AR Portrait Painting in Dialogue with Woman, Life, Freedom

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Abstract

This paper introduces *AR portrait painting in Dialogue,* a novel arts-based research methodology that integrates Augmented Reality (AR) technology with portrait painting to effectively analyze and visualize data while fostering collaborative and democratic knowledge construction. The methodology leverages the interpretive, analytic, and performative potentials of AR portraiture to illuminate complex sociocultural contexts of the research. Central to this approach is the acknowledgment and valorization of diverse subjective interpretations, inviting researchers, participants, and viewers in the co-construction of knowledge through dialogue. The intersubjective and open-ended knowledge construction is particularly pertinent for investigating ongoing and intricate social and political issues. Furthermore, the multiplicity of subjective perspectives and diverse interpretations within the AR portrait painting methodology enhances the credibility, authenticity, and truthfulness of the generated knowledge. To exemplify the utility of this innovative methodology, a case study is presented that showcases how AR portrait painting in dialogue effectively represents and communicates the experiences of Maryam, an Immigrant woman, as a resident of transnational spaces. Finally, discussing the potential and challenges of

employing the AR portrait painting methodology provides valuable insights for art educators seeking to integrate AR art into their pedagogical practices.

Introduction

AR portrait painting in dialogue as an innovative arts-based research methodology integrates technology (Augmented Reality) and art (portrait painting) to analyze and visualize data and enable the co-construction of knowledge based on the subjective roles of researcher, participants, and viewers. The purpose of this article is to share how AR portrait painting in Dialogue can illuminate the subjectivities of researchers and participants while also rendering the complex sociocultural contexts in which the research exists. Specifically, this article describes this methodology, illustrates its use to render the experiences of residents of transnational spaces, and unpacks the potential and challenges of this methodology for art educators.

Inspired by art education scholar Elliot Eisner's (1997) insight that there is a meaningful relationship between "form of representation and form of understanding" (Bochner & Ellis, 2003, p. 511), I suggest different potentials in AR art, such as virtuality, interactivity, and hypertextuality could engage with the "unfinished and endless gap" between what can be seen and what can be said, and as a different (Leavy, 2009), yet complementary method (Sullivan, 2010) contribute toward transforming the shape of knowledge in humanities research.

AR Portrait Painting in Dialogue

AR portrait painting in dialogue is an arts-based research methodology in which the artist-researcher creates portrait paintings of research participants after listening to their narratives. Multimedia augmented reality features, including images, videos, and participants' recorded voices, translated and conceptualized from interview data, are overlaid on participants' portrait paintings to provide further layers and information about their lived experiences (Hajesmaeili, 2023). Combining AR technology and portrait painting brings together the digital with the materiality of paint and canvas, where the portraiture turns to AR art with additional potentials such as virtuality, access to invisible visuality, dynamic and aesthetic interactivity, and multimodal presentation. Utilizing AR art as a research method creates a nuanced and comprehensive co-constructed knowledge that challenges conventional research paradigms and bridges

epistemological and ontological gaps in humanities research (Hajesmaeili, 2023). While portraiture embodies the subjectivities of research participants and their relationships /dialogues with researchers (Lawrence-Lightfoot, 2005; Lawrence-Lightfoot & Davis,1997), augmented reality reinforces intersubjective understanding that goes beyond the researcher's subjectivity and includes participants and viewers' subjective roles in the process of knowledge construction. (Hajesmaeili, 2023). By embracing such intersubjective knowledge construction, researchers can create a research project that recognizes the complexity and diversity of human experiences in different social contexts.

Embodying participants' subjectivities by painting their portraits and augmenting (overlaying) their own voices on their portrait paintings makes participants active *deconstructors* of their essentialized identities (Riley et al., 2003). Such a process embodies the co-constructed nature of knowledge in AR portrait painting methodology in which the subjective collaboration of researcher and participants in making AR portrait paintings creates a decolonial foundation for egalitarian collaboration in knowledge production that challenges the power structures and the hierarchy embedded in different stages of research. Through careful consideration of the methods (AR and portrait painting) and theoretical framework (in my research, transnational intersectionality), I seek to challenge the power imbalances in research and promote an empowering and democratic approach for all parties involved in research. To achieve this goal, I have proposed the triangular subjectivity model (Figure 1), which highlights the intersubjective collaborative roles of the researcher, participant, and viewer in constructing knowledge.

