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5x5x5=creativity, Art as a transformative practice

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Abstract:

The purpose of this paper is to share ideas from 5x5x5=creativity, a research initiative established in Bath (UK) in 2000, with the aim of developing and embedding a creative and reflective pedagogy in schools and early years settings. 5x5x5=creativity research, in partnership with schools, educators, artists, creative professionals, mentors and cultural centres, aims to raise the aspirations and improve the life chances of children and young people as creative learners. In our research we want to develop creative reflective practice and influence systemic educational change. This research defends the special role of the arts in developing a more flexible concept of education through curosity and creativity, together with the capacity for the arts for allows "possibility thinking" through a creative and critical pedagogy. On this paper we analyze the impact of the artists' involvement on the development of a creative, reflective pedagogy in schools. As both artists and educators we believe it is necessary to challenge current orthodoxies and establish creative and critical thinking at the heart of learning for both children and adults.

Keywords: creativity, art, education, transformative practice, creativity pedagogy, schools, artists

Introduction

The framing of this paper reflects changing thinking about the concept of creativity and its relevance to the contemporary world of education, understanding creativity as a possible vehicle for individual and collective empowerment and as an attitude that develops effective learning (Craft, Jeffrey & Leibling 2001). The universalization of creativity in education has been influenced by developments in creativity research and by the political scene for decades, but now creativity is at the center of questions about the future of education. The National Advisory Committee on Creative and Cultural Education (1999) argued that

creativity is possible in all areas of human activity, including the arts, sciences, at
work at play and in all other areas of daily life. All people have creative abilities
and we all have them differently. When individuals find their creative strengths,
it can have an enormous impact on self-esteem and on overall achievement" (6).

Creativity crosses all subjects and domains, but the arts are powerful in stimulating
creativity. *5x5x5=creativity* project in the UK is built on this conception of creativity, and
this research makes visible creative and democratic process of learning, improving the
children's creative and the critical thinking, and understanding that creativity can enhance
wellbeing and transform lives, communities, cities and economies.

5x5x5=creativity research analyses the impact of arts on education, emphasizing what
education can learn from the arts in relation to educational practice (Eisner 2002). Since
2000, mainly in the South West region, the charity *5x5x5=creativity* has been co-
designing collaborative projects between schools, artists, cultural institutions, community
organizations, local authorities and families, with the aim of providing a new look at
creativity and empowering the creative potential in each of the members that participate.
At the beginning the project brought together five early years' settings, five artists and
five cultural centres to work together for a year in the local authority area of Bath and
North-East Somerset. Fawcett and Hay (2004) explain the influences received from
Reggio Emilia preschools on the *5x5x5=creativity* project, "mostly with the incorporation
of an artist (*atelierista*) as a permanent full-time member of staff in every preschool. The
collaborative relationship between the artist and educators was probably the key to the
high quality, imaginative, thought-provoking work of the children" (p. 237). Some years
later, there are more than three hundred schools, more than fifty artists, mentors and
cultural centres. *5x5x5=creativity* establishes long term connections between artists,
schools and cultural settings and those relationships improve the creative learning and the
construction of the self - of each child, as well as the adults that participate in the creative
action-enquiry research projects. The arts allow the child to follow their fascinations and
explore their own identity and personality. In this paper, our interest is to look closely at
the relationships between the artists, children and teachers; and to analyze how
5x5x5=creativity project helps to develop a concept of creativity that invades the
maximum educational environments.

5x5x5=creativity research addresses key themes: **creative values** (the competence and
strength of the child, pedagogy of listening), **creative relationships** (attentive, respectful
adults and children working collaborative), **creative environments** (both physical and

emotional) and **creative behaviours and dispositions** (supporting creative thinking and learning dispositions; holistic learning). Sir Ken Robinson (2017), Patron of *5x5x5=creativity*, defined in a conference held at the Forest for Imagination:

> Children are playful, energetic and learn from each other. We should remember childhood and remove the obstacles to learning. The problems are not in the kids. The problems are in the systems and we need to re-imagine the systems not re-imagine childhood.

