NURTURING COGNITION THROUGH CHILDREN'S EARLY DRAWING EXPERIENCES

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ABSTRACT

When children draw multiple facets of their cognition, like their beliefs, actions and perceptions, activate and connect to facilitate expression. Children's drawings and their drawing experiences however, are not always valued or nurtured as cognitive endeavors or given recognition as useful contributions to a child's learning journey. This paper therefore presents how a cognition conceptual frame (Heaton, 2021), can be used to help people conceptualise and nurture cognition in early drawing experiences by considering cognitive forms, influencers and applications. It unpicks through a purposive micro-visual inquiry as to how cognition may be identified in a small sample of children's drawings to demonstrate how cognition may present, be influenced, and be cultivated to develop an early learners' cognitive abilities, capacity and understanding. This paper advocates for a renewed consideration of the cognitive complexities of children's early drawing experiences and suggests that people designing and supporting such experiences should engage with cognition so that it is nourished through learning journeys and lived experiences.

Key Words

Cognition, early art education, early arts, visual inquiry, drawing

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INTRODUCTION

This paper is informed by micro-visual inquiry research (Tsang and Besley, 2020) and a presentation I gave at the 9th International Art in Early Childhood Conference at Exeter University in June 2023 concerning the necessity to value and nurture cognition (Heaton, 2021) in children's art experiences, with an emphasis on drawing. This paper focuses on several concerns: it explains why cognition needs nurturing in early arts experiences particularly drawing, it challenges critical perspectives regarding cognition's relevance to early arts education and it proposes approaches to nurture cognition using drawing to assist exemplification. A purposeful sample (Suri, 2011) of children's early drawings (10 images, figures 1 and 2), obtained through a micro visual inquiry (Rose, 2016; Tsang and Besley, 2020; Heaton and Chan, 2022) of two children's drawings (aged 2/3 and 6/7) in out of school contexts, are analysed to illustrate how and where cognition occurs, can be recognized and may be nurtured. These drawings, collected over a year (2022-2023), were analysed with a cognition conceptual frame (Heaton, 2021, p.3), to provide deconstructive, deep and focused interpretations of cognition in informal early arts experiences. The drawings are also shared to demonstrate complexities, intricacies and access to cognition in children's drawing.

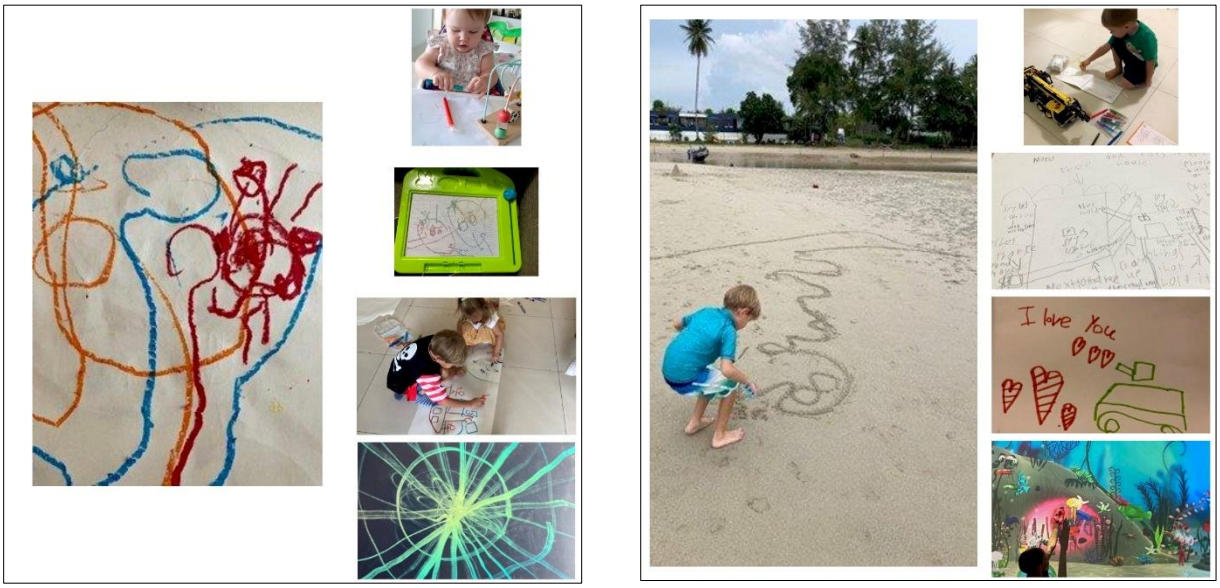

Figure 1 (Images a-e) and Figure 2 (Images f-j), column 1 then 2, top to bottom, sample of Child A (age 2-3) and Child B (age 6-7) informal drawings, 2022-2023, multi medias.

