Arts-Based Futures Literacy in Primary Education: A Female-Led Practice-Oriented Research Positioning from Kochi, India

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Abstract: This paper presents a conceptual and methodological positioning of a female-led practice-oriented research initiative exploring arts-based futures literacy in primary education. Anchored in UNESCO's concept of Futures Literacy, the study examines how participatory arts practices can support children aged 6–12 in imagining plural futures while strengthening anticipatory capacities. The research is situated within a transdisciplinary collaboration between Erasmus Brussels University of Applied Sciences and Arts (Belgium), Rajagiri College of Social Sciences, and The Art Outreach Society in Kochi (India). Using Participatory Action Research (PAR), the project combines arts-based workshops, storytelling, and food-related cultural practices as entry points to futures thinking. Rather than focusing on measurable outcomes, the study foregrounds capacity-building processes through which imagination, agency, and collective reflection emerge. Positioned within feminist epistemology, the article argues that women-led facilitation and care-oriented pedagogies shape how futures knowledge is produced.

Keywords: Futures literacy; arts-based education; participatory action research; feminist epistemology; intergenerational futures.

Introduction: Women as Knowledge Producers in Futures-Oriented Education

The production of scientific knowledge has historically been shaped by gendered structures that privilege certain voices while marginalizing others. Although the participation of women in academic research has increased significantly in recent decades, gender inequalities persist in terms of recognition, leadership positions, and epistemic authority (Harding, 1991; Rolin, 2009). Conferences such as the Women in Science International Conference therefore emphasize the importance of recognizing women not merely as participants in scientific discourse but as active producers of knowledge who contribute to shaping intellectual paradigms, methodological approaches, and research practices across disciplines.

Within futures studies, questions of epistemic inclusion become particularly significant, as the ways futures are imagined, analysed, and communicated inevitably reflect broader social and cultural power relations. Historically, futures research has often been dominated by technocratic and policy-oriented approaches focused on forecasting, modelling, and strategic planning (Slaughter, 1995; Bell, 2003). While such approaches have generated valuable insights, they frequently privilege expert-driven perspectives and overlook the imaginative, cultural, and relational dimensions through which societies collectively engage with the future. In response, scholars increasingly advocate more participatory and pluralistic approaches to futures thinking that recognize the importance of diverse voices, situated knowledge, and collective imagination. Within this evolving landscape, UNESCO's concept of Futures Literacy represents a particularly important development. Futures Literacy refers to the capacity to understand and use the future in order to inform present action (Miller, 2018), emphasizing that the future should not be understood as a fixed destination to be predicted but as a conceptual resource that expands present possibilities for thought and action. Despite growing international interest in Futures Literacy, its integration into formal education systems remains limited. Educational curricula continue to emphasize retrospective knowledge acquisition and standardized assessment while leaving comparatively little room for anticipatory thinking and speculative exploration (OECD, 2018). This gap becomes particularly significant in contexts characterized by rapid social, environmental, and technological transformation, where the ability to engage creatively with uncertainty becomes increasingly essential.

The practice-oriented research initiative presented in this article seeks to address this challenge by exploring how arts-based pedagogical practices can support the development of futures literacy in primary education. The project forms part of the broader research trajectory *Art as a Catalyst for Futures Literacy towards Resilient Community*, conducted by the Research Centre OPEN Arts & Futures at Erasmus Brussels University of Applied Sciences and Arts in collaboration with Rajagiri College of Social Sciences, and The Art Outreach Society in Kochi, India. Through participatory arts practices, collaborative storytelling, and futures-oriented workshops, the project aims to embed futures literacy within educational and civic contexts while creating spaces where children, educators, artists, and researchers can collectively explore alternative futures. Importantly, and perhaps unsurprisingly given the conference context, the research environment within which this work unfolds is predominantly female-led, involving women researchers, educators, and cultural practitioners who co-develop and facilitate the workshops. While gender itself is not the explicit object of investigation, the project nevertheless raises questions regarding how gendered forms of facilitation, care, and collaboration may shape the production of knowledge about the future. The article therefore positions the project at the intersection of futures studies, arts-based inquiry, participatory action research, and feminist epistemology, arguing that arts-based futures literacy practices offer a promising pathway for cultivating anticipatory capacities while broadening the diversity of voices participating in futures discourse.

Futures Literacy and Arts-Based Inquiry

The concept of Futures Literacy has emerged as one of the most influential frameworks within contemporary futures studies. Developed within the UNESCO Futures Literacy initiative, it emphasizes the capacity of individuals and societies to use the future(s) as a resource for understanding and shaping the present (Miller, 2018). In doing so, Futures Literacy shifts the focus of futures research away from prediction and control toward the cultivation of anticipatory capabilities that allow individuals and communities to engage more reflexively with uncertainty and complexity. Central to this perspective is the recognition that the future does not exist as a predetermined reality waiting to be discovered. Rather, futures emerge through cultural imaginaries, social expectations, institutional frameworks, and collective decision-making processes that shape how individuals and societies orient themselves toward what lies ahead. Anticipation therefore becomes not merely a technical exercise but a fundamentally social and cultural practice. Anticipatory systems theory similarly highlights how societies continuously generate expectations about the future that influence present behaviour and decision-making (Poli, 2010).

In the domain of futures studies, one widely used conceptual model for exploring such dynamics is the Futures Cone, which visualizes a spectrum of possible, plausible, probable, and preferable futures (Voros, 2017). As illustrated in Fig. 1, the Futures Cone highlights how the future should be understood not as a single trajectory but as a field of expanding possibilities shaped by social choices, cultural imaginaries, and institutional dynamics.

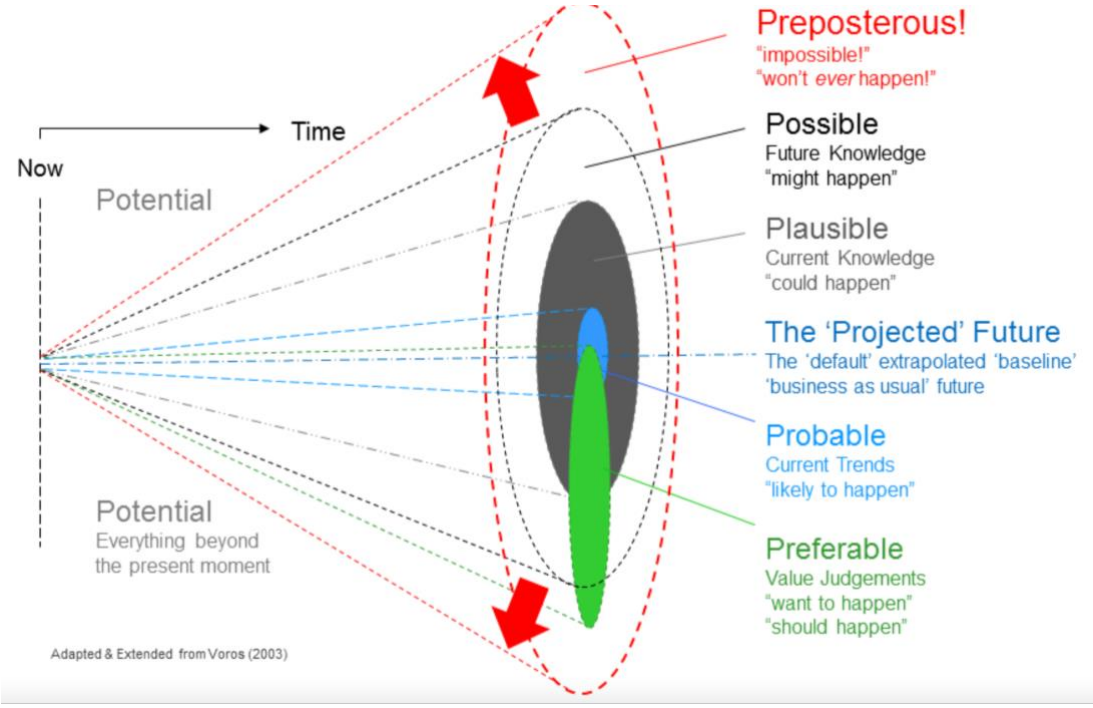


Fig. 1. Futures Cone illustrating multiple trajectories of possible futures (adapted from Voros, 2017)