The suggested model shows the dialogues and relationship between all involved in knowledge construction: researcher, participants, and viewers. This model acknowledges the intersubjective roles of the researcher and participants in creating participants' AR portraits. It speaks to viewers' subjective roles in generating various interpretations and dialogue with the artwork, resulting in a co-constructed intersubjective understanding of the subject matter. The concept of simultaneous subjectivity (Rayner, 1993) arises as viewers encounter the portraiture, searching for their perspectives within the portraited subject. This process leads to a "dialogic relation" between the subject of the portrait and the viewer, where both become partners in constructing meaning through exchanging authority in constructing meaning (Rayner, 1993, p. 13).
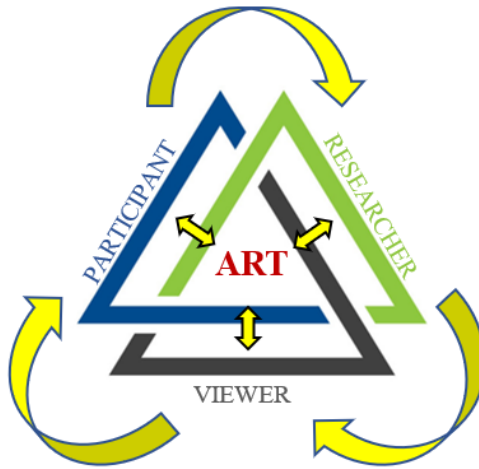
Figure 1. Dialogic relationship of researcher, participant, and viewer, 2021.

Such an approach to subjectivity in the research aims to challenge the conventional power structures in research (Massey, 1993), grants the research participants authority to shape their own representation, and invites viewers to have subjective interpretations based on their identity, background, and knowledge.

The idea of portraits as dialogue (Böck, 2013) is embodied in the collaboration between artist-researchers and participants in creating AR portrait paintings, as well as the varied interpretations offered by viewers encountering the artwork. Taking an interpretive approach to knowledge production expands the potential of research in studying social and political issues (Taylor, 1973) and makes the produced knowledge more tangible and effective, considering the aim of social transformation. Interpretive approaches in knowledge production keep the doors open for viewers to freely contribute to the process of meaning-making by constructing their subjective interpretations, making dialogue, and deciding what action could be taken regarding the proposed issue. Taking an interpretive approach to constructing knowledge also highlights the ongoing nature of knowledge production, especially in social science, and opposes objective knowledge production of empirical definitive outcomes (Hesse-Biber, 2012; Jayaratne & Stewart, 2008). Moreover, the inclusivity and plurality of subjective interpretations could serve as credibility of knowledge (Rolling, 2010) since the multiplicity of interpretations shed light on the subject of study from

multiple diverse viewpoints and implies that there is no complete and definite knowledge. There is always room for rethinking and reinterpreting complicated and multifaceted social issues.

A central tenet of my approach to arts-based research is setting-in-motion encounters with AR portrait paintings that can spark ongoing conversations, which in turn (re)shape understandings of the subject matter. As described by art education scholar Elliot Eisner (2008), this approach can lead to an empathic experience that fosters a safe and meaningful exchange of ideas. By engaging with the lived experiences of participants and viewers, art becomes a medium for challenging preconceived notions and creating opportunities for intersubjective mediation (Schertz, 2006). Ultimately, the active participation of all involved in the research is crucial to the inquiry into AR portrait painting in dialogue methodology to enable democratic and intersubjective knowledge construction.

Exemplar—AR Portrait Painting in Dialogue with Maryam

At the core of this research lies the methodology, which includes both strategies (methods) and theoretical frameworks. In this section, I analyze the AR Portrait Painting in Dialogue methodology and its impact on the research findings. I utilized AR and portrait painting as analytic strategies while employing transnational intersectionality as my theoretical analytic framework. As a theoretical research framework, intersectionality assists in understanding intersections of race, class, gender, age, sexuality, and other socially constructed systems of domination that coexist to construct identities and complex social inequalities (Collins, 2015). However, studying Iranian immigrants like Maryam who live in transnational spaces requires understanding structures of inequality and power domination that arise from socio-historical processes beyond a nation-state (Collins, 2010; Purkayastha, 2010), within "the real and virtual worlds, [and] through and across nation-states" together (Purkayastha, 2010, p. 32). Living in transnational spaces, Iranian immigrants in the United States experience contradictory feelings. For instance, while Iranian immigrants might face various degrees of racism, sexism, and classism as a minoritized group in the U.S., if they return to their home country, they encounter a different set of privileges and marginalization which do not fit the hierarchies existing in the United States. A transnational feminist lens seeks to enrich knowledge about a nation-state by considering nation-states in relation to the rest of the world