The main aim of this paper is to show how working intensively with the artistic process in schools, we can promote creativity as a way of life, offering a deep knowledge of oneself and others - as well as offering more meaningful learning, establishing links with the world in a creative way. With this research, we aim 'to generate other visions of education, other values to guide its realisation, other assumptions on which a more generous conception of the practice of schooling can be built' (Eisner 2002, 8).

Figure 1. Forest of Imagination 2018, Bath (UK).

Creativity as a natural state of mind

In our research, we share Malaguzzi's idea that "creativity should not be considered a separate mental faculty, but a characteristic of our way of thinking, knowing and making choices" (in Edwards, Gandini & Forman 1998, 75). 5x5x5=creativity understands creativity and creative thinking as a function of intelligence (Robinson, 2001), a state of mind (Lucas in Craft et al., 2001), going beyond the conventional (Craft, 2000) and one of the higher cognitive functions (Gardner,1999). Koestler defines creativity as 'the ability to make connections between previously unconnected ideas' (1999, 13). Creativity is a means to perceive differently, just as much as it is a means to do things differently (Adams & Owens 2016, 1). Creativity is not an exclusive feature of artists, it is a quality that can be cultivated in every person, regardless of background, age, social status or professional interests. Democratic creativity is the domain where we place our research, exploring "the concept of creativity that includes the imaginative events and productions of ordinary people" (Adams & Owens 2016, 6). 5x5x5=creativity research demonstrates this wider notion of creativity and shows how we could change our educational practice to support children and adults in living more creatively, building a more democratic and positive society in the long term. In our research, we have seen how creative learning signals the involvement of children in being innovative, experimental and inventive

(Jeffrey 2006). When we work with the idea of little c creativity (Craft 2001), the notion of creativity is democratised, it is life-wide and life-long. If we understand it as possibility thinking (Craft 2011) children's creativity can be seen as exploratory, with a transition from 'what is' to 'what might be' (Craft 2011, 1). This change of mind allows children to constantly build on their own research, to enquire about the world and their own relationships with it. *Project Zero* is a research center based at the Harvard Graduate School of Education and their Pedagogy of Play research team (2016) define six thinking dispositions on artful thinking which emphasise intellectual behaviours: questioning and investigating, observing and describing, exploring multiple viewpoints, reasoning with evidence, finding complexity, comparing and connecting. We research the impact that *5x5x5=creativity* has on the changing of mind sets in schools, and how the arts can develop children's self-determination, purposeful risk taking, imagination, and how they can develop their own lines of enquiry as protagonists of their own learning.

In our research, we can see what Art offers Education is the rediscovery of children's natural drive to explore the world through creativity and imagination, because the artistic process aligns with the way children actively construct meaning through experience. If we give a quality of attention to children's creative ideas and knowledge building, and make links with the artistic process, we could create a stronger and much needed argument to change the current education system – to build a more democratic and creative approach to learning, teaching and school. By developing creative environments for learning and creative ways of learning, we will be encouraging learning in the flow (Csikszentmihalyi 2002), a state of being central to the creative process that is characterised by intense concentration, absorption, pleasure and lack of awareness of time passing. If then, as adults, we are 'more attentive to the cognitive processes of children' than to the results they achieve, then 'creativity becomes more visible' (Malaguzzi in Edwards et al. 1998, 77). David Almond, author of children's books and patron of *5x5x5=creativity*, reminds at the Forest of Imagination event:

> Working with children we re-imagine ourselves, rediscover that childhood energy. Children leap across boundaries; they don't separate out drama, novel, music, play, etc. They can teach us not to think in straight lines. Children are natural artists, natural philosophers. Reading and talking are artistic creative acts. Creativity has to be at the heart of everything we do in schools. (cited in Evans 2017, 16)

In the UK, research into creative pedagogies defines this concept as an 'imaginative and innovative arrangement of curricula and teaching strategies in school classrooms to develop children's creativity' (Craft 2011, 265). Jeffrey and Craft (2003) describe four components that characterise a creative pedagogy: children and their teachers being engaged in innovation, ownership, control and relevance. Additionally, curiosity, connection making, autonomy and originality were documented as key features in classrooms of highly creative professionals, who, it was suggested, fostered play and exploration in open ended contexts (Poddiakov, 2011).

Play and flow

We find it useful to frame our research around a constellation of features that Gardner and the Project Zero researchers (2016) call playful learning. This way of working nourishes the adults as much as it does the children, changing structures and conceptions about ways in which we learn. Re-conceptualising the notion of arts education as 'creative pedagogy' and 'critical thinking' (Giroux in Adams & Owens 2016, 9) challenges some of the orthodoxies in the current education system, emphasising the process of learning how to become the architect of our own education (Eisner 2002). Dewey describes as learning is an infinite, lifelong capacity, which should never be exhausted, being a prerequisite for a fulfilled life and for the permanent engagement of the citizen with a continually developing society, in the democratic, political sense: 'the most important attitude that can be formed is that of desire to go on learning' (1938/1969, 48).

Learning through experience is one of the prerequisites of this lifelong learning, and the arts are built on this concept of learning. If we create the conditions for creative practices we'll create the frameworks into the institutions for these long-life attitudes of learning. In anticipation of Bourdieu's (1986) notion of habitus, Dewey asks for the 'formation of attitudes, attitudes that are emotional and intellectual' (1938/1969, 35). In this way, we understand that two verbs become really important, and both are inextricably linked to the processes of learning: to create and to play. Winnicott (1971), explains that the suspension of rules makes possible the creation or invention of fresh meanings. Play and art are the best environments for growth – both with the kind of freedom that allows us to create new meanings that can 'shake the world'. The benefits of learning through play have long been recognised as a central process through which children learn (Froebel 1887; Dewey 1934; Piaget 1969). In play, children reach their highest levels of thinking (Vigotsky 2004; Gardner 1999). Play is liberating, Benjamin (in Sicart 2014) describes

children as surrounded by a world of giants, they use play to create a world appropriate to their size. By playing the children make relationships with the others and with the world, they construct new meanings and new questions to develop their own theories.

As with the artistic process, it is the appreciation of the process that makes play beautiful (Sicart 2014, 129). Playful learning through the arts can be very powerful in developing children's intellectual, social, emotional, and physical capacities. Gardner in *Project Zero* shows that through these playful activities, the children are building disciplinary knowledge, critical thinking skills, and collaborative capacities. They are exploring, wondering, making connections, and laughing; failure is an opportunity to try again. In playful learning, children try out ideas, test theories, experiment with symbol systems, explore social relations, take risks, and reimaging the world. Vygotsky (in Mardell et al. 2016) explains that 'a child's greatest achievements are possible in play, achievements that will tomorrow become her basic level of real action'. But we know that to change the perception of play in schools is often difficult, especially in relation to how playful learning and the way teaching and learning are currently structured in most schools. However, if we establish Art as a practice of playful learning and teaching, it can help to introduce pedagogy of play in schools. Schechner (cited in Mardell et al. 2016) explains that it's wrong to think of play as the interruption of ordinary life. So, we question why some adults in schools interrupt the flow of learning through playing - are schools not one of the most important spaces of their everyday life? Working and playing alongside artists can help to create a playful and creative culture in schools. Artists' habits of mind include playfulness and the vital enquiry of their everyday life, just as children play if they are uninterrupted. With the presence of artists in schools and with a focus on the concept of learning, we have observed how the arts offer a pathway for intellectual, social, emotional, and physical development:

Intellectual development: the engagement through the Arts is stimulating and connects different fields of knowledge in significant ways, building children's creative thinking as a life wide skill. This immersion in the Arts increases innovation, self-expression and helps children learn new ways of seeing and communicating their ideas.

Social development: to work alongside professional artists offers children and teachers alternative ways of understanding the world, and develops different kinds of relationships to family or school. Working on a collaborative way with artists, children learn the skills and dispositions of collaboration. Through the arts, we share others' imagined worlds and possibilities, learning about each other as individuals at the same time.