Rather than presenting the future as a linear pathway, this model illustrates how multiple futures coexist simultaneously as potential trajectories shaped by different assumptions, choices, and contextual developments. Engaging with this multiplicity allows individuals and organizations to question implicit narratives of inevitability and explore alternative possibilities that might otherwise remain obscured.

Inside educational contexts, futures literacy can therefore support the development of key competencies such as imagination, critical thinking, and agency. The OECD's *Future of Education and Skills 2030* initiative similarly emphasizes the importance of equipping learners with the ability to navigate uncertainty and engage creatively with complex global challenges (OECD, 2018). Translating futures literacy into educational practice, however, presents significant pedagogical challenges. Traditional educational models often prioritize standardized knowledge transmission and measurable learning outcomes, leaving limited space for exploratory and speculative learning processes. Within this context, arts-based approaches offer particularly valuable methodological possibilities.

Within this research, "arts-based" practices encompass a combination of visual (plastic) arts (e.g., drawing and image-making), narrative forms (e.g., storytelling), performative elements (e.g., role-play and embodied exercises), and, where relevant, audiovisual and culturally embedded practices (e.g., food-related storytelling and collective rituals)**.** These modalities are not treated as separate disciplines but as interconnected forms of expression through which participants explore and articulate possible futures. Arts-based research has gained increasing recognition as a legitimate mode of inquiry within the social sciences and humanities, precisely because artistic practices allow researchers and participants to engage with complex social phenomena in ways that extend beyond conventional analytical frameworks. Eisner (2002) argues that artistic processes can generate forms of knowledge difficult to capture through traditional methods, enabling participants to express emotions, experiences, and imaginaries that may remain inaccessible within purely verbal or quantitative research paradigms. Building on this perspective, Barone and Eisner (2012) suggest that arts-based research functions both as a method of inquiry and as a mode of representation through which creative experimentation and interpretation produce new forms of understanding. In the context of futures literacy, such artistic practices provide a particularly powerful entry point into anticipatory thinking. Drawing, storytelling, performance, and other creative activities allow participants to explore potential futures in ways that are imaginative, embodied, and socially collaborative, creating spaces where speculative thinking can emerge through shared creative engagement. As illustrated in Fig. 2, arts-based futures literacy practices may be understood as a dynamic process linking cultural memory, present meaning-making, and imaginative projection.



Fig. 2. Relationship between cultural memory, present meaning-making, and future imagination in arts-based futures literacy practices

Within this framework, cultural memory functions not as a static archive of the past but as an active resource through which participants reinterpret the present and expand the futures they are able to imagine. Working with children further highlights the importance of such approaches. Developmental research suggests that children possess remarkable capacities for imaginative thinking and speculative reasoning closely linked to play, creativity, and narrative exploration (Vygotsky, 1978). During the primary school years, cognitive development remains deeply intertwined with these creative processes, making artistic and narrative methods particularly appropriate for exploring complex concepts such as the future.

Consequently, arts-based futures workshops can create environments in which children experiment with alternative futures while developing critical awareness of their social and environmental contexts. Such practices resonate strongly with UNESCO's broader vision of futures literacy as a collective capacity emerging through dialogue, imagination, and shared reflection.

Participatory Action Research and Gendered Facilitation

The methodological framework of the present project is grounded in Participatory Action Research (PAR), an approach that emphasizes collaboration between researchers and participants in the co-production of knowledge (Reason & Bradbury, 2008). Emerging from traditions of critical pedagogy, community development, and social justice research, PAR challenges conventional research models that position participants as passive subjects of investigation. Instead, participants become active contributors to the research process, engaging in iterative cycles of action, reflection, and collective learning through which challenges are identified, interventions explored, and insights generated that are both theoretically meaningful and socially relevant.