(Kim-Puri, 2005). Hence, modernist ontologies that rely on dualism (Falcón, 2016) would not help understand complex, changing, and simultaneously intersecting identities of transnational spaces; instead, a relational ontology that rejects dualism is required in doing research transnationally. Therefore, I utilize transnational intersectionality (Purkayastha, 2010) as a theoretical framework in AR portraiture methodology to study changing axes of power and domination shaping Iranians' lives in transnational spaces and examine their complicated experiences from different angles. The combination of these elements allowed for a unique and multifaceted approach to conducting research, offering a range of perspectives and insights into the experiences of the participants.

Figure 2. *Maryam* is a 36'x48' acrylic painting by Elham Hajesmaeili, 2023. An AR video recording is linked here at *Maryam*.

Maryam's Story Amidst Woman, Life, Freedom Uprising in Iran

In September 2022, the tragic death of the 22-year-old Kurdish woman, Mahsa (Jina) Amini, in police custody enraged Iranians inside and outside of Iran. Mahsa was arrested for what the Islamic Republic Regime considers improper hijab (headscarf). She passed away following a head trauma after being beaten by the morality police[1] in their van on the way to a "reeducation center." Her death ignited a nation not just inside Iran but all over the world. Iranian diaspora organized worldwide protest movements in solidarity with the uprising inside Iran (PBS News, 2022).[2]

Mahsa's family buried her in her hometown of Saqqez, Kurdistan. Her funeral became a turning point in the uprising against the regime. Grieving women sitting around her grave took off and fiercely waved their headscarves in the air while shouting the decades-old Kurdish slogan, "jin, jiyan, azadi" (Woman, Life, Freedom). This powerful and moving moment was felt deeply by every Iranian watching the many videos of the event. *Woman, Life, Freedom* quickly became the slogan of a women-led revolution. The three words have taken on the embodiment of what the Iranians demand from their government: Dignity and equality for women, the right to a life they choose to live, and freedom from oppression of any form.

Iranian or otherwise, people around the world have been inspired by the courage and resilience of the women who chanted those words. They serve as a reminder that even in the face of great adversity, the human spirit finds solace in a unified struggle for a better future. Women of Iran keep hope alive through sheer determination. Protesters have taken to the streets, waving banners and chanting slogans demanding an end to the theocratic dictatorship that has

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[1] The morality police are the religious enforcement arm of the police force in Iran. They drive around in vans with dark windows, have the authority to stop women going about their day anywhere in the country, criticize their modesty and outfit, verbally and physically abuse them, and take them to their reeducation centers where they tell these women about their wrongdoings and sins and force them to sign statements promising they'd never be caught improperly covered again. Women are harassed, beaten, and dragged around if they so much as talk back.

[2] For more information, see: https://www.pbs.org/newshour/world/protests-and-marches-worldwide-bring-together-iranians-living-abroad

suppressed the Iranian people for over forty years. Mahsa's funeral, and many other funerals held during the crackdown on protesters, is a potent reminder of the human cost of the Islamic Republic regime's brutality and repression. Every mother's scream over the grave of her youth (who make up the majority of victims) is recorded, shared, and reshared—and her pain is felt and validated by every Iranian. Iranians outside of Iran who felt powerless to help have taken it upon themselves to magnify these voices through social media and protests in front of the Iranian embassies, universities, and other public sites all around the globe.

Figure 3. A social media post displays individuals en route to Aychi cemetery in Saqqez, as captured in the photo by UGC/AFP.

Passionate roars for "Jin, Jiyan, Azadi" (woman, life, freedom) have become a rallying cry for Iranians. Forty days after Mahsa's death (during her mourning ritual called 'Chehelom' or the Fortieth), the procession of Iranians walking toward her burial place in Saqqez, Kurdistan, was a sight to behold (Figure 3) and not just a moment of grief for her family and friends but also a powerful symbol of the wider struggle for freedom and justice in Iran and the

solidarity felt by Iranians toward the others. Her mourners, not just in Saqqez but across Iran and the world, have been protesting the oppressive regime that rules Iran with fundamentalism's iron fist.