Emotional development: what the arts offer to children and adults is the possibility of expressing things that sometimes can't be said with words. The arts can improve self-regulation skills, and support children's own capacities to empower themselves with their own ideas, building self-realisation. This sense of agency enables children to recognise and act on opportunities for change, and empowers them to make choices about their lives (Clapp, Ross, Ryan, & Tishman cited in Mardell et al. 2016).

Physical development: considering the notion that a child needs all their body, and not only their mind, to learn and live, then both the arts and play contribute to good physical development. The creative process offers children the opportunity to push their own limits and to try new things.

Figure 2. On the project School Without Walls learning takes place outside of the school in cultural centres and public spaces across the city. Bath (UK).

5x5x5=creativity, building a creative network

This research is based on an image of a child as strong, powerful, and rich in resources, right from the moment of birth (Rinaldi 2001); of "children and adults as co-researchers and meaning-makers" (Craft 2008, 22); understanding the role of creativity and the need to explore and document pedagogies that build on these beliefs (Drummond, 2005). Developing an enquiry based approach to learning that allows children and adults to co-construct knowledge and to think in a creative and critical way, is central to *5x5x5=creativity* research. In their projects, they invite artists to work in collaboration with schools and cultural centres (galleries, theatres and museums), co-designing creative enquiries alongside both adults and children. The structure remains based on this triangle: artist, educator and cultural centre, working creatively with children and each other. Every setting has a mentor who maintains regular supportive contact throughout the project. Reciprocity is in the spirit of *5x5x5=creativity* research, there is a flow of giving and taking, sharing mutual interest and respect, a flow between the artist, educator and children.

For the last 18 years, *5x5x5=creativity* has been growing and developing projects with a range of institutions and partnerships. Signature projects include *School Without Walls*, *House of Imagination* and *Forest of Imagination.*

Forest of Imagination is a free four-day contemporary and participatory arts event co-designed by 5x5x5=creativity and Grant Associates in collaboration with a host of

creative organisations. Forest of Imagination makes creativity visible in the city of Bath and engages new audiences with contemporary arts, design and creativity through a participatory programme working alongside artists and creative professionals. It involves the reinvention of a familiar space to inspire intuitive play and imaginative thought - to heighten a sense of nature and the city environment (Fig.1). Forest of Imagination makes creativity visible in the city and engages new audiences with contemporary arts, design and creativity through a participatory programme. Forest involves a collective of creative, cultural and educational organisations in Bath: 5x5x5=creativity, Grant Associates, Feilden Clegg Bradley Studios, Bath Spa University, Herman Miller, Imaginnovation and RSA.

School Without Walls is an enquiry and residency-based model of experiential and creative learning that transforms both the curriculum and the learning culture in schools (Fig.2). The aim of the research is to understand how the arts can transform the learning processes and they can help to develop a more creative society. The creative team includes visual artists, musicians, dancers, theatre makers, live artists, creative writers, spoken word poets and other creative professionals (mathematicians, scientists and philosophers). Transposing 'school' to an arts environment prompts both teachers and children to interrogate and reshape teaching and learning (Fig.3). Children and teachers are engaged in co-constructed creative enquiries with creative professionals and demonstrate that when young people are protagonists of their own learning, their aspirations and achievements rise.

House of Imagination is a space which provides children and adults with opportunities to work with creative professionals in a studio environment in pop up spaces in Bath and local schools. *5x5x5=creativity* is researching the difference that working in a studio environment, as distinct from a classroom, makes to the creative process. An exploration of creativity is at the heart of House of Imagination (Fig.4), it incorporates research into both the relations between the arts and other fields of knowledge and the interstices that lie between them.

Methodology

The main aims of this action research are to make visible creative and democratic process of learning, and in the long term, to improve children's creative and critical thinking. The creative methodology is developed around the concept of glow (MacLure, Holmes, MacRae, & Jones 2010) based on the idea that deep and critical reflection on significant aspects of our lived experience can produce important layers of meaning and

understanding. It is a methodology based on dialogue, critical and creative reflection, and meaning making, leading to renewed action and ongoing documentation. We believe the approach is one of methodological inventiveness, that allows us to co-create enquiry approaches that enable new, valid understandings to develop; understandings that empower practitioners to improve their work for the beneficiaries in their care (Dadds & Hart 2001).

Significant influences on the development of this approach, as a methodology for making sense of the learning, have been:

The creative-reflective cycle (Aguirre & Elders 2009). The cycle consists of: observation/ documentation (thinking about what we are noticing and documenting this in different ways); revisiting (discussing key documented experiences, drawing on different perspectives); analysing and hypothesising (thinking about what is emerging, what questions are being asked?); and thinking and about future possibilities and provocations (How can we support people's interests and fascinations? What provocations can be made?).

Critical dialogue (Rinaldi 2006). Working with a notion of dialogue and discussion, not just as an exchange of ideas, but also as a process that can facilitate transformation in thinking and action. This concept of dialogue is generative and creative, involving the coming together of different voices, experiences and knowledge through which new understandings can be created.

Glow moments (MacLure et al. 2010). Focus on the *glow moments*, understanding them as particularly powerful or transformational for different people, in particular in terms of the learning of children, young people, families and educators, and the differences made to this learning through working with artists and creative professionals.

A hundred languages of thinking and expression (Malaguzzi 1996). Research that engage multiple forms of thinking, communication and expression, including narrative observations, photographs, videos, reflective journaling and making. Tuning into these different languages has enabled to create space for the kind of democratic dialogue that is at the heart of our research and evaluation, enabling multiple experiences and perspectives to be shared with different audiences.

Deep documentation: Based on the approach in Reggio Emilia, understanding it as a way to capture why and how something is happening to understand children's thinking, and not only to describe it in a traditional way. If we 'stand aside for a while and leave room for learning, observing carefully what children do, and then, if we have understood

well, perhaps teaching will be different from before' (Malaguzzi 1996). To narrate this learning process requires the use of verbal and visual languages not only in a narrative and analytical way, but also in a poetic, metaphoric, musical, physical, and dramatic sense, because subjectivity is both in learning and teaching. Data collection was through qualitative methods, consisting of interviews with teachers, children, parents, artists and mentors. The research focused on their experience of creative learning, creative relationships and creative environments. By comparing the various kinds of data, we used these different tools:

- **Open interviews** with children, teachers, head teachers, artists and creative professionals in cultural centres, to collect their thoughts and observations. The narrative experiences are not only in the interviews, the researchers use more often the intimate dialogue between children and adults. Making things together is often an effective way of allowing conversations to blossom; the playful and non-judgmental environment of a well facilitated session allows new perspectives, ideas and identities to be explored. This research is built upon reciprocal relationships, participation, exchange, dialogue and negotiation. The ability to listen and reciprocal expectation is an important quality that allows communication and dialogue to be sustained and understood. "Children quickly perceive how listening is essential for communication" (Rinaldi 2001, 186-187), and the role of dialogue and discussion in developing creative conversations between adults and children are really important on the projects. In this context, the artist is seen as a creative enabler and facilitator of possibilities (Rinaldi 2001).

- **Reflective journals** for children, artists, teachers and mentors. Documentation to make the learning visible (Rinaldi 2006) is an integral tool for both the expression of ideas and meaning-making. Vecchi (cited in Bancroft, Fawcett & Hay 2008, 34) describes documentation as a 'unique source of knowledge...it is a precious material for teachers, but also for the children, for the family and whoever wishes to get closer to the strategies in children's ways of thinking.' If adults take children's ideas seriously they can support children in the exploration and expression of their ideas (Malaguzzi 1996). The reflective journal is influenced by artists journaling, as a space to think and explore ideas freely. It is also related to ownership of learning for all those involved: making their thinking and processes visible to themselves and seeing themselves as researchers and learners.

- **Video and photographs** taken by the mentors, artists, children, teachers and creative professionals. In addition to talking and writing, photography and video has helped

researchers to register some important moments in the learning process and the relationships between the participants.

- Artworks and exhibitions. Understanding children's artwork through performances and exhibitions, as ways of expressing themselves in 'a hundred languages' (Malaguzzi 1996). If *5x5x5* projects are approaching the arts in educational settings, then exhibitions and performances are natural processes of the artistic process and these are shared with families and the community.