In educational contexts, PAR offers particular advantages, as it enables teachers, students, and community members to participate directly in shaping the research process. By fostering a sense of ownership and agency among participants, PAR supports learning environments that encourage experimentation, dialogue, and critical reflection – dynamics that become especially relevant when exploring futures literacy, which inherently involves questions of collective decision-making, social imagination, and the capacity to envision alternative societal trajectories. In our Kochi project, PAR is operationalized through a series of arts-based futures workshops conducted

with primary school children. Drawing exercises, storytelling activities, and collaborative discussions invite participants to imagine different possible futures. Rather than treating children as passive recipients of knowledge, these workshops position them as co-creators of futures narratives, allowing their drawings, stories, and reflections to function simultaneously as research material and as catalysts for collective learning. The methodological emphasis on collaboration also intersects with feminist perspectives on knowledge production. Feminist epistemologists have long argued that traditional research paradigms often reproduce hierarchical relationships between researchers and participants, thereby limiting the diversity of voices that contribute to knowledge creation (Harding, 1991). Feminist approaches therefore emphasize reflexivity, relationality, and the recognition of situated knowledge. Donna Haraway's concept of situated knowledge highlights how all knowledge is produced from specific social positions and experiences (Haraway, 1988). Recognizing these positionalities does not undermine research credibility; rather, it enhances transparency and encourages greater reflexivity regarding the conditions under which knowledge emerges. In Kochi, the facilitation of workshops is predominantly carried out by women researchers, educators, and arts practitioners. Although this gender composition was not initially conceived as a research variable, it nevertheless shapes the dynamics of the research environment in meaningful ways. Care-oriented pedagogical practices often play a central role in these interactions. Feminist care ethics emphasizes relational responsibility, empathy, and attentiveness within social relationships (Tronto, 1993), suggesting that educational practices grounded in care can create environments that encourage creativity, trust, and open dialogue. Such conditions may be particularly conducive to futures-oriented learning, where participants are invited to articulate hopes, fears, and uncertainties about possible worlds. A supportive and collaborative environment therefore becomes essential in enabling participants to engage fully in speculative exploration and collective reflection.

The Transdisciplinary Research Triangle: EhB - Rajagiri - TAOS

The practice-oriented research presented in this article is embedded within a transdisciplinary collaboration connecting three institutional contexts: (1) the Research Centre for OPEN Arts & Futures at Erasmus Brussels University of Applied Sciences and Arts (Belgium), (2) Rajagiri College of Social Sciences in Kochi (India), and (3) The Art Outreach Society (TAOS), a community-based arts organization also located in Kochi. Together, these partners form what may be described as a research-practice-community triangle in which academic expertise, educational practice, and socially engaged artistic facilitation converge in the co-development of futures literacy initiatives.

Transdisciplinary collaboration has become increasingly important in futures-oriented research, particularly when addressing complex societal challenges that cannot be adequately understood through a single disciplinary lens.

Scholars such as Nicolescu (2014) and Klein (2017) emphasize that transdisciplinary research goes beyond interdisciplinary integration by actively involving practitioners and stakeholders outside academia in the co-production of knowledge. Within this framework, research is no longer conceived as a linear transfer of expertise from scholars to society but as a collaborative process in which diverse forms of knowledge interact in the exploration of shared questions. The present project reflects this orientation by positioning artistic practice, educational engagement, and futures research as mutually reinforcing domains of inquiry. At Erasmus Brussels University of Applied Sciences and Arts, the initiative is anchored within the Research Centre for OPEN Arts & Futures, whose research agenda focuses on participatory arts practices, civic imagination, and futures-oriented cultural experimentation. This institutional environment provides the conceptual and methodological foundation for the project through its engagement with futures literacy, arts-based research, and participatory approaches to knowledge creation. Rajagiri College of Social Sciences contributes a strong pedagogical and social work perspective, supported by its longstanding engagement with community-based education and participatory learning methodologies in Kerala. Through its networks with schools, educators, and local stakeholders, Rajagiri plays an important role in ensuring that the project remains closely aligned with educational practice and community realities. The Art Outreach Society (TAOS) provides a third essential dimension. As a socially engaged arts initiative with extensive experience working with youth and communities across Kochi, TAOS facilitates participatory artistic processes that allow young participants to express their perspectives and engage creatively with their social environments. Within the project, TAOS plays a central role in organizing arts-based workshops and ensuring that the creative processes remain culturally grounded and accessible.