The visual data analysed reinforces that when children engage in drawing, in its multiple forms as expression, meaning making, mapping, communication, interpretation and exploration and as a living embodied experience (Edwards, Caldwell and Heaton, 2021; Cox and Watts, 2007; Heaton, 2021) as some examples, cognition is always at play. Cognition, defined as mind orientated, bodily, and affective connections with knowledge, process, experience, and embodiment (Heaton, 2021) could present through developmental or age-related drawing schemas (Lowenfeld and Brittain, 1987) or as a natural

interest to represent (Mathews, 1997). But cognition is perhaps better articulated in relation to drawing, given evolving lifeworlds (Barritt, 2021), as a dialogic (Wegerif, 2019), relational (Sunday, 2017) and affective experience (Heaton et al., 2020). One that could involve exchange (Heaton and Chan, 2023a), and embodiment with how one or others exist, engage, explore, and execute engagement with material and immaterial, human, and post human (Bayne, 2018; Leonard, 2020) worlds and species. For example, in Figures 1 and 2, children's drawing can be created in, with, through and about (Lindstrom, 2012) the natural and technologic world.

This paper therefore advocates for the importance of nurturing cognition in children's early arts experiences. It suggests that cognition needs to be considered differently in the Early Arts and it places value on supporting educators to develop their and young people's understanding of cognition, cognitive voices and recognition in drawing given changing life climates.

WHY NURTURE COGNITION?

When people draw multiple facets of their cognition, like their beliefs, actions, and perceptions, activate and connect to facilitate attention, expression, and knowledge (Brew, Kantrowitz and Fava, 2013). These cognitive connections could be said to constitute cognitive curation through drawing (Heaton, 2023) because drawing could provide means to link or problematize language, concepts, understandings, media, processes and knowledge as examples. For children, such drawings and their associated experiences are not always valued or nurtured as meaningful cognitive endeavors or recognised as useful contributions to their learning journeys. The current Art Now Inquiry (All Party Parliamentary Group (APPG), 2023) in England recognises art education builds cognition, it advocates for the lived experiences and voices of children to be heard - which engaging and nurturing cognition could provide. The report also proactively makes recommendations, like the need to address teacher training, professional development, and art time deficits to begin to reduce the marginalization of art education. It also brought to light that in England there is no official statistical data accessible about the qualifications and number of arts specialists teaching art in primary and early years settings or about the time spent on this subject. This lack of information means it is difficult to know whether Early Arts educators have an awareness of cognition, what this awareness is and the extent to which it is considered in art education and drawing provision. It therefore reinforces the need for the knowledge in this paper to contribute to opening a dialogue about the relevance of cognition in the Early Arts and drawing provision, whilst positioning the paper as a professional development tool.

Many Early Arts Educators are familiar with the Reggio Emilia philosophy of 'The child having 100 languages, hands, thoughts, ways of thinking, playing, speaking' (Edwards Gandini and Forman, 2012). Examples of these languages can be seen enacted in all the drawings/drawing experiences in Figure 1 and 2. Languages are portrayed through mark making on the beach (Figure 2f), observing, and recording objects and environments, playing with materials, developing drawing concepts, skills, feelings and

thoughts (Figures 1 and 2 a-j). All these drawings, taken as languages, evidence engagements with cognition (Heaton, 2021), reinforcing the need for educators to recognize and nurture these cognitive understandings, intricacies and acts in art and lived pursuits. As stated in Heaton and Chan (2023b), cognition can also be experienced as dissonance. When children engage in the Early Arts and drawing, they too may experience, represent, or problematize dissonance knowingly or unknowingly. A philosophy of nurturing, caring for, valuing and acknowledging becoming in children's drawings is therefore essential (Atkinson, 2022). A consideration of cognitive curation (Heaton, 2023), the act of responsibly forming or disrupting learning connections to understand knowledge, could provide one way for educators to consider their journey of becoming (Payne, 2020). Thus, affording depth in understanding regarding cognition in the early arts and children's drawing. This is because they could map, curate, or even draw their developing knowledge systems and understandings regarding their views, experiences, dissonances, engagements, becomings and nurturings with and of cognition in children's drawing. Such cognitive curations could provide valuable understandings into Early Arts educators experiences, as requested (APPG, 2023), whilst contributing to research knowledge about cognition, curation, and its role in early drawing.

Cognition needs nurturing in the Early Arts because it is a term often misunderstood, undervalued, and associated in education with the sciences (Heaton, 2021). The nature and value of cognition needs mobilization in the Early Arts to give greater recognition to art education and drawing experiences which help young children express, form identities, understand selves, others, and their socio-cultural worlds (Hall, 2020). Hall (2020) identified when children draw, they think about their thinking, they engage in metacognition. When children draw objects, a tree or person for example, they connect their mind, body and contexts to know (Cain, 2006). Sometimes they may stop 'looking' and use internal or prior knowledge to produce their drawing. But it could be more useful to learn to control or nurture their cognition and focus on aspects of the drawing like the lines, tones, textures or feelings associated with observing or experiencing the object, instead of their initial recognition, to develop it. This way the drawing could progress or be expressed more fully whilst nurturing cognition (Edwards, Caldwell, and Heaton, 2018, p.168). When children draw in the Early Years they are always engaging cognitively, so why is cognition sidelined in education systems and policy?

When presenting at the 2023 International Arts in Early Childhood Conference I was critiqued by an academic peer on why I use the term cognition in relation to Early Arts experiences. I valued this challenge and the professional dialogue that followed. I was asked why I use the term and why I focus on cognition in art education instead of learning and whether cognition was too complex, dated and overused in education. These were all valid and welcomed questions, that I have been asked multiple times. However, when responding to and reflecting on these questions and the associated dialogue, I feel that it is the rhetoric associated with such standpoints that makes cognition in art education so problematic. How cognition is perceived and defined by the masses, as a predominantly scientific, mind orientated concept becomes the default position for how cognition is considered in art education. This is

why I wrote an article to reconceptualize cognition (Heaton, 2021) to try and disrupt its initial definition in our discipline to honor the bodily, affective, embodied, living, situational, changeable and becoming qualities of cognition in the arts (Critchfield, 2014). If this definition is not changed, then the traditional academic (cognitive) contribution of arts education will always be in a deficit position to learning in other curriculum subjects. Eisner (1994) had the opinion that views of cognition which reduce thought and knowing to acts of mental processing omit more than they communicate. I have also committed to using the term cognition, as opposed to learning, because cognition is a component of learning and unlearning, learning processes which influence cognition of the self, context, and experience (Heaton, 2018a/b). To only consider learning and not cognition in arts education reduces the contributions that art education makes to human living. It positions art education in a system of performance, progression and knowledge gain, whilst devaluing its contribution to experience, dialogue and nurturing in life (Biesta, 2017).

Yes, cognition is complex, multifaceted and changeable but that does not mean it is irrelevant to consider in Early Arts education, that it is outdated and that it should be reconsidered alongside changing lives and understanding. Cognition, its curation, and exchange, particularly in arts education (Heaton, 2023; Heaton and Chan, 2023a) can help give priority to the intricate voices of children and educators. Voices which can contribute to building an inclusive ethics of care and trauma informed means of education (Kurrian, 2023) relevant to our current realities of engaging with human and posthuman lifeworlds.

HOW CAN COGNITION BE NURTURED?

In cognition research involving artist teachers (Heaton 2018b), I found educators were reluctant to nurture cognition in art education because they were confused by cognition's complex nature. But that when engaging with cognition in personal art making the artist teachers involved engaged many forms of cognition and through making, they nurtured cognitive understandings of the self and other to develop their cognitive knowledge. In the research workshops, focus groups and email dialogues ways of sharing cognitive learning were voiced, but with some vulnerability to transfer these to formal learning contexts. These findings led to the development of a framework (Heaton, 2021, p.3) to nurture educators to conceptualise and engage with cognition in art education. In this section, I connect this framework with visual inquiry data to explain and model how cognition can be seen and conceptualized in children's early drawings. I focus on recognising and explaining cognitive forms, influencers and applications, as framework components. I also recognize there are multiple ways to depict cognition and cognitive knowing in art education, like using Barbour's (2011) consideration of knowing as embodiment, Sullivan's (2010) framework for visual arts knowing or by engaging thinking routines (Irvine, 2017), as some examples.

COGNITIVE FORMS

In the visual inquiry drawings collated, Figures 1 and 2, cognitive forms (as knowledge, process, interdisciplinarity and embodiment) presented in all the drawings. If Figure 1c, Child A's (age 2/3) drawing of her father and grandfather is considered, then evidence of cognitive knowledge could be interpreted through the visualization of her information network – she knows who her father and grandfather are and tries to represent this (Mathews, 1997). An example of the child's cultural cognition (Seel, 2012) could also be shown because the family is drawn. The drawing could also demonstrate knowledge as cognitive connection (Bechtel, 1991), perhaps through identification of similarities between these two people, or a connection with the child's emotions towards them and their significance in the choice to draw them.

With regards to forms of cognition as process, which may be mental, emotional, bodily, and perhaps involving the act of drawing/making itself (Efland, 2002; Siegenthaler, 2013). Child A may be demonstrating an understanding of formal art elements (such as shape and line), or an ability to cognitively process and construct compositions to create a pre-schematic image (Lowenfeld, 1947). Schulte (2021) however reminds that children's drawings must not only be considered in relation to developmental stages because these can lead educators to accept normalcy, instead of difference. Stage consideration can lead to a deficit aesthetic which prioritises essentialism and power and western discourses of acceptance in children's drawings. A consideration of cognitive process in children's drawings acknowledges personal, social, and situational influences regarding drawing developments. For example, Child A may be showing an execution of cognition from mind, physical or emotional qualities of father, grandfather or person, into a physical drawing to share knowledge with others about these people or drawing thoughts and/or acts.

In the drawing Figure 2h, Child B (Age 6/7) shares a detailed drawing of a tree house design, in which interdisciplinarity as a cognitive form can be acknowledged. Child B shows evidence of connecting cognition from different disciplines (English, Art and Mathematics) to voice understanding - simply the written word, visuals and scale are used to communicate. Idea visualization is demonstrated through formation of a cognitive map (Vaughn et al. 2017), such as connecting personal 'imagination' and cultural 'home/experiential' habitats as a communicative tool. This image was drawn for the child's overseas grandfather, also demonstrating how drawings can be purposeful to form intergenerational connection. Forming and recognising connections in drawing can develop a child's cognition because when connected experiences occur and maps are formed cognition deepens (Vaughn et al. 2017).

In both drawings referred to in this section, Figure 1c and Figure 2h, embodiment presents as a form of cognition (Heaton, 2021; Ash 2019). The drawings act as the child's voice, they seek understanding between the self and other but in different ways. In Figure 1c to perhaps show family awareness, in Figure 2h to communicate an idea for joint treehouse construction. There are many ways to express and identify cognitive knowledge in children's drawings (Heaton, 2021), I have just provided some examples

and have demonstrated how a cognition conceptual frame could assist this. In Early Arts drawings, multiple forms of cognition will be used which can be looked for and nurtured.

COGNITIVE INFLUENCERS

Factors influencing cognition: acts, connections, internal and external experiences (Heaton, 2021), did not present as single entities in the visual inquiry drawings collected. Each drawing demonstrated multiple relationships with the four cognitive framework influencers (Heaton, 2021) reinforcing the cognitive complexity involved in creating and analysing drawings. Drawing acts that influence cognition can entail taking risks or exploration (Edwards, Caldwell, and Heaton, 2021); perhaps by drawing with unconventional materials - Figure 2f, being affected or responding emotionally to something or someone (Drake, 2023); like seeing a jelly fish and reenvisaging it - Figure 1e, or drawing to question, construct or deconstruct (Cox and Watts, 2007); like in all the Figure 2 drawings. In Figure 2f a line/path is constructed, in Figure 2g a Lego vehicle is deconstructed, perhaps into mind orientated shapes, and reconstructed again through drawing. In Figure 2h a treehouse design is constructed, questioned and deconstructed through means like adaptations. In Figure 2i drawn metaphors are used to question or construct peace orientated considerations and in Figure 2j relationships between the physical and digital are questioned through an immersive drawing experience.