- Reflection meetings. Artist, teachers, creative professionals and mentors sit down together to share their observations and perceptions of the sessions. Both artist and educator have different perspectives and identify some of the current fascinations of the children. 'Educators often talks about the value of the artist observations, offering a fresh view or developing a third eye. The artist is a creative enabler, who works with the educators in their development of ongoing, creative learning environments' (Bancroft et al. 2008, 5).

Figure 3. Children from St Andrew's Primary School in their residence at egg theatre, Bath (UK). School without Walls, 2016.

Figure 4. Children creating stories with author David Almond. House of Imagination, 2017. Bath (UK).

In our research, with the triangulation of the data we have obtained the following indicators:

1. Children and young people receiving a high-quality arts education alongside professional artists and in cultural centres. Our research gets into children's theories of the world and how they construct meaning through their own art making. We have seen more vulnerable children or those in disadvantaged circumstances have significant and transformational experiences through the arts. The arts allow children to perceive themselves as authors or inventors, and then they discover the pleasures of inquiry, and so their motivation and interest explode (Malaguzzi in Edwards et al.,1998). Eisner (2002) describes as

> the arts teach students to act and to judge in the absence of rule, to rely on feel, to pay attention to nuance, to act and appraise the consequences of one's choices, and to revise and then to make other choices. (…) Such forms of thought integrate feeling and thinking in ways that make them inseparable (9).

A student of 10 years old had written his own experience during *School Without Walls* (2015):

My Stomach – Genève

'My starting point is when we had our first lesson with Catherine and she asked us to close our eyes (like she always does!). Then she told us to imagine a journey through our body and we could use any kind of transport to use on our travel. A clear, vivid image appeared and it was my stomach! It was not a scientific image, but my own that was a lovely picture – better than the look of a real one. On my mind the small, medium and giant bubble pops depending on size. If it was small, it popped one second before it was made, medium can live like a normal bubble! Finally, the big one lasts as long as two of them put together and more.

Firstly, I used an orange, soft pastel to make big circles (bubble) some over-lapped each other! Then I used a red-coloured soft pastel to make a slightly small bubble inside the bigger one. After all of the bubble making stomach I made I smudged the outside and then traced to add effects. I thought I was finished and then I made a small bubble and some popped to show a few (in) movement - how many tiny bubbles have been popped? What do you think it looked like when you first saw it? Why did you think of that?

After I finished I felt proud and have to admit it looked just like I've seen in my mind or even better! Even though some of my work turns out to something different, but luckily it turned (out) just as I imagined in my mind. Every time I looked at it –(it) reminds me of my fascinating journey through my stomach. How I loved and gave my heart on this piece to show that I cared and took my very time to finish this. If I never gave such love it may not be here for you to see.'

Children who learn through the arts are the ones who give shape to things, they are not just destined to submit (Malaguzzi in Edwards et al. 1998). This critical attitude so central to the arts is more necessary than ever, to develop critical skills in children and adults.

2. Work with artists, co-work with artists or work alongside artists
The exploration of the role of artists has been a vital part of our research. Artists engage in open-ended, critically-reflective and collaborative forms of engagement that are central to and inspired by the nature of creative practice itself. The link between creative practice and pedagogy is vital in making the creative learning visible. Artists engage with children and young people through discussion and the exchanging of ideas and experiences. This

'co-constructive' involves the artist as a co-learner in this experiential learning. The relationship between the artists' individual creative practice and their collaborative and pedagogic work is, therefore, critical. Matarasso (2016) talking about the role of the artist reflected:

> Why work with artists, or perhaps why co-work with artists or work alongside artists? The artists are bringing a way of working if they're creative artists, they bring questioning, open mindedness, enabling, empowering, defining a space in a way that makes that space safe for people to open themselves and to explore and which results in the co-creation of shared meanings that can be understood and shared with other people through whatever work comes out of that. Because educators by training, by theory and by policy have a structured approach to working with children and nurturing learning, that structured approach is brought into contact with the differently structured approach that artists have, and that in itself is creative. It's the bringing together of two ways of understanding how to promote learning, both learning from each other. (cited in Annual Report, 52)