This movement started with rejecting compulsory Hijab but has grown to become an uprising for basic human rights. "Many issues besides women's rights are bound up in the protests: authoritarianism, economic stagnation and severe unemployment, climate disaster, and various religious-fundamentalist impositions" (Afary & Anderson, 2022, para. 5). Iranians have taken to the streets led by women, teenage girls, and grandmas setting their headscarves on fire, cutting their hair, and demanding change.

> Demonstrations have taken place in more than eighty cities and towns throughout the entire country. As the protests have spread, young women, even high-school and middle-school students, have ripped off their headscarves and cried, 'Death to the dictator!' The uprising is rooted in red-hot anger against gender apartheid, and not only among women. (Afary & Anderson, 2022, para. 3)

Mahsa Amini was the hashtag that unified many Iranians around the globe. Her name is code to Iranians everywhere. When you hear her name, you are hearing an Iranian demanding justice, change, and equal rights for women and the right to a peaceful life and freedom.

The Islamic regime has not been quiet. They have cracked down on protesters and have targeted strategic cores of the movement and journalists who have covered the uprising. Thousands of people have been arrested (The Associated Press, 2023)[3] and tortured (CNN, 2023).[4] The regime has used sexual violence and its threat to discourage women (and sometimes young boys) from attending these protests (New York Times, 2022).[5] They have stopped at

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[3] For more information, see: https://www.npr.org/2023/02/05/1154584532/iran-acknowledges-it-has-detained-tens-of-thousands-in-recent-protests

[4] For more information, see: https://www.cnn.com/interactive/2023/02/middleeast/iran-torture-jails-black-sites-mahsa-amini-protests-cmd-intl/

[5] For more information, see: https://www.nytimes.com/2022/12/17/opinion/iran-women-rape.html

nothing to kill this movement, but the uprising is still alive and ongoing (Iran International Newsroom, 2023).[6]

For me, analyzing Maryam's story was a gradual process from the first time that I met her in the Spring of 2019 at a friendly gathering of some Iranian friends and unfolded over time, particularly during the Women, Life, Freedom uprising in September 2022, which was initiated by the tragic death of Mahsa Amini while in police custody.

The first thing I noticed about Maryam was that she is guarded and not readily open to establishing close bonds that could stem from an adverse experience within an Iranian community in the United States, as evidenced by her initial reluctance to trust Iranians living abroad. Maryam was born and raised in Iran. "I never compared myself to my brother or other boys. But I always felt out of place" (personal communication, March 25, 2023). When you are a child, you do not perceive inequality and injustice as sophisticated clear concepts. You just feel like something is not right. "I experienced this feeling of discomfort, unease, shame, pain, etc., years before I learn about misogyny and realized oppression of women is so prevalent, it has a name" (personal communication, March 25, 2023).

Maryam left Iran for Italy right after college. While inequality is a reality for women in most places, living in Milan and being treated with respect and dignity made her speechless with happiness almost every day. "In the beginning, the lightness of being treated with dignity and respect was overwhelming" (personal communication, March 25, 2023). She moved to the U.S. after a few years and recently became a U.S. citizen. Maryam described how, throughout the years, she learned that she could be happy, free, and independent without feeling guilty. "Guilt had been the hardest hurdle for me to overcome" (personal communication, March 25, 2023). Even when you are relatively free from outside control, the chains of culture and religion, and upbringing are firmly in place, and they make you feel guilty every time you try to free yourselves from their hold. "It took me years to learn that I own my body, my soul, and my decisions, and I could live my life according to my own values and not some archaic system of rules designed to control me, my identity, and my sexuality"

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[6] For more information, see: https://www.iranintl.com/en/202302036145

(personal communication, March 25, 2023). She told me about experiencing beautiful relationships as well as bitter encounters.