All the acts mentioned above can influence cognition in children's drawing, and these acts can also link with other cognitive influencers. One being connection itself, which may present as drawings showing mapping, translation or transformation (Malchiodi, 1998). One example of this could be in Figure 1a - where drawn coloured lines are perhaps mapped in relation to one another, transforming the drawing as it develops. Connection could also be exemplified as influence or collaboration from another person, entity or environment (Mathews, 1985). In Figure 1d Child A and B draw together, perhaps influencing each other. Child A is also dressed as a pirate drawing a boat showing possible connection between character, intent and drawing action. Research tells us that cognitive study can reveal connectionism (Bechtel, 1991). In an increasingly connected world, educators should therefore plan and look for opportunities to see, acknowledge and perhaps influence cognitive connectionism in children's drawings particularly because it could reveal links between human and post human (Bayne, 2018) material and immaterial understanding and experience (Atkinson, 2022), which demonstrate dialogic engagements with contemporary life desired by art education (INSEA, 2023).

Internal experiences: one's emotions, voices and connectome (Heaton, 2021), recognition and motivation (Jaquith, 2011) as some examples are also influencers to cognition in the Early Arts. In all the visual inquiry drawings, Child A and B, will likely have embodied their internal experiences (their feelings, conscious and unconscious voices) to fuel their bodies to create. As Drake (2023) suggests drawing can elevate mood and help young people regulate emotions, an entity that again could have occurred in all the micro visual inquiry sample drawings.

External experiences: in a similar manner, those that are time, space or environmentally specific, for example (Mathews, 1985; Heaton et al., 2021), influence cognition in art education (Heaton, 2021). Oguz (2010) suggests factors influencing children's drawings come in two categories, the first being child specific factors (age, motivation, psychology as examples, like the internal experiences I mention) and the second being environmental factors (people, places, cultural and socio-economic circumstances) which align with the external experiences I propose. One could argue that our internal and external cognitive influencers are always connected if drawing, or arts experiences are considered embodied cognition.

The drawing sample helps to illuminate such connected examples, Figure 2i for example demonstrates Child B's interest and sensemaking in using drawing to understand the external event of War and possibly its influence on the internal and or external emotions of self and other. The drawing could be interpreted as a desire for peace, an aspiration for change or it could simply show feelings or an interest in vehicles. The drawing was created for Father's Day, so an exchange, or connection, was intended. Indeed, the child would need to be questioned further, as is the case with most of the drawing sample, to determine thought and intentions. But through visual analysis the drawing sample reveals that multiple cognitive influencers and entities of cognition can be interpreted from children's drawings revealing their cognitive complexity and value as sources of cognition.

To nurture cognition and connection in children's drawing, children and educators could be encouraged to take on the cognitive curator role (Heaton, 2018b; Heaton, 2023): someone who learns responsibility for organizing, or mapping, their cognition when making art - like a curator organizing an exhibition. Educators and children could be encouraged to understand different entities of cognition and dialogue about their cognitive curation (or drawing choices) to share their cognition, connections and moves. Many educators and learners will be nurturing this already, just perhaps not with the recognition or profiling of cognition. This entity is important though, if collectively we hope to reconceptualize cognition and use it to support and unite the academic and holistic credentials of Early Arts engagement.

COGNITIVE APPLICATIONS

The cognitive applications: clarify and transform, understand and connect, document and apply and construct and experience, were also framework entities used to analyse the visual inquiry data. These were also derived from the cognition frame adopted (Heaton, 2021) as factors to nurture cognition in art. In this paper, I refer to these applications for two reasons: to demonstrate their presence in the drawing sample and to present ways educators can draw on them to nurture cognition. In Figures 1a and 2g as examples, clarification and transformation have likely occurred because there is a suggestion that the children are observing (an abacus and Lego technic vehicle) and have produced drawing responses (transformations) as a result. Irrespective of the success of the observational or representational drawing approach (Mathews, 1997), the children have engendered their cognition to connect their environment

(object), mind and drawing processes, likely multiple times, to go through a drawing process of clarity and transformation. They have demonstrated cognitive movement between child specific and environmental factors (Oguz, 2010) in their drawings, or internal and external cognitive influencers. In the Early Arts, clarification and transformation, as forms of cognitive application, can be (and are) nurtured in many ways simply by enabling opportunities to connect and flow between child specific and environmental, internal and external, human and posthuman, material and immaterial engagements when engaging in, with, through and about (Lindstrom, 2012) drawing. It would be useful now if educators also engaged in a cognitive curatorial dialogue (Heaton, 2023) around this, because all the visual inquiry sample could illustrate examples of applied cognitive transformation in unique ways.

For example, Figure 2j, exemplifies how a drawing of a sea creature can move from an individual physical to collaborative digital context, transforming cognition between a human and posthuman space. In consideration of applied cognition, this requires considered understanding and connection on behalf of the child, it may already position them in the cognitive curatorial space or role (Heaton, 2023). Understanding and connecting is also an application of cognition that can be recognized and nurtured possibly by encouraging drawing experiences that circulate between personal, theoretical and cultural spaces and experiences (Efland, 2002; Heaton, 2021). To understand them and make connections between them. In Figure 1c for example, the child drew father and grandfather, showing personal space/experience (the drawing), the cultural space/ experience (family) and engagement with the theoretical (drawing knowledge – shapes, lines, composition). An educator wanting to progress or help curate the child's cognition could enhance any of these spaces/experiences (personal, cultural or theoretical) or encourage clarity, transformation, understanding or connection with them through dialogic exploration or engagement facilitating cognitive depth or breadth. In practice, this could be by offering more choice of different materials in the personal drawing space. It could be culturally asking more questions about the child's family or facilitating comparisons and differences between other families. It could also be theoretically teaching about drawing techniques or contemporary artists who depict family, such as those presented in the 'Real Families: Stories of Change' exhibition held at the Fitzwilliam Gallery, UK in January 2024.

To nurture the application of cognition when drawing, understanding and connection need celebrating. One means to do this is to document and apply cognition and its curation. Educators and children together can engender opportunities to document and apply drawings to different scenarios, to encourage concept mapping (Eddy et al., 2020) and consequently cognitive connection and curation. For example, in view of Figure 1d the children are drawing collaboratively on the same paper, but not on the same image. They could be encouraged to engage in group mediated cognition (Rennie and Mason, 2008) to bring their Pirate Adventure to life through a collaborative drawing. They could create a drawn/constructed installation that unites their ideas and drawings as one, and documents or applies their developments to a new or enhanced context, like an exhibition or event. As seen in projects like The Big Draw: https://thebigdraw.org/ Such an imaginative and cognitively rich drawing experience would

provide enhanced opportunities to construct and experience the application of cognitive knowledge, because the children could be supported to clarify, transform, understand, connect, document, apply, construct and experience lifeworlds (Barritt, 2021) through drawing. Children could research explorers, famous vessels, journeys or the lives of children changing places as some examples. By using drawing to research and dialogue with the world children would build their learner identity (Bancroft, Fawcett & Hay, 2008) perhaps as a cognitive curator (Heaton, 2023) and educators may gain confidence to nurture cognition through engendering experimental drawing pedagogies (Hay and Paris, 2022). This would contribute to wider aims in the Early Arts to enhance educational futures in view of play, possibility and preference underpinned by guided and reflective planning surrounding drawing (Sonter and Jones, 2018).

WHERE NEXT? COGNITIVE VOICE AS A TOOL FOR ARTICULATING LEARNING

The visual inquiry analysis shared in this paper demonstrates that, in a small sample of children's drawings, cognition occurs, can be recognized and has potential to be nurtured. This inquiry had some limitations: a small sample size, a sample collated by the researcher and a single analysis unit - image to conceptual frame. However, as Willis (2013) debates, micro cases like this visual inquiry can have credibility when a small holistic sample is analysed (10 images) singularly to provide focused interpretivist and generalisable views on a phenomenon, like cognition. Such limitations, as I state in previous cognition research (Heaton, 2023), also offer specificity in their lens towards cognitive recognition. Recognition may present differently by others with alternate expectations of cognitive curation processes and unique life world experiences. If conducted again the analysis could be undertaken by more than one individual. However, to compensate for this the conceptual frame used was derived from research considering multiple perspectives of cognition. Visual inquiry research was appropriate though because it articulates insights into cognitive worlds (Roddy et al., 2019), this study's intention. It offers enhanced understandings and knowledge of art/making processes and their intersection by presenting knowledge about how cognition can be presented, interpreted and interrelated in children's drawing (Barbour, 2011). Also, it was the intention that the knowledge and research intersecting as it does between art (drawings) and research (cognition conceptual frame), be seen by the researcher and others (Jeffers, 1993).

This inquiry paper has contributed examples of how a cognition framework can prove useful when developing becoming (Payne, 2020) concerning cognition in children's drawings. Irrespective of the study limitations, multiple forms, influencers and applications of cognition were derived from each drawing that align to the cognition frame and literature, signalling the presence of cognition in children's drawings. Examples have also been given of identifying cognitive forms and influencers, to demonstrate how cognition may materialize and transform, with suggestions, like cognitive exchange and curation and the discussion below offering means to nurture it.

To nurture cognition, cognitive voice can be given value (Burton 2000; Heaton, 2018a). It can also be used as a tool for learning articulation in the Early Arts so that learners and educators engage in cognitive dialogue. Dialogue which can enhance visual literacy (Hermans and Schonau, 2022), cultural citizenship (Kuttner, 2020) and bring forward knowledge of other academic areas (Steedly and Thormann, 2008). In Heaton (2023) I presented some strategies: acknowledge movement, explore identities, and apply frameworks to facilitate cognitive curation in visual art. Cognitive curation can be a way to give voice to cognition because it aids learning articulation in imaginative and responsible ways, through voice, visuals and narrative. In Heaton and Chan (2023), similar to Treacy and Leavy (2023), I recognize dissonance in cognition and see its value to enact difference and change in learning and professional development. To nurture cognition in the Early Arts and drawing specifically, educators can encourage imaginative inquiry, possibility, voice and an open dialogue (Gulla, Fairbank and Noonan, 2020) whilst recognizing and applying cognition. Prioritising times, spaces, and experiences for children to construct, experience and even reflect on cognition individually and collaboratively will give worth to their artistic creations whilst guiding them to personalise and have responsibility for their cognitive curations and development through inspiring and inclusive arts opportunities.

To reiterate the importance of allowing free imaginative drawing opportunities for children and to demonstrate their value in eliciting cognition and cognitive voice I reflect on an additional drawing, Figure 3: The Virus Fish, which Child B created during the pandemic. This drawing was not part of the visual inquiry sample, because it was drawn before the micro-visual inquiry parameters were set, but it was influential in inciting the interest I have concerning cognitive power in children's drawings. The child consented to the sharing of this drawing. The creation of The Virus Fish was means for Child B to rationalize his pandemic experience, each day during quarantine he walked to a local pond to feed the fish. When at play at home, Figure 3 was drawn. The child talked, in relation to the drawing, about how the fish travelled the world, visited his grandparents across the ocean and ate the Coronavirus to eradicate it. The child, through the pandemic, drew multiple iterations and told many stories about The Virus Fish, perhaps as a coping mechanism, a means to connect with people who were missed and to understand unfamiliar life circumstances.

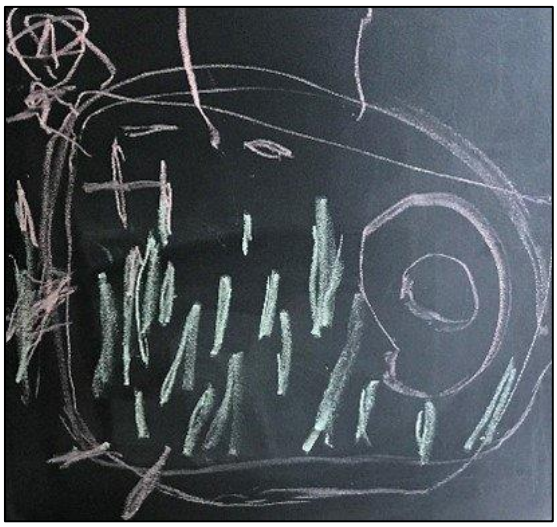

Figure 3, The Virus Fish, Child B, 2020, Chalk on Board

These visual and verbal dialogues are cognitively rich because they show emotional and cultural cognitive forms (Efland, 2002; Seel, 2012). This is achieved through engagement and movement between internal and external influencers of cognition (Oguz, 2010), like feelings and circumstances. The dialogues also apply cognition because they are used to construct, clarify, understand and connect the imaginative and real world. The drawing dialogues, visually and verbally, could also be perceived as cognitive curations and exchanges between internal and external cognition, personal and social cognition and the imagination and reality. This drawing example helps demonstrate how important open drawing opportunities are for children to express, sense make, belong and be visionary (Atkinson, 2022; Drake, 2023). It also shows how valuable drawings are as sites of and for housing, articulating and experiencing cognition and its intersecting iterations (cognitive voice, exchange, curation and dissonance as examples.)

Early Arts policy and practice now needs to place emphasis on the cognitive complexity in children's drawing experiences, whilst using this recognition to nurture Early Arts and drawing opportunities that position young people as cognitive curators. An increase in research studies that address the influence of cognition in the Early Arts, would also help to mobilize the academic contribution of Art in formal and informal education systems and people's lives beyond.

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