Artist Deborah Aguirre Jones describes the role of the artist in *5x5x5=creativity*, 'who is connecting communities with contemporary culture through familiarity and experience, bringing their understanding of different cultures in life and in the world and combining this with the experiences in the community'(cited in *5x5x5=creativity* Annual Report 2015-2016) In recent discussions with François Matarasso he offered an understanding of imagination as stepping outside of one's usual patterns of thinking and being. This is something that *5x5x5=creativity* projects produce, facilitating opportunities and experiences which offer people the potential to try different versions of themselves, through engagement with the creative habits of mind of artists.

3. A stronger network of advocates and practitioners of arts learning, confident in their ability to engage regularly with us as providers of high quality training for teachers

During the project teachers reflect and report on the impact of the arts on their own practice. One of the key observations is that curious children need curious adults. Teachers have been "encouraged to 'stand back' in an acutely sensitive way, with close scrutiny of the children's engagement so as to choose wisely when to step in to provoke, clarify, support, extend, challenge" (Craft 2001, 2).

David Allinson, Head teacher at St Vigor and St John Primary School, describes the impact of *5x5x5=creativity* research on the children's development:

As teachers, we became really fascinated about how the drawings the children did helped the children's ideas to grow and change and become connected – this started the questions that we have. We became fascinated in how children's drawings help them to put ideas together and grow. In how can ideas be revealed, connected and grow through drawing. (cited in *5x5x5=creativity* Annual Report 2015-2016)

School heads have observed how the arts can change both the curriculum and some school structures. They were conscious, as Eisner (2002) explains, that the lessons the arts teach are not only for the students; they are for the teachers as well. Sarah Salmon, Head Teacher, Knowle West Children's Centre's reflects:

It has provoked us to look again at this relationship and the understanding of each other's roles in a lot more depth. It has enabled us to think about what is the role of creativity and creative experience, working with artists bringing different perspectives and provoking thinking? (cited in *5x5x5=creativity* Annual Report 2015-2016)

In working together, all the cultural settings, the individual artists and the mentors are building a rich network based on learning creatively in and through the arts. These processes offer creative tools for life for children and adults. Engagement with creative teams with different skills and knowledge is an enriching experience for all. All are seen as co-learners and co-constructors of knowledge, forming creative, collaborative and reflective learning communities.

Conclusions

5x5x5=creativity project during those years has shown that the arts have the power to be transformational in our lives. Working alongside creative professional artists has been a privilege that all children and adults should have access to: to be able to learn together in ways which value our human capacities for being creative. *5x5x5=creativity* is now a nationally recognised and highly regarded long-term research project influencing educational practice across the UK and beyond. Throughout the research there has been a transformation of practice in classrooms and across whole schools.

Children are growing up in an increasingly interconnected and complex world. They need to grow in a creative environment which allows them to develop their own ideas. As the Pedagogy of Play Research Group of Project Zero (2016) explain, "the cultivation of playful dispositions will enable them to be creative and collaborative contributors to the

world's challenges' (11). In *5x5x5* multi-professional teams work in partnership to support children and young people in environments of enquiry, challenging orthodoxies and developing new ways of thinking. Children working as artists allows children to have opportunities for exploration, with emphasis on using innovative approaches that stimulate the imagination and encourage independent thought. Eisner describes that this

> educational culture that has a greater focus on becoming than on being, places more value on the imaginative than on the factual, assigns greater priority to valuing than to measuring, and regards the quality of the journey as more educationally significant than the speed at which the destination is reached. I am talking about a new vision of what education might become and what schools are for. (16)

5x5x5=creativity has developed and integrated a creative and reflective pedagogy with research at the heart of the process, building a new culture of schooling that has as much to do with the cultivation of dispositions as with the acquisition of skills - a culture of schooling in which more importance is placed on exploration than on discovery, more value is assigned to surprise than to control, more attention is devoted to what is distinctive than to what is standard, more interest is related to what is metaphorical than to what is literal.

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