> There have been men who respected me and men who violated me. I have learned from both, but what I know now is that a woman's quality of life should not depend on the benevolence and integrity of those around her. We deserve a governing system that recognizes our equal value and dignity. (personal communication, March 25, 2023)

I slowly learned that her experiences with Iranians, whose behaviors were a reminder of the misogynistic traits engrained in those who are raised in Iran subject to its cultural norms and education system, were painful for her, and that is why she was guarded when among Iranians outside of Iran.

> For years, I felt sad for my friends and family in Iran. I felt sad for the opportunities they never had and the injustices they had gotten used to. I felt sad for the women who were so indoctrinated; they believed they deserved to be treated as inferior. I felt sad for the little girls that had to cover up and the little girls that had to get married, and the little girls who were forced to be who they weren't. (personal communication, March 25, 2023)

As the Islamic Regime cracked down on their people, many Iranian immigrants felt guilty that they were able to lead a normal life while their compatriots were risking everything for a better future for the country Iranians call home. As friends and relatives in Iran took to the streets, many immigrants like Maryam stayed by their cell phones to hear from friends and family members to make sure they hadn't been arrested, kidnapped, or injured. The anxiety, worry, and pain experienced by Iranian immigrants have affected their health, career, and everyday life. Iranians outside of Iran took it upon themselves to make the protesters' voices heard around the world. I watched as Maryam went beyond her expertise to help with these efforts. She helped organize protests in State College, Pennsylvania and participated in protests in Washington, D.C. I have watched the toll it has taken on her health as she prepared presentations and speeches and helped organize events to start conversations with her community in the U.S. about the Iranian feminist uprising and its significance for men and women around the world.

> Every day, I wake up to news from Iran, another rape, another murder, another kidnapping, another hanging, … but I have never felt more proud of my people, women and men arm in arm, demanding change

and choosing a slogan that makes my heart burst every time I scream it at the top of my lungs: Woman, Life, Freedom. (personal communication, March 25, 2023)

As an artist-researcher, I aimed to create a portrait that could encapsulate the complexities of Maryam's situation while also providing a critical analysis of the sociopolitical context that had involved and affected her subjectivity. Portraiture, as a way of researching and documenting information about people in the social sciences, combines artistic expression (creativity) with scientific observation (accuracy) (Lawrence-Lightfoot & Davis,1997) to capture the depth and complexity of human experiences in different social and cultural contexts. So, utilizing portraiture in my research methodology allowed me to achieve a rich and in-depth rendering of the context and Maryam's lived experience and personality to create a profound and nuanced interpretation of her story while shedding light on larger societal issues.

Data Analysis and Visualization process

When I think of Maryam, the immediate image that comes to my mind is from the protest at Penn State's Allen Gate, where we both stood alongside other familiar faces from the Iranian student community in the small college town of State College. As I was thinking of rendering her portrait, I realized that the ways that ongoing sociopolitical circumstances in Iran affected her life in the U.S. reflected the experiences of me and many others who felt powerless to help their Iranian brothers and sisters in their struggle against the oppressive Islamic Regime in Iran. Through portraiture, I aimed to capture the essence of Maryam's life in these challenging times, reflecting her unwavering care for Iran and her active participation in shaping the aspirations of its people. Despite being physically distant, her heart beats for her beloved ones inside the country, serving as a force in the pursuit of their freedom. As I undertook the intricate task of portraying Maryam's situation in all its complexities, my aim was to evoke a critical and multifaceted perspective towards such a significant emotional sociopolitical event. I knew the act of rendering and disseminating a portrait had the potential to create a shared transnational space[7] where the

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[7] Transnational spaces are "tangible and virtual social spaces that exist through and beyond single nation-states" (Purkayastha, 2012, p. 57).

audiences' voices could become intertwined with that of the artist and the portraited person. While this third voice may remain silent, it further enhances the significance generated through the combination of the other two voices (Bloom & Erlandson, 2003). Thus, the artist-researcher's rendering is inherently partial (Dixson, 2005), but this partiality does not necessarily detract from the research. In fact, this partiality allows the portraitist to acknowledge their own physical, psychological, spiritual, and emotional presence in the research and also challenges the idea that the researcher has authority over the lives and experiences of the research participants (Dixson, 2005).

In the "Maryam" portrait (Figure 2), her hair and the smoke are the main visual elements. In the context of Iran, women's hair has become a powerful political symbol. The issue of women's hair and the veil in Iran cannot be divorced from the larger political landscape as throughout Iran's history: the veil has been imbued with diverse meanings that correspond to political regimes' respective ideologies (Zahedi, 2007). Through the imposition and lifting of the veil, these regimes have fashioned a singular, idealized image of Iranian women and, by extension, of Iran itself as either a modern or Islamic country. This essentialized image has had far-reaching consequences, with some women empowered by it while others have been marginalized and had their rights trampled upon. Yet, it is the act of re-veiling that has acted as a catalyst for the politicization of Iranian women (Zahedi, 2007). This complex issue, with a rich history that continues to shape the lives of Iranian women, and the country as a whole, has prompted women in the recent uprising to take a stand against the imposition of the veil by engaging in protests and contesting its social significance.

"Maryam" (Figure 2) is a striking testimony to the ongoing and tumultuous revolution in Iran, depicting her hair in the top right corner morphing into the dense smoke that engulfs the street. Beyond its visual impact, the portrait also carries an implicit message about the perils that Iranian women face in their daily lives, epitomized by the tragic death of Mahsa Amini in police custody for the sole reason of not wearing a proper hijab. Together, these elements highlight the fraught and multifaceted nature of Iran's sociopolitical landscape and the challenges faced by its people.

In the portraiture, the chaotic and murky street at sunset forms the backdrop of the placard held by Maryam, in which we see a woman at the center who boldly moves her white headscarf, allowing her wild and untamed hair to flow freely amidst the dense, polluted, and smoky air. These visual

metaphors poignantly capture the struggle of Iranian women against societal oppression and their unyielding determination to claim their agency and autonomy.

Discussing AR characteristics, including virtuality[8], interactivity, and hypertextuality[9] is important since they play a comparable role in creating affective and immersive AR art. The process of augmentation[10] (Manovich, 2006) enables artists to overlay virtual elements on a piece of art that are initially imperceptible to viewers and allows artists to control the viewers' exposure to these elements, creating a series of fleeting moments where viewers can consciously recognize the process of perception, their shifts, and affections through interacting with AR art (Dolinsky, 2014). For instance, the augmented virtual auditory elements in "Maryam" (Figure 2) including her voice narrating the story and the background sound of Iranians chanting in the streets will be revealed to viewers only through scanning the portrait painting with its AR app. Connecting the physical painting with all its expressive marks, textures, and colors with virtual elements within the AR app offers viewers an experience of a liminal space between virtuality and reality, which are not disconnected (Javornik, 2016), creating a realm of affect, where the viewer's emotions and experiences are heightened and intensified, leading to a more profound and meaningful experience. Another virtual element in "Maryam" is smoke, directly pointing to the ongoing revolution in Iran. Within the AR app, viewers feel the smoke coming from the painting and engulfing the spaces around them. By depicting the dense smoke in the street (inside Iran) penetrating the space in which Maryam is standing (outside of the country), and which then travels into

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[8] Virtuality refers to the capacity of showing virtual elements or virtual worlds (Javornik, 2016).

[9] Hajesmaeili (2023) in her dissertation explains: "I interpret hypertextuality in my work as a transformative act that turns painting into a hypertext object and dismantles the solidity of many paradigms, such as text and textual analysis (Javornik, 2016). Therefore, AR portrait paintings as "multimedial objects" (Cicconi, 2020, p. 134) go beyond the conventional structure of a painting whose elements such as colors, shapes, and textures are combined based on their own logic to convey a message to dismantle the solid view of art as a visual language and enrich the viewers' experience of art by providing multimedia formats of information." (p. 48)

[10] Augmentation refers to overlaying a physical space [or object] with the virtual dynamic data [elements] (Manovich, 2006).

viewers' spaces (through AR app), this work exemplifies the concept of transnational spaces.

AR features like virtuality, interactivity, and hypertextuality work together to affect viewers and engage them in the world of the depicted woman, not separately and apart from her as others, but in close relation to her, because they feel connected with deep affect. The smoky atmosphere that goes beyond the depicted street in the placard serves as a metaphor for the blurring of physical and cultural boundaries, highlighting the complex and multifaceted transnational nature of immigrants' lives. Maryam's portrait goes beyond the mere visual representation and points to the broader issues of identity, displacement, and belonging that are at the heart of many Iranian's experiences outside the borders of Iran.

By averting the woman's gaze toward a distance, I aimed to draw viewers' attention to the broader social and political issues that impact Iranian women across the world, transcending the individual experiences of any one person. The incorporation of calligraphy directly references a specific time and event, shaping Maryam's subjectivity. By portraying "Maryam," I aimed to highlight the broader social and political issues affecting Iranian women both inside and outside of Iran. Ultimately, the artwork offers a powerful and nuanced portrayal of the complexities of Iranian women's lives and their fight for freedom and equality all around the globe.

Challenges and Potential of AR Portrait Painting Methodology

AR portrait painting methodology is an effective model that can contribute to the ongoing process of decolonizing research. Such methodologies can inspire art educators to use the different potentials of AR technology and portrait painting in their teaching practice more effectively and enhance teaching and learning experiences by creating immersive, interactive, and engaging environments or providing a multimodal learning experience to create more inclusive learning environments. This research methodology can facilitate creative and innovative approaches to art education by providing vast and infinite opportunities for educators to address different issues in their teaching practices. Integrating technology and art can lead to more comprehensive and engaging learning experiences that better prepare students for the demands of the contemporary workforce. AR portrait painting in dialogue highlights the role of arts-based research in academia and knowledge production in higher

education to expand the ways of knowing and understanding complex social and political issues, to give voice to marginalized communities, and to offer new and innovative approaches to addressing such issues. This methodology centers subalterns' voices, knowledge, and perspectives by working collaboratively with their communities. It embodies ethical practices that prioritize the rights and perspectives of research participants. By creating AR portraiture in a collaborative and democratic research process, traditional boundaries between researchers and participants in academic research are dissolved, and a meaningful relationship is established that centers on the common goal of both the researcher and the participants. AR portrait painting exemplifies a transformative methodology that highlights the profound impact of art and artist-researchers in propelling social change and dismantling hegemonic narratives.

There are, however, limitations to using AR portrait painting as a research methodology in social science. It is time-consuming to create AR portraits and may not always be feasible within the context of a research study. Technical difficulties are another limitation; AR technology can be complex and may require technical expertise to operate effectively. Technical difficulties or glitches could affect the quality of the work and limit the research results' authenticity to the subjective experiences of the participants. As a relatively new research methodology AR portrait painting is not standardized, which may present another potential limitation. Furthermore, there are no established standards for using such innovative research methodology in social science, which could lead to inconsistent data collection or difficulty comparing results across studies. Lastly, as with any research methodology, there is a potential for bias to influence the insights perceived through AR portrait painting research.

Implications of AR Portraiture Methodology in Art Education

Thus far, I have used *AR portrait painting in dialogue* methodology to study the narratives of four Iranian women living in the United States. I examined potential problems and challenges, assessed the feasibility of the methodology and its main characteristics, and identified potential limitations. Further, as part of my dissertation, I created a website that features the four AR portraits I created through this [project (see https://hajesmaeilielham.wixsite.com/mysite).

The website could serve as a valuable teaching resource in the field of art education and encourage educators to explore creative dialogic augmented

reality approaches to portrait painting in their teaching practice. By providing direct access to the AR artworks, the website offers educators and students an immersive and interactive platform for exploring the intersection of AR technology and portrait painting. This method has the potential to inspire art educators to integrate new technologies like AR and art into their classrooms to enhance their teaching practice. AR technology enables art educators to create immersive, interactive, and engaging learning environments. The AR artwork could inspire educators to explore new teaching strategies, promote active learning, and spark students' creativity and artistic explorations. AR can offer a multimodal learning experience, enhancing diverse learning styles and abilities. Such an inclusive approach ensures that all students can actively engage with the material and contribute to the learning process. Visual, auditory, and kinesthetic learners can all benefit from the interactive and dynamic nature of AR technology, enhancing their understanding and connection to the subject matter.

The integration of AR technology and portrait painting bridges the gap between traditional art forms and emerging digital mediums. This integration prepares students for the demands of the contemporary workforce, where proficiency in technology and creative problem-solving abilities are highly valued skills. By incorporating technology in art education, students are equipped with the necessary technological fluency and creativity to excel in digital art-related fields. Furthermore, such an innovative arts-based research methodology expands students' ways of knowing and understanding complex social and political issues and allows educators and students to explore difficult topics such as identity, representation, social justice, and cultural heritage.

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