The interaction between these three partners generates a hybrid research environment in which academic inquiry, educational experimentation, and artistic practice intersect. Rather than operating as separate domains, these spheres become mutually constitutive elements of the research process. Artistic activities function not merely as tools of dissemination but as core methodological components through which futures imaginaries are explored and articulated. Through this collaborative structure, workshops with children become focal spaces where these different forms of expertise converge. Researchers contribute conceptual frameworks related to futures literacy and participatory inquiry, educators bring pedagogical insights into children's learning processes, and artists facilitate creative activities that allow speculative thinking to emerge through drawing, storytelling, and collective reflection.

Such interactions illustrate the potential of transdisciplinary research to generate situated knowledge emerging from practice rather than from abstract theoretical speculation alone. As Gibbons et al. (1994) argue in their discussion of "Mode 2" knowledge production, contemporary research increasingly unfolds in contexts where academic and societal actors collaborate to address complex problems, producing knowledge that is both context-sensitive and socially distributed. The triangular collaboration

between EhB, Rajagiri, and TAOS therefore exemplifies a form of practice-based futures research in which the boundaries between research, pedagogy, and cultural practice become intentionally porous. By working across institutional and cultural contexts, the project creates conditions in which futures literacy can be explored not only as a theoretical concept but also as a lived practice emerging through collective experimentation.

Feminist Epistemology and Anticipatory Capacity

While the primary focus of the project lies in exploring futures literacy through arts-based educational practices, its collaborative structure also raises broader epistemological questions concerning the relationship between gender and knowledge production. Feminist epistemology provides a particularly useful framework for examining these dynamics, as it foregrounds the ways in which knowledge is shaped by social positions, institutional structures, and relational practices. Feminist scholars have long argued that traditional conceptions of scientific objectivity often obscure the situated nature of knowledge production. Harding (1991) and Haraway (1988), for instance, emphasize that all knowledge emerges from specific historical, cultural, and social contexts. Recognizing these contexts does not undermine the credibility of research; rather, it enables more reflexive and inclusive forms of inquiry. In the present project, gender does not function as the central research variable. Nevertheless, the research environment is predominantly female-led, involving women researchers, educators, and arts practitioners across all partner institutions. This configuration invites reflection on how gendered practices of collaboration, facilitation, and care may shape the ways futures knowledge is produced and shared.

Feminist scholarship on the ethics of care offers a particularly relevant lens in this regard. Scholars such as Tronto (1993) and Puig de la Bellacasa (2017) argue that care should not be understood merely as a private moral virtue but as a fundamental dimension of social and political life. Care-oriented practices emphasize attentiveness, relational responsibility, and the recognition of interdependence between individuals and communities. Within educational settings, such principles often manifest in pedagogical approaches that prioritize dialogue, empathy, and collaborative learning, creating environments in which participants feel encouraged to experiment with ideas and engage with uncertainty without fear of failure or judgement.

In futures-oriented research, such relational dynamics become particularly significant. Imagining alternative futures requires participants to articulate hopes, concerns, and uncertainties about the worlds they inhabit and the worlds they might wish to create. These reflections are often deeply personal and socially embedded, making supportive and collaborative environments essential for meaningful engagement. Embedded in the workshops conducted in Kochi, the facilitation practices adopted by the research team emphasize precisely such relational dynamics. Artistic exercises are designed not as competitive tasks or evaluative assessments but as open-ended invitations to imagine, draw, narrate, and discuss possible futures. The

emphasis lies on collective exploration rather than individual performance, creating space for multiple voices and perspectives to emerge. This orientation resonates with broader feminist critiques of hierarchical knowledge production, which challenge the privileging of expert authority and instead emphasize distributed knowledge emerging through interaction and dialogue.

The intersection between feminist epistemology and futures literacy therefore highlights an important dimension of anticipatory capacity. Anticipation is not simply an individual cognitive skill but a relational and cultural practice that emerges through shared reflection and dialogue. By creating participatory spaces in which diverse voices can engage with speculative thinking, arts-based futures workshops contribute to the development of anticipatory cultures extending beyond traditional expert-driven foresight. The involvement of children as central participants further expands the epistemological horizon of futures studies. Children are often excluded from discussions about the future, despite the fact that they will inhabit the long-term consequences of present decisions. Engaging children in futures-oriented dialogue therefore represents not only a pedagogical innovation but also an ethical commitment to intergenerational inclusion, a perspective that resonates strongly with recent articulations by the European Commission's Joint Research Centre concerning the integration of intergenerational fairness into contemporary policy and research agendas (European Commission, JRC, 2024).

Through drawing, storytelling, and collaborative reflection, children participating in the workshops articulate visions of the future that may diverge significantly from dominant narratives shaped by adult perspectives. These visions often incorporate elements of play, imagination, and everyday experience, thereby expanding the range of possibilities that futures discourse can encompass. From this perspective, the project's arts-based methodology functions not only as a pedagogical tool but also as an epistemic intervention within futures research, foregrounding imagination, relational learning, and participatory dialogue while challenging conventional assumptions about who is entitled to contribute to knowledge about the future.

Discussion

The conceptual and methodological positioning presented in this article highlights the potential of arts-based futures literacy practices to expand how anticipatory capacities may be cultivated within educational contexts. Rather than treating futures literacy as a technical skill related to forecasting or prediction, the project situates anticipation within relational, cultural, and creative processes that emerge through dialogue, imagination, and shared exploration. This perspective resonates with broader shifts within futures studies that emphasize plural futures, participatory foresight, and anticipatory governance (Miller, 2018; Poli, 2010). Within such frameworks, anticipation is understood not as a deterministic projection of trends but as a socially

embedded capacity through which individuals and communities reflect on possible trajectories and their implications for present action. Arts-based inquiry offers a particularly valuable methodological pathway for cultivating these capacities. By enabling participants to express ideas through drawing, storytelling, and performative engagement, artistic practices create spaces in which speculative thinking can emerge without the constraints often associated with analytical or evaluative educational formats. This is especially significant when working with children, whose imaginative capacities and narrative sensibilities remain closely intertwined with processes of play and creative exploration (Vygotsky, 1978).

The workshops conducted in Kochi illustrate how arts-based futures literacy practices can create environments where children feel empowered to articulate perspectives on the future that might otherwise remain unheard. Through collaborative exercises, participants reflect on everyday experiences, cultural traditions, and emerging societal challenges while imagining alternative possibilities. In doing so, the workshops not only stimulate individual creativity but also foster collective reflection and mutual learning.

From a methodological perspective, the integration of Participatory Action Research (PAR) further strengthens these dynamics. PAR emphasizes iterative cycles of action, reflection, and adaptation, allowing research processes to evolve in response to participants' insights and experiences (Reason & Bradbury, 2008). Within the Kochi project, this iterative process enables the research team to refine workshop formats, explore emerging themes, and co-develop pedagogical approaches in collaboration with educators and community partners.

The project also contributes to ongoing discussions concerning the role of gender in knowledge production. Although gender is not the primary analytical focus of the study, the predominantly female-led research environment invites reflection on how collaborative and care-oriented facilitation practices may shape research processes and learning environments. Feminist epistemology suggests that such relational practices can expand the range of perspectives recognized as legitimate sources of knowledge (Harding, 1991; Haraway, 1988). Facilitation practices grounded in dialogue, attentiveness, and shared exploration appear to create conditions that support open-ended speculation about the future. Rather than imposing predefined scenarios, the workshops encourage participants to explore diverse possibilities and reflect collectively on their implications, thereby supporting more inclusive forms of anticipatory dialogue.

The involvement of children as active contributors to the research process further expands the epistemological scope of futures studies. Children are often excluded from discussions about the future, despite the fact that they will inhabit the long-term consequences of present decisions. Engaging children in futures-oriented dialogue therefore represents not only a pedagogical innovation but also an ethical commitment to intergenerational inclusion. This perspective resonates with recent articulations by the European Commission's Joint Research Centre concerning the importance of

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At the same time, the exploratory nature of the present research should be acknowledged. As a practice-oriented project grounded in Participatory Action Research, the initiative prioritizes capacity-building processes rather than measurable outcomes. The emphasis lies on fostering imaginative engagement, relational learning, and collective reflection rather than on producing standardized indicators of futures literacy. Future research may build on the conceptual and methodological framework presented here by examining how arts-based futures literacy practices evolve over time and how they influence educational practice, community engagement, and policy dialogue across different contexts.

From a broader theoretical perspective, the project also contributes to emerging discussions concerning the development of anticipatory cultures – understood as the social and institutional conditions through which societies collectively imagine, debate, and shape possible futures. Futures literacy initiatives increasingly emphasize that anticipation should not remain confined to expert-driven foresight processes but should instead become a distributed capacity embedded within everyday social practices (Miller, 2018). By integrating artistic expression, participatory research methodologies, and intergenerational dialogue, the project illustrates how arts-based futures literacy practices may contribute to the gradual emergence of more inclusive anticipatory cultures in education and civic life.

Conclusions

This article has presented a conceptual and methodological positioning of a female-led practice-oriented research initiative exploring arts-based futures literacy in primary education. By situating the project at the intersection of futures studies, arts-based inquiry, participatory action research, and feminist epistemology, the study highlights the potential of creative and participatory approaches to expand how anticipatory capacities may be cultivated within educational environments.

Three key insights emerge from this positioning:

First, futures literacy should be understood not merely as a cognitive competence but as a relational and cultural practice that develops through dialogue, imagination, and collective reflection. Artistic practices can play a crucial role in facilitating such processes by creating environments where speculative thinking and creative expression become integral to learning.

Second, participatory methodologies such as Participatory Action Research provide valuable frameworks for exploring futures literacy within educational contexts. By involving participants as co-creators of knowledge, PAR supports learning processes that are adaptive, context-sensitive, and responsive to lived experience.

Third, the project illustrates how gendered dynamics of collaboration and facilitation may shape the ways futures knowledge is produced and shared. Although gender is not treated as the central analytical variable, the predominantly female-led research environment foregrounds relational practices of care, attentiveness, and dialogue that appear particularly conducive to participatory futures exploration.

Taken together, these insights suggest that arts-based futures literacy practices can contribute to the development of more inclusive anticipatory cultures within education and beyond. By engaging children, educators, artists, and communities in collective reflection on possible futures, such practices broaden the range of voices participating in futures discourse and challenge conventional assumptions about who is entitled to imagine and shape the future. In an era characterized by rapid social, technological, and environmental change, cultivating such anticipatory capacities may prove essential not only for education but also for broader societal resilience. Through its emphasis on imagination, participation, and intergenerational dialogue, the project invites continued exploration of how creative and collaborative approaches may contribute to more inclusive and reflexive engagements with the futures we collectively inhabit.

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Author Contribution

Author: Conceptualization, methodology, investigation, writing – original draft preparation, writing – review and editing, visualization, project administration.

Tools of Artificial Intelligence

ChatGPT (OpenAI) was used as a language support tool during the drafting process to assist with text refinement and structural editing. All conceptual development, interpretation, and final content decisions remain the responsibility of the author.

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