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**Art-based games: An action research study exploring
Year 10 students' perspectives on short 'warm up'
interventions and their potential effects on
the classroom learning environment**

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Abstract

Key stage 4 art lessons are often characterised by school-wide standardisation, streamlining classroom environments and promoting a sense of individualism amongst learners. This action research study provides evidence towards the value of using 'warm up' games in the art classroom, by suggesting that such activities can elicit a more interactive and engaging learning environment. During a series of Year 10 art lessons, learners took part in a 'warm up' game before continuing their individual coursework. This paper suggests that competitive and co-operative games can encourage a more appropriate learning environment for art making activities, compared with art classrooms that mainly facilitate independent working. This conclusion is supported by the observations and responses of learners during the study.

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Introduction

The art classroom has a critical responsibility to account for “different identities, intelligences, modes of learning and pedagogical processes” (Addison et al., 2014, p.36). Despite such variation, art classrooms across the UK are heavily characterised by school-wide standardisation, streamlining the way in which students engage with art education. Upon reflection of my own experiences in secondary schools, I have often observed the challenge to differentiate between art lessons and other subjects in the curriculum. Students remain, for the most part, situated behind desks, glued to seats, and working independently. Such uniformity across the timetable is a shame, if we are to consider the various rationales that make art a unique, rich, and engaging area of the curriculum (Siegesmund, 1998). This paper will explore how the learning environment of the art classroom could be affected by art-based ‘warm up’ games. A ‘warm up’ is generally associated as an exercise taking place at the beginning of physical education (PE) lessons, often facilitated as a cooperative or competitive game. Aside from the physical benefits, numerous social and cognitive outcomes have been attributed to ‘warm up’ games (Segura et al., 2021), many of which are key components of a positive learning environment. This relationship highlights an opportunity to explore how ‘warm up’ games in the art classroom could influence the learning environment, in light of the wider school context.

I will specifically investigate how ‘warm up’ games affect the learning environment of a Year 10 art and design class at a secondary school in Cambridgeshire. Year 10 is a critical time for GCSE art students who begin to develop as “effective and independent learners” (Department for Education [DfE], 2015, p.3), accumulating increasing amounts of autonomy within their coursework projects. Observations at my placement schools this year have highlighted the regular use of teacher-led discussion at the beginning of key stage 4 lessons, before students continue working independently.

This has inspired me to implement a more practical and social activity to possibly influence the classroom environment. The generation of data will incorporate students' perspectives, an approach advocated by Barry J. Fraser (1986), who proposes that learning environments *should* be explored through the eyes of the participants who experience the classroom first hand.

I will begin this paper by reviewing key literature on art-based games, the classroom learning environment, and 'warm up' activities, from which my research questions emerge. I will then continue by outlining my research methodology, consisting of a small-scale action research study in which I will generate and analyse quantitative and qualitative data from two cycles of interventions. Finally, I will present my findings and engage in a critical discussion, before proposing conclusions and implications for future practice and research.

Literature Review

Art-Based Games and Play

Games in the art classroom have the potential to inspire new ways of thinking about, and challenging, traditional art school education (Patton, 2014). This challenge reflects the counterculture movement of the 1960s, with artists such as George Brecht and George Maciunas using Fluxus games to contest the conventional art object. By incorporating physical engagement and social interaction, Fluxus games undermined the seriousness of the traditional gallery experience that distanced the viewer from the artwork. Following a systematic study of various game genres, Celia Pearce (1997, 2006) identified several key features that distinguish games from other social activities: all games constitute parameterised play established by a set of rules with a final goal; obstacles that create challenges to the goal; a set of resources, rewards, and penalties; and both known and unknown information. Whilst rules distinguish a game, implementing nonsensical, humorous, and often impossible rules for participants to follow established Fluxus as a vehicle for "spontaneity, novelty, and creative play" ("Fluxus Digital Collection", n.d.). The presence of 'creative play' is a key theme within this project. Ultimately, games are first and foremost about play (Pearce, 2006), highlighting a key relationship between games and education.

Playful activities are critical to learning. Unsurprisingly, much research on play is centred around primary and early years education, with prominent figures such as John Dewey (1916) and Friedrich

Froebel (1885) advocating playful pedagogies as significant to the cognitive and social development of young children. Whilst the definition of play is varied across literature, Peter Gray (2013) summarises the general characteristics of play as intrinsically motivated activities guided by mental rules and imagination, and conducted by active and alert, but non-stressed, participants. Gray's (2013) summary draws attention to secondary art education. As highlighted by Richard Siegesmund (1998), the expressive nature of art education can be considered as a form of play in itself. According to this expressionist view, the principal rationale for art education is to "protect and nurture the autonomous, imaginative life of the child", through encouraging "unbounded exploration" that permits the testing of new possibilities (Siegesmund, 1998, p.200).

The consideration of art as a form of play can be conceptualised further by James Carse's (1986) exploration of games in his book, *Finite and Infinite Games: A Vision of Life as Play and Possibility*. Carse (1986) suggests that when one engages with playful activities in the format of games, they open themselves up to surprises and unknown consequences. Serious activities, on the other hand, close the opportunity for consequences, "for seriousness is a dread of the unpredictable outcome of open possibility" (Carse, 1986, p.19). Laura E. Hicks (2004) draws on Carse whilst comparing the structure of games to traditional art education. According to Hicks, finite games resemble a constrained art education that is predicated by prescriptive rules and generates 'winners' and 'losers'. Infinite games, on the other hand, resemble the ability to play with the boundaries of art education, to encourage a willingness to inquire and challenge. Hicks further suggests that if "play is a willingness to explore and investigate a particular environment, to take risks in the search of novelty and discovery, to engage interactively in a continuing dynamic process, then play is at the heart of art education" (Hicks, 2004, p.295).

Whilst Hicks (2004) explores games metaphorically, Ryan M. Patton (2014, p.248) recognises games as a physical practice in the art classroom, particularly the use of pre-existing game constructs for teaching "fact-based art appreciation". I have observed students respond well to memory games and quizzes, but there is further opportunity for games to feature in artmaking processes (Patton, 2014), explored little beyond Don Pavey (1979) and his art-based arena games. After studying hundreds of gaming concepts, Pavey (1979) designed a curriculum of artistic workshops involving scenarios that linked to other academic disciplines. Students responded positively, engaging in groupwork to establish tactics and strategies, and competing and cooperating with other teams to build a collaborative painting (Patton, 2014). Pavey's workshops highlight an opportunity to incorporate

more games in the art classroom as exploratory processes. Such playful practices could serve to challenge the traditional school art environment that Hicks (2004) refers to above. Within the next section of this literature review, I will unpack this learning environment, and investigate ways in which one could measure the environment to provide a starting point for this project.

The Classroom Learning Environment

Fraser (1986, p.1) proposes that the classroom environment is “such a potent determinant of student outcomes that it should not be ignored by those wishing to improve the effectiveness of schools”. Despite much effort to define the ‘optimal’ environment, it is critical to acknowledge that art education does not lend itself to the ‘traditional’ classroom experience. Ken Robinson (2010) observes the structure of education as dominated by conformity, standardisation, and subject specific groups determined by age. Students are restricted by concrete timetables that force a constant movement between hourly lessons, whilst educators are confined by centralised teaching methods producing measurable outcomes. Elliot Eisner (2001) reinforces that school wide standardisation does not align with a subject predicated by surprise, individuality, and expression of ideas and feelings. Whilst exploring previous research on classroom environments, I will specifically draw on two studies concerned with more creative contexts.

Ronald A. Beghetto and James C. Kaufman (2014, p.59) recognise that the learning environment is critical in nurturing creativity, summarising a breadth of previous literature to define a “creativity-supportive” classroom. Drawing on a definition outlined by Dan Davies and colleagues, the learning environment extends beyond “the physical architecture of the space” by encompassing a breadth of “psychosocial and pedagogical features” (Davies et al., 2013, as cited in Beghetto & Kaufman, 2014, p.59). Within such contexts, opportunities for choice, imagination, and exploration can stimulate creativity by minimising pressure and promoting “a structured yet more flexible, self-directed learning experience” (Beghetto & Kaufman, 2014, p.59). Beghetto and Kaufman propose that such experiences can be facilitated through playful activities, including games. Unsurprisingly, students are significantly more likely to take risks when engaging with game-like tasks than they are during tests (Clifford & Chou, 1991). This highlights a potential outcome of art-based games, considering the DfE’s (2015, p.3) specification for GCSE art and design to develop student confidence in “taking risks” with ideas, processes, and materials.

Beghetto and Kaufman (2014, p.58) further emphasise the significance of collaboration whilst nurturing creativity within the classroom, summarising the popular recognition that “creativity does not occur in isolation”. It is, however, important to note that this paper explores creativity across the curriculum, proposing that creative expression is only appropriate for particular contexts when it has the “most value” (ibid., p.66). This is highlighted by an example maths lesson referenced throughout, rather than the inherently creative art classroom. The hypothetical example also highlights a lack of first-hand research. This is concerning, considering the offer of ‘concrete’ suggestions for teachers to implement in lessons. The research of Molly Kelly (2017), by contrast, uses self-generated data to explore optimal learning environments of the art classroom.

Kelly (2017, p.8) suggests that the classroom learning environment is critical for promoting flow states in art students, defining flow as a “heightened state of consciousness within which one is fully absorbed”. Using a reflective practitioner journal and autoethnography, Kelly highlights correlations between her own experiences of flow in various classroom settings, and findings from previous research. This suggests a degree of generalisability across similar contexts, despite the small-scale nature of her study. In order to promote flow states, Kelly concludes that the ‘physical’ and ‘pedagogical’ learning environments need to be both: *inspirational*, in terms of positive relationships, attitudes, and visual resources; and *flexible*, in terms of the physical arrangement of the classroom, and variation within activities, materials, and teaching methods. Whilst Kelly (2017) and Beghetto and Kaufman (2014) are concerned with the criteria of an ‘optimal’ learning environment, both studies highlight the vast definition of the ‘learning environment’, despite being an area of research that is often ‘measured’.

In an attempt to streamline such a task, Rudolf Moos defined three categories in need of analysis when conceptualising the classroom learning environment; ‘Relationship Dimensions’, ‘Personal Development Dimensions’, and ‘System Maintenance and System Change Dimensions’ (Moos, 1980, as cited in Fraser, 1986). Together, these dimensions assess the “nature and intensity of personal relationships”, the basic directions along which “personal growth and self-enhancement” occur, and the extent to which “the environment is orderly, clear in expectations, maintains control and is responsive to change” (Moos, 1980, as cited in Fraser, 1986, p.16). The validity of Moos’ conceptualisation can be inferred by a breadth of questionnaires used for evaluating classroom environments across research. Questionnaires are recognised as the best form of measurement through their ability to reflect the participants’ perceptions of the classroom (Khine, 2001). This is

critical, as Beghetto and Kaufman (2014) recognise, not all students experience an environment in the same way. The actions and interactions of students' shape "individual constructions" of the environment, which together determine the classroom culture through a shared perception (McRobbie & Tobin, 1997, p.194). In the next part of this literature review, I will explore how the learning environment could be affected by 'warm up' activities.

Warm Up Activities Across the Curriculum

Optimal learning environments are defined by their ability to facilitate meaningful engagement (Shernoff, et al., 2014). 'Warm up' activities could therefore have an effect on the learning environment, as the beginning of the lesson is a critical time for engaging learners when students are most receptive (Department for Education and Skills [DfES], 2004). Whilst also recognised as a 'starter' or 'introductory' activity across the curriculum, there is a lack of research exploring 'warm up' activities in the art classroom. Three common themes emerged whilst investigating the effects of 'warm up' activities in other subjects, defined by their social, cognitive, and emotional nature.

Márquez Segura et al. (2021) investigated the goals and outcomes of 'warm up' games through an online survey and in-person observations. Whilst focusing on the context of PE, Segura et al. (2021, section 2) acknowledge that 'warm up' games are useful across the curriculum, particularly where a focus is needed on the "social norms and dynamics" within a group. This recognition reflects a discussion I had with a drama teacher at my first school placement, who considered 'warm up' games as a valuable tool in uniting a cast together. During observations, Segura et al. found that games were critical in facilitating social interaction through various modes of social play, such as collaboration and competition. Similar outcomes were identified in an action research study conducted by Rosalba Velandia (2008) in Bogotá, South America. Student interaction was noted whilst implementing 'warm up' activities at the beginning of English as a foreign language (EFL) lessons, whilst students also acknowledged their preference for working in small teams. This social dynamic lends itself to the widely established theory of social constructivism, in which learning is recognised as a collaborative process where knowledge is acquired through social interaction (Vygotsky, 1978).

Using journals, student surveys, and field notes to collect data, Velandia's (2008) project further reinforces the cognitive benefits of 'warm up' activities. During the six interventions, student attention, involvement, and readiness for learning increased (Velandia, 2008). Drawing on the work of Zoltán Dornyei, Velandia recognises the importance of motivation within such activities to "widen

the [students'] appetite” and “arouse the students' curiosity and attention” (Dornyei, 2001, as cited in Velandia, 2008, p.11). Segura et al. (2021) further highlight how ‘warm up’ games aim to prepare students cognitively in PE, through promoting strategic thinking, fostering concentration, and encouraging feelings of success and achievement. As with Velandia’s findings, the games also aimed to facilitate task orientation, by setting the tone for subsequent activities (Segura et al., 2021).

Finally, whilst not considered an ‘overarching’ outcome, Segura et al. (2021) note how the playful nature of the ‘warm up’ games led to feelings of enjoyment and fun experienced by participants. This was, in turn, essential in promoting student interest and engagement. Velandia (2008) similarly recognises that ‘warm up’ activities are critical in promoting positive attitudes towards learning through enjoyable experiences. Further drawing on the work of Zoltán Dornyei, Velandia noted that challenging and novel experiences can stimulate learners, particularly through competition and humour. Moreover, Dornyei (2001, as cited in Velandia, 2008, p.1) considers that it is important to make students “active participants” through tasks that require mental or bodily involvement, through “specific rules and [personalised] assignments”, such as game-like structures.

It is critical to consider that both research projects above are defined by particular social and contextual circumstances. Whilst Segura et al. (2021) identified the goals of ‘warm up’ activities through an online survey, observations were conducted during a technology-supported circus training course. The participants experienced Sensory-Based Motor Disorder (SBMD), although this was not explored in depth during the study. Consequently, the findings cannot necessarily be generalised on a wider scale. Similarly, Velandia (2008, p.10) worked with both ‘intermediate’ and ‘advanced’ 7th Grade students who were “usually bored or not interested in the English class”. This background information was explored little beyond this description. Further investigation of student engagement *prior* to the intervention could have provided data to measure the impact of the activities. Nevertheless, the findings of Velandia (2008) and Segura et al. (2021) highlight a starting point for my project, establishing a critical link between ‘warm up’ games and the classroom learning environment.

Art-Based ‘Warm Up’ Games

The literature explored above indicates that ‘warm up’ activities, particularly those constructed as a ‘game’, could have the potential to positively affect the learning environment of the art classroom. Such an effect could be critical, considering the current school context surrounding art education.

Whilst reflecting on conceptualisations of the classroom learning environment, I have identified three specific areas that have been affected by ‘warm up’ activities in previous studies. I will be exploring the social dynamic, cognitive preparation and emotional satisfaction experienced by students in the art classroom. Together, these areas provide coverage of Moos’ (1980, as cited in Fraser, 1986) dimensions, signifying adequate indicators of the learning environment. Each area will inform how ‘warm up’ games could affect the overall learning environment of the art classroom, as structured in my research questions:

RQ1. How do ‘warm up’ games affect the social dynamic of the art classroom?

RQ2. How do ‘warm up’ games affect the cognitive preparation of students in the art classroom?

RQ3. How do ‘warm up’ games affect the emotional satisfaction of students in the art classroom?

Methodology

Action Research Project

Bridget Somekh (1995) proposes that action research bridges the gap between research and practice, a view based on the assumption that traditional research methods persistently fail to impact on practice (Cohen et al., 2018). The central aim of action research is *change*, sought through a cyclical process of “planning, reflection and re-planning” (Thomas, 2009, p.113). Due to the small-scale nature of this project, I completed two cycles of interventions with scope to implement more in further research.

The interventions consisted of an art-based ‘warm up’ game, lasting between 10 to 15 minutes, at the start of two Year 10 lessons. Drawing on Pearce’s (1997, 2006) characteristics of games, each intervention included a set of rules with a final goal clearly explained at the start of the lesson, with a prize for the winning student/team. Both games were also timed with a countdown on the board. The first intervention required students to build the tallest freestanding tower with seven pieces of tissue paper, and one metre of masking tape. The second intervention, informed by the positive feedback from the competitive nature of the first game, was based loosely on Pavey’s (1979) workshops. In teams of four, students designated two *translators* and two *designers*. The *translators*

moved back and forth between the team base, and another classroom, to relay descriptions of a ‘secret’ painting. The *designers* created a response to the *translators’* descriptions. Both games were chosen for their requirement to stand or move around the room, and either collaborate or compete against others.

Participants

A key characteristic of action research is its collaborative nature. Cohen et al. (2018, p.441) summarise that action research closes the distance between the researcher and the participant, as the project becomes a “collective and shared enterprise”. I selected a Year 10 art and design class comprising of 20 students, although one student was absent from the second intervention. The students were all adolescents aged between 14 and 15 years, consisting of 18 girls and two boys. Three students experienced specific learning difficulties, with one teaching assistant attending the class regularly, although they were not present during the interventions. I refer to all students throughout this paper by pseudonyms.

I selected this class due to the independent nature of their GCSE coursework. I had taught them for a month prior to the project, making me familiar with the individual characters, friendship groups, and general dispositions of the group. On the whole, little social interaction occurred during lessons, facilitating a predominantly quiet atmosphere. I found it challenging to stimulate whole class discussions, further highlighting a motive to implement the ‘warm up’ games.

Theoretical Perspectives, Epistemology and Positionality

Upon commencement of this project, it was critical to consider the foundations of social research by questioning the theoretical perspectives behind my chosen methodology, and the epistemology that informs this perspective (Crotty, 1998). Ultimately, this project is predicated by a belief in interpretivism, that is, a view that the world is subjective, socially constructed, and recognised on multiple realities (Cohen et al., 2018). In order to understand how a situation is constructed through the eyes of the participants, one needs to become immersed in the context, to become a participant themselves (Thomas, 2009). It is consequently critical to recognise the impact of positionality.

Alongside my research role, the participants in this project encountered me in a number of different ‘pedagogic identities’ (Addison, 2010). As a teacher, I was not only involved in teaching, assessing,

and acting as a pastoral form tutor, but I also facilitated the ‘warm up’ interventions. Whilst not a focus of this project, it is critical to acknowledge that the teacher is a significant determinant of the classroom environment (Moos, 1980, as cited in Fraser, 1986). Consequently, my position did have an effect on how the interventions and learning environments were perceived by students. Furthermore, my interest in art-based games was driven by the lack of exposure to such practices during my own school education. Art-based games could serve to expand medium experimentation within the art curriculum, a core objective of my developing teaching practice. This links to my current position as a student, and the temporary nature of my school placement, both potentially affecting student responses.

In summary, the inherent subjectivity resulting from my positionality must be considered as significant to the findings. This subjectivity, however, should be embraced rather than overlooked. As Robert E. Stake (1981, p.1) advocates, it is through subjectivity that one brings their “observations and interpretations more in line with what practitioners perceive to be the processes of education.” Subjectivity is therefore intrinsic to the classroom experience.

Generalisability

The small-scale nature of this project also limits the generalisation of my findings. Located in a specific temporal and geographical context, this project could be developed further by exploring the effects of ‘warm up’ games over a longer period of time. A wider participant base would also elicit more student perspectives from different identities and backgrounds. Several participants were disinclined to partake in the interviews, reinforcing that the findings do not represent a full spectrum of student perspectives. Despite these limitations, the lack of generalisability is not necessarily detrimental. As Keith Taber (2013, p.127) summarises, “context-directed research” is concerned with generating local knowledge applicable to specific contexts, regardless of whether the findings can be applied elsewhere. This is common within practitioner led action research, where teachers often research within their own institutions (Cohen et al., 2018, p.440).

Data Collection and Analysis

Data was collected over three stages: first, a questionnaire to determine how student’s initially felt about the classroom environment; second, unstructured observations of two ‘warm up’ interventions;

and third, two semi-structured group interviews after each intervention to understand how the students perceived the ‘warm up’ games, and their effects on the learning environment.

Questionnaire

A questionnaire (see Appendix 1) captured students’ perspectives towards the classroom environment prior to commencing the interventions. This method provided a quick means of collecting large amounts of quantitative data, whilst also remaining the least time-consuming for participants (Khine, 2001). Despite the small-scale nature of this study preventing pre-testing of the questionnaire, the 15 statements were influenced by widely applicable assessment instruments to ensure a level of consistency with similar areas of research.

A five-point-Likert scale allowed quantitative measurement of how participants perceived the social dynamic, cognitive preparation, and emotional satisfaction within the art classroom. This provided a general understanding of student perceptions, through calculating mean scores for each statement. There are, however, inherent limitations to such quantitative approaches used to measure abstract psychological constructs (Nemoto & Beglar, 2014). This stage could be developed further with other data gathering methods to construct a more holistic understanding of the learning environment prior to the interventions. Following the interventions, however, I did triangulate my data through both observations and interviews in order to account for the perceived limitations of the questionnaires.

Observations and Group Interviews

Unstructured observations and semi-structured group interviews were conducted to investigate the effect of the ‘warm up’ games during and after the interventions. I noted observations based loosely on the research questions, allowing for exploration of the environment as a whole. As Cohen et al. (2018) summarise, observations have the potential to provide rich contextual data, whilst revealing mundane routines and activities, making this method particularly appropriate. The reliability of data is, however, open to doubt within unstructured observations due to sole reliance on the researcher’s ‘self’ as the instrument of research (Denscombe, 2010). The data collected was subsequently supported by group interviews.

Two group interviews, lasting for 2-5 minutes, were conducted the day after each intervention, allowing time for participants to digest their reflections of the games. As recognised by Denscombe

(2010), interviews are a particularly insightful method of data collection, allowing the researcