainment industry. In a study entitled "De-centering Music: A Sound Education," Recharte (2019) highlights the importance of an interdisciplinary approach to music education as an alternative to conventional Eurocentric music-centered education, which primarily focuses on "appreciation" and "musicianship."

Consequently, sound education offers a framework that emphasizes the everyday experiences and practices of students, focusing on relationships, subjectivities, and symbolic work.

This project embarked on a micro-cycle of design, involving a short, iterative process of designing, implementing, analyzing, and refining educational interventions, delineating an experiential art workshop tailored for elementary students in Iran. The initiative aimed to bridge existing gaps by exploring not only the visual facets ingrained in art education but also venturing into the auditory domain—a dimension that remains conspicuously absent within the Iranian educational landscape. This approach, framed within Environmental Education (Palmer, 1998) and Acoustic Ecology (Schafer, 1992b), used a Design-Based Research (DBR) methodology (Van den Akker, 2007; Wang & Hannafin, 2005). The overarching goal was to fortify children's awareness of their surroundings in their classroom and school at this stage, foster collaborative and interactive learning encompassing both visual and auditory realms, and systematically document these foundational experiences. The ensuing objectives elucidate the systematic design of the experiential workshop, the creation of an educational program, and the development of an innovative toolkit that integrates sound education within the established visual arts curriculum.

In this preliminary and explorative study, children were encouraged to use visual and sonic elements as tools for exploration. This integrated approach marked a harmonious blend of the familiar and the unexplored. By delving into the impact of sound on young learners' minds and comparing it with conventional, visually-oriented art lessons in Iranian schools, my objective was to highlight the untapped potential of sound as an embodied tangible element. Furthermore, in Iran, where music and music education are restricted due to religious considerations, integrating sounds infused with socio-cultural characteristics offers a culturally inclusive approach to enhancing the school curriculum. This approach respects local sensitivities while fostering a deeper appreciation for diverse cultural expressions among students. Through this study, I aimed to contribute insights into the enriching possibilities of incorporating sonic elements into the educational landscape, paving the way for a more holistic and innovative approach to art education in Iran and beyond.

While the potential of sound as an educational tool has been largely overlooked, an increasing number of educational researchers are now delving into its role within the educational framework, both theoretically and practically (Brownell et al., 2018; Daza & Gershon, 2011; Gershon, 2011; Wargo & Alvarado, 2019; Wargo & Morales, 2021). Leveraging my background in design, architecture, and music, and building upon my ongoing research on learning spaces, I am particularly committed to broadening current perspectives on sound.

Methodology and Methods

This study is conducted within the framework of Design-Based Research (DBR), aiming to enhance the influence of educational research by iteratively creating "new theories, artifacts, and

practices" (Barab & Squire, 2004, p.2) through cycles of design, evaluation, and redesign. DBR is an iterative and collaborative approach that involves the development and refinement of interventions within real-world settings, aiming to address complex educational issues and improve educational practices. It is particularly suited for projects that seek to design and implement innovative solutions in educational contexts while simultaneously generating theoretical insights (Barab & Squire, 2004; Van den Akker, 2007; Wang & Hannafin, 2005).

The research was conducted as a micro-cycle of design, involving multiple iterative phases to refine and enhance the experiential art workshop. The design process is characterized by a cyclical sequence of analysis, design, and evaluation (McKenney & Reeves, 2012). Each iteration will build on the insights gained from the previous one, allowing for continuous improvement. The use of DBR in this study allows for the integration of theory and practice, fostering innovation in the field of elementary art education. The iterative nature of the methodology ensures that the designed educational toolkit evolves based on real-world experiences and continuous reflection, ultimately contributing valuable insights to both research and practice.

Context and Contributors

The study took place in an elementary school situated in the southern region of Tehran. Despite the prevailing socio-economic conditions in this part of the city, this particularly stands out due to its distinctive demographic makeup. In contrast to the prevalent socio-economic underprivileged status of the surrounding neighborhoods, this school operates as a private institution. The student body primarily consists of children from privileged backgrounds, many of whom are the offspring of individuals employed in Tehran's Bazar, residing in close proximity to this bustling marketplace. The school's principal, a former educator and curriculum developer, holds the authority to adapt and modify the curriculum. Graciously, she extended an invitation for collaboration to enhance art lessons that cater to the needs of the children and in alignment with the school's distinctive position as a private institution within Iran's educational system, providing greater flexibility in designing curricular lessons. The school building itself, originally a middle-sized residential house, has been repurposed into an educational facility. However, it presented challenges, lacking spaces suitable for conducting art workshops and soundwalks as initially envisioned.

The participants in this study were elementary school students who self-identified as girls and were enrolled in grades one through three. The distribution included one group of 30 students in grade 1, two separate groups in grade 2 with 25 and 28 students, and another group comprising 25 students in grade 3. Notably, the workshops were conducted in 2022, during a period when COVID restrictions were eased, and schools in Iran were open for in-person attendance. It's important to highlight those students in grades 1 and 2 had not experienced traditional, in-person

schooling due to the onset of the COVID pandemic, as their initial school experiences occurred during the period of online classes. Consequently, most students were unfamiliar with the norms and regulations of a physical classroom or school environment, including collaborative learning practices such as forming lines and taking turns.

Ethical Considerations

In the context of this research, it's important to note that Iran lacks a dedicated Ethics Committee or Institutional Review Board (IRB) for non-medical research, and thus, IRB approval or permission was neither necessary nor obtained for this study.

To address this gap, I adhered rigorously to ethical guidelines drawn from my prior research experiences (Carter, Crichton & Naghshbandi, 2015; Habib & Naghshbandi, 2021; Naghshbandi, 2020, 2022a, 2022b) and remained faithful to ethical protocols of teaching. These guidelines were implemented to prioritize the well-being and privacy of the participants, particularly adhering to ethical standards established for research involving children. The procedure involved obtaining informed consent from all participants and the school principal, and careful steps were implemented to guarantee the anonymization of all data, thereby protecting the identities of the students participating in the study.

Data Collection

Data was collected through a variety of methods to capture the richness of the participants' experiences:

- ***Digital Video and Audio Recordings:*** Recordings of workshop sessions, including students' interactions, responses, and the creation process.
- ***Photographs:*** Visual documentation of the artworks created during the workshop.
- ***Students Interviews:*** Conversations during and after the workshops with participants to gather their perspectives, thoughts, and feelings about the workshop and the learning experiences.
- ***Artworks:*** Collection of the artworks produced by the students.

Data Analysis

Design-Based Research allows the utilization of diverse data analysis strategies tailored to the collected data (Wang & Hannafin, 2005) to comprehensively investigate the complexity of the phenomenon. I adopted an art-informed eclectic approach to data analysis (Capous-Desyllas & Bromfield, 2018), integrating Thematic Analysis (Braun & Clarke, 2006; Boyatzis, 1998; Roulston, 2001) as the primary method and reflexive iteration (Srivastava & Hopwood, 2009) as an additional strategy.

Thematic Analysis allowed for a systematic exploration of the patterns and themes emerging from the data. This approach involved identifying recurring themes across the visual and textual data collected during the workshop sessions. Themes were identified through an iterative process of coding and categorization. Reflexive iteration complemented Thematic Analysis by facilitating a reflective and iterative approach to data interpretation. This strategy involved critically reflecting on my own assumptions, biases, and interpretations throughout the analysis process.

The analysis of visual and textual data was conducted iteratively, with insights from one type of data informing the analysis of the other. For example, themes identified in the visual data were further explored and contextualized through analysis of corresponding textual data, providing a more comprehensive understanding of the students' experiences and interpretations. This eclectic approach facilitated a non-linear investigation across disciplines, bolstering trustworthiness and rigor while providing a creative means to interpret the data.

Initial Design of the Workshop

The development of the educational toolkit constitutes a crucial aspect of this research project, with each iteration of the experiential art workshop serving as a catalyst for refining and enhancing the toolkit's efficacy in fostering both visual and auditory exploration among elementary school children.

The workshop was structured as a four-session educational program. The activities within the workshop included visual arts practices, sound walks, and collaborative art creation. The overarching objective was to instigate children's engagement with their environment through dynamic interactions with both visual and auditory elements. These elements were not treated merely as representational tools but as dynamic entities inviting active engagement through the acts of seeing, listening, and navigating their spatial surroundings. The aim was to probe how children perceive, experience, and imagine the spaces around them.

Collaboratively implemented with art educators, each session commenced with body movements featuring simple rhythms and lyrics in the school's outdoor space, which was initially a ritual of the art sessions designed by the art teachers. I suggested turning it into a sound-body activity. Students were encouraged to explore the unique sounds of their shoes emphasizing that each pair of shoes has a distinct sound, and no two pairs are the same. They were asked to take a few minutes to walk around, paying attention to the rhythm and tempo of their steps. Then, the well-known rhythmic children song “teranam-qashange/My Train is Beautiful” by Samin Baghcheban, related to trains and movement, was played for the children, most of whom already knew the song. Students were guided to line up and form a train and walk to the rhythm of the music, singing with it if they knew the lyrics and enhancing their shoe sounds. In "My Train is

Beautiful" (in a major key), the composer has employed the human voice in a novel way, which was unique at the time of the work's creation. The piece begins with the tenor voice (the lower voice in men) imitating the sound of a train by saying the words "chi chi chi chi," and then the chorus starts the main melody against the backdrop of the train sound. The speeding up and slowing down of the rhythm (accelerando and ritardando), used as a representation of the train's acceleration and deceleration, is particularly interesting and attractive, especially for children. This kinetic activity followed by subsequently a brief mindfulness activity in the classroom, prompting children to close their eyes and attentively listen to and feel their surroundings for maximum five minutes.

The first two sessions were facilitated by art teachers after several online meetings that I had with them. I provided them with written instructions and guidelines, which were the result of our shared decisions from the meetings, while I encouraged them to go with the flow of the workshop and adapt it based on circumstances. These two sessions predominantly provided an entry point for children to become cognizant of their classroom and school environment through visual and subsequently aural "reading" of the school.

Through visual and aural "reading" of the school, students actively engaged with their school environment through two primary senses: sight and hearing. First, students were encouraged to visually "read" their surroundings by using abstract elements such as lines, shapes, and colors to interact with and represent their chosen or favorite spaces within the school. This visual exploration was followed by an auditory counterpart, where students documented and shared the sounds they perceived in the same spaces. The goal was not just to observe but to interpret the environment in a holistic manner. The students were prompted to delve into the dynamic interactions between visual and auditory elements, understanding that these elements are not just passive representations but dynamic entities that invite active engagement. The students were encouraged to go beyond merely seeing and hearing but to also translate their experiences into bodily movements, adding a kinetic dimension to their interpretation of the school environment.

The subsequent two sessions delved more into sound exploration, drawing inspiration from Schafer (1992a). At this time, I travelled to Iran and joined the facilitators. These sessions started with a reflection on the last sessions, featuring indoor activities with various sounds for students to identify, ranging from commonplace sounds like brushing teeth to more intricate ones like a storm. Pairing students, with one blindfolded, or with closed eyes, and the other generating sounds using materials around them or whatever we took to the workshop, added a tactile and collaborative dimension to the sonic exploration (see Figure 1). Table 1 demonstrates a list of sounds played for students to identify, as well as some of the sounds generated by students using the provided materials and whatever they improvised for use in the classroom. The outdoor soundwalks involved students in attentive listening, noting down the sounds, and subsequently

categorizing them based on attributes such as loudness, pitch, movement, and stability. They were then asked to translate the sounds they heard into visuals, words/feelings, and/or body movements (Figure 2).

The final sessions incorporated the expertise of a guest sound artist, who facilitated mindful sound walks. Students compiled a comprehensive list of sounds encountered during the workshop and shared their findings in class. The initial questions that opened up the conversation with the students when they shared their ideas were as follows:

- What are the main sounds in your school or classroom?
- Can you name some loud and quiet sounds? How do they make you feel?
- Can you name some sounds that are repeated in a patten?

Furthermore, students had the unique opportunity to immerse themselves in the sounds of their surroundings using a professional Zoom sound recorder provided by the guest artist. This activity proved to be not only enjoyable but also highly engaging for the participants. During this exercise, students took turns improvising various sounds for their peers who, in turn, listened to the recordings with heightened, exaggerated sound effects. Despite the limited availability of equipment, the students demonstrated remarkable patience and a cooperative spirit, emphasizing their enthusiasm for and active participation in the exploration of sounds.

It's worth noting that the workshop took place in a post-COVID environment in Iran, a time when students were still adjusting to social norms, including the etiquette of patiently taking turns to share ideas and experiences. This context adds an additional layer to the overall learning experience (see Figure 3).

Figure 1. Students creating sounds using a diverse range of materials for their peers to identify

Table 1

List of sounds used and emerged

The played sounds	Sounds made by students
Rooster crowing	Footsteps
School bell	Crumpling paper
Duck quack	Crumpling plastic/chips package
Door knock	Tearing paper
Electric razor sound	Turning the pages of a book
Popcorn popping	Jumping
Glass shattering	Opening the door
Paper cutting	Moving the chair
Alarm clock	Sighing
Deep inhalation and exhalation	Snoring, sneezing, coughing
Food frying	Wiping the chalkboard
Gurgling water	Clapping
Pouring water from a bottle into a glass	Dropping pencils on the table
Whistling	Power switch
Stirring with a spoon	Dropping coins
Birds	Writing with a pencil on paper
Key turning in a lock	

Figure 2. Guided school sound walks, during which students identified and took notes on the sounds of their school

Figure 3. Students taking turns listening to the ambient sounds through the provided device

Students from each class shared their ideas and drawings on a provided large, colored cardboard sheet, which we then displayed on the wall as a representation of their collaborative efforts for

future reflection and as a lasting memory. This not only cultivated a strong sense of unity among the participants but also proved instrumental in the data analysis process. The organized categorization of boards aided me significantly during the analysis phase, offering a clear correlation between specific boards and their respective groups of students. This facilitated a seamless and efficient comparison process (see Figure 4).

Figure 4. Displaying students' collective artwork on large cardboard panels on the wall

Findings

Before delving into reflections on facilitators' and students' learning, it is important to note that these insights are not presented as final findings. Given the iterative nature of Design-Based Research (DBR), the observations and developmental aspects discussed here represent ongoing reflections and evolving understandings from the study. This approach allows for continual refinement and adaptation of educational strategies, aligning with the dynamic process inherent in DBR methodology.

Reflections on Facilitators' Learning

The collaborative teaching and facilitation in design and development of the activities, along with the collective sharing of expertise and knowledge, created a synergistic effect that significantly impacted the learning process. Notably, the art teachers reflected on their heightened sensitivity to the concept of sound in the environment, a newfound awareness gained through the workshop. They expressed that this awareness has influenced their teaching practices beyond the current context, incorporating sound and sonic aspects into their activities in other art institutions.

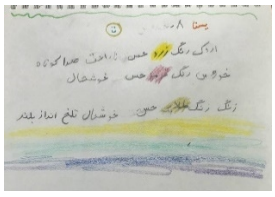
Additionally, the sound artist actively enjoyed the educational aspect of sound and found fulfillment in sharing her expertise and knowledge with the students, as she mentioned at the end of the session. This engagement underscored the collaborative nature of the workshop, where each facilitator brought a unique perspective and enthusiasm to the educational process. In cultivating comradeship and a sense of community among the art teachers at the school, the

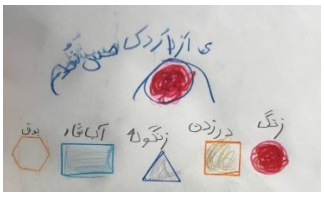
invited artist, and myself as the researcher/facilitator, this sense of camaraderie was a vital element in enjoying the collaborative work and accomplishing the workshop tasks without experiencing burnout, despite obstacles such as a large number of students within a small space, time constraints, and limitations of the required materials.

Reflections on Students' Learning

In this four-session art workshop, we employed both visual and sound arts as tools of inquiry to guide children in exploring the "ordinary" and reconstructing it by documenting the sights and sounds of their worlds. Our aim was to transform elementary students participating in this study into "aesthetically situated researchers" of their classroom and school (Rufo, 2012, p. 41). We initiated the process with the visual, a familiar territory, and progressively introduced the aural, which was comparatively unknown. The initial lessons about the visual subsequently facilitated children's ability to perceive ambient soundscapes in their school community.

During their initial exploration of abstract visual elements, we asked them to tour various spaces in the school and capture what they saw. Their drawings initially resembled common clichés associated with school paintings. For instance, they drew houses (that didn't exist) beside a tree in the backyard, displaying a typical form commonly found in children's artwork. This type of house is typically seen in children's drawings in Iran, even when such houses do not exist around them, as they often feature sloped roofs, a detail not common in most parts of Iran with dry climate. However, amidst these clichés, they demonstrated an awareness of details around them. Notably, they incorporated unique elements such as my zigzag ring and the art teacher's triangle wallet, describing them as "beautiful" and "weird."
The visual served as a seed, influencing how they might come to hear in the context of the school and amplify sounds that often go unheard. As children embarked on a quest to seek and identify sounds, they documented simple variations as well as more complex auditory experiences through their visual representations. Figure 5 provides examples of the conversion of duck, drizzling, knocking, school bell, car, and whistle into visual elements, ranging from simple forms to a more intricate representation of the sounds heard.





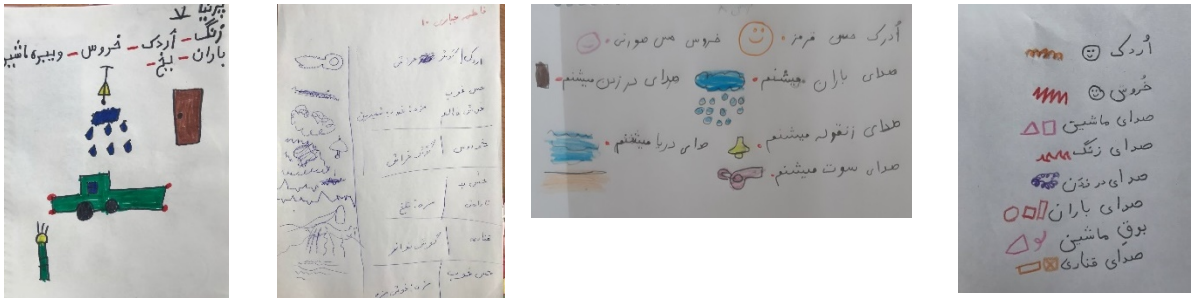


Figure 5. Conversion of the sounds heard into visual elements.

They engaged in discussions about sound volume, recognizing how the loudness or quietness of a sound impacted their emotions. Some began listening to unconventional elements in the environment, including walls and a metal pipe found in the backyard (Figure 6), where the sound artist joined them and equipped a student with her sound recorder to hear the exaggerated sound inside the void of the pipe. They discerned moments of silence against one wall and the students' "noise" from the backdoor school against another. I guided some of them to explore the sounds at different levels, including those emanating from elevated sources or those close to the ground (Figure 7).

In the final session, students had the opportunity to interact with a sound artist who patiently answered their questions while they listened to sounds around them through a recorder that amplified various sounds. The students became fully engaged, leading us to improvise activities with sound that went beyond the original scope of the workshop. For example, we guided grade 1 and 2 students to create the sound of a rainstorm using their body parts. Divided into three groups, each with a facilitator making sounds of rain, wind, and storm, the students, guided by my role as the "conductor," adjusted the volume of their sounds in response to hand movements. A similar, more complex activity was carried out with grade 3 students, where they imagined an animal farm and created its soundscape. Each student volunteered to mimic the sound of an animal or other elements in the imagined setting.

Figure 6. Listening to the void of a pipe

Figure 7. Exploring sounds in different levels, on the top and close to the earth with closed eyes

During discussions with grade 2 students about the sounds they remember from their homes, one student pointed out the sound of her mom's cooking, expressing admiration for her mother's cooking skills. Another student recalled the sound of water when she turns on the tap. Inspired by this, I invited them to collectively make the sound of water flowing from the tap and make their bodies move, adjusting the intensity as if manipulating the faucet. The students enjoyed this impromptu collaborative art-making activity, expressing that they had not experienced such engagement before. All the groups found joy in this spontaneous exploration of sound, showcasing their heightened interest in the auditory aspects of their surroundings.

In addition to the visual and auditory exploration within the art workshop, an intriguing aspect emerged during the sessions regarding the dynamics of sound and power within the classroom setting. As the children engaged in discussions, an enthusiastic cacophony of voices ensued, with everyone eager to share their thoughts simultaneously. Recognizing the need to manage this communal energy and instill a sense of order, I took a creative approach.
I rolled up a large cardboard, repurposed from the workshop's artistic endeavors, giving it a new role as an unexpected tool for communication (Figure 8). Utilizing its cylindrical shape to echo sound, the cardboard became an impromptu microphone. In an attempt to instill a sense of structure, I encouraged the children to speak through the rolled cardboard when they wished to share their ideas. This simple yet effective intervention not only captured their attention but also

introduced a fascinating exploration of the power dynamics associated with sound in the classroom.

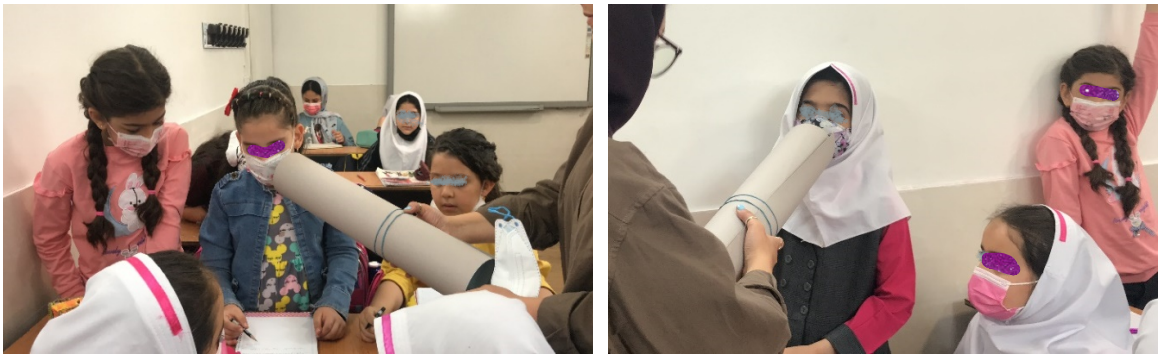


Figure 8. taking turn to share ideas using the "makeshift microphone"

As each child took their turn using the "makeshift microphone", they discovered the transformative effect it had on their voices. The rolled paper altered the pitch and resonance, creating a unique auditory experience for both the speaker and the listeners. This playful manipulation of sound became a tool for empowerment, giving each child a distinct voice within the collective discourse.

In the broader context, this experience serves as a symbolic reflection of the relationship between sound and power dynamics in the classroom. The rolled cardboard, initially a medium for artistic expression, metamorphosed into a symbol of authority and order. By offering a designated space for speaking, it not only facilitated effective communication but also subtly conveyed the idea that sound, when harnessed and controlled, could become a source of influence and empowerment.

This way of using sound not only managed the flow of dialogue but also fostered a sense of agency among the students. It prompts contemplation on how sound, as a medium, can shape the power dynamics within an educational setting, providing a unique lens through which to explore the intersection of creativity, communication, and authority in the classroom.

Design principles (Lessons Learned)

According to Plomp (2007), the outcomes of Design-Based Research (DBR) can be classified into interventions (such as programs, products, and processes) and "design principles", which pertain to the theoretical results generated through DBR (Reeves, 2006; Van den Akker, 2007; Wademan, 2005). The design principles derived from this study are subject to examination and testing within the same context to address local conditions. Furthermore, they can function as a

"working hypothesis" (Cronbach, 1975, p. 125) in diverse settings, rather than being considered conclusive. The lessons learned from this study, as a micro-cycle of design, are as follows:

Integration of Visual and Auditory Elements: The integration of visual and auditory elements in the educational toolkit proved to be effective for engaging elementary school children in exploring their environment. By incorporating both visual arts and sound practices, the workshop fostered a holistic understanding of the surroundings, encouraging students to perceive their environment through multiple senses. This dual-sensory approach enhanced student engagement by making the exploration process more dynamic and interactive.

Sequential Introduction of Visual and Auditory Exploration: Beginning with visual exploration before delving into auditory experiences allowed students to build on their existing knowledge and gradually expand their awareness. This sequential approach facilitated a smoother transition, enabling students to connect their visual and auditory perceptions, thereby enhancing the depth of their engagement.

Embodied Learning through Sound and Movement: Incorporating bodily movements and sound-body activities not only added a kinesthetic dimension to the workshop but also provided a means for students to embody their auditory experiences. For example, they engaged in activities such as exploring the unique sounds of their shoes and participating in rhythmic movements to the song "teranam-qashange/My Train is Beautiful." This embodied learning approach allowed students to physically experience and internalize the connection between sound and movement. By engaging their bodies, students were able to better grasp the nuances of auditory phenomena, such as rhythm and tempo, and understand how these elements can influence physical movement. This multisensory engagement provided a more immersive and sensory-rich exploration, making the learning experience more memorable and impactful for these students who don’t have any music or dance education within Iran’s formal educational system.

Collaborative and Interactive Learning: The workshop emphasized collaborative activities, such as sound walks and collaborative art creation, fostering a sense of community among students. In the aftermath of the COVID era, marked by periods of isolation and virtual learning, this collaborative approach became particularly significant in bringing students together again. The workshop provided a unique opportunity for students to reconnect, share experiences, and collaboratively explore the auditory and visual dimensions of their school environment.

Flexibility and Adaptability: The workshop design allowed for flexibility and adaptability based on the students' responses and the evolving dynamics of the sessions. This flexibility ensured that

the workshop could be tailored to the unique needs and interests of each group of students, enhancing the overall effectiveness of the educational program.

Limitations and Areas for Improvement

Physical Space and Activity Limitations: Another learned lesson from this study pertains to the restrictive physical environment of the small school, where this project took place. Originally, it was a repurposed house, imposing limitations on children's opportunities for play and creativity. The confined spaces hindered their ability to engage in unrestricted exploration.

Expanded Socio-cultural Exploration: To enhance the workshop's scope further, future iterations could incorporate a more in-depth exploration of the social and cultural aspects of sound. Recognizing sound as not solely a physical phenomenon but also a socio-cultural entity, students can acquire a more comprehensive insight into the broader context of the cities they inhabit.

Professional Development for Educators: Considering the collaborative nature of the workshop, future iterations might include a focus on professional development for educators. This could empower them with additional tools and strategies to effectively facilitate the activities and maximize the learning outcomes.

Sustainability Integration: Exploring ways to integrate sustainable practices within the workshop could be considered. This might involve incorporating lessons or activities that raise awareness about environmental sustainability and its connection to the students' immediate surroundings.

What Comes Next?

In conclusion, this Design-Based Research project has demonstrated the potential of integrating visual and auditory elements in elementary art education. The experiential art workshop not only addressed the challenges within the visual arts education landscape in Iran but also introduced an integrated approach to incorporating sound education. The findings suggest that by fostering a multisensory engagement with the environment, students can develop a more profound connection with their surroundings.

One significant finding arising from the study underscores the impact of educational deficiencies in visual art education on children's perceptions and representations of their environment. Children's drawings revealed the presence of stereotypes, indicative of their limited attention to the surrounding environment and a tendency to reproduce familiar images. This observation suggests a potential deficiency in fostering a deeper connection with the environment through visual expression. In drawing parallels to the auditory component, there is a cautionary note

regarding the risk of sound education succumbing to similar limitations. The integration of visual and sound stimuli, as explored, emerges as a promising approach to address these challenges. By combining visual and sonic elements, the study suggests that educators can foster a more holistic and nuanced understanding of the environment, mitigating the risk of reproducing stereotypes and encouraging a more attentive and creative exploration by elementary school children.

Considering the absence of music education in Iran's school curriculum, the integration of sound education within the art education curriculum emerges as a valuable avenue to nurture children's aural creativity. In alignment with Gershon's (2011) concept of Sounds as Embodied Knowledge in Curriculum, sound education contrasts with traditional elitist music education by proving to be more inclusive across diverse socio-economic situations, as it doesn't necessitate instruments or private instruction. Moreover, considering the religious restrictions on music in Iran, incorporating sounds with its socio-cultural characteristics becomes a culturally inclusive alternative for school curriculum. This approach allows students to perceive and imagine sounds based on their subjectivities, providing them with a medium for self-expression alongside other potential artistic outlets. This finding underscores the potential of sound education to address cultural sensitivities and enhance inclusivity in the realm of artistic expression within the educational context. It is important to note that while the absence of music education in Iran's school curriculum and the potential benefits of sound education are significant findings, these aspects were beyond the primary scope of this research.

Moving forward, the next steps involve refining and testing the developed educational toolkit in diverse contexts to assess its adaptability and effectiveness. Additionally, the insights gained from this study can inform curriculum revisions and policy recommendations, advocating for the inclusion of sound education within the formal art curriculum. The collaborative nature of the project, involving art educators, a sound artist, and the researcher, highlights the importance of interdisciplinary collaboration in shaping innovative educational practices.

As we embark on the next phase, it is essential to continue exploring the long-term impact of this integrative approach on students' perception, creativity, and critical thinking skills. Further research could delve into the scalability of the educational toolkit, considering its implementation in various cultural and educational settings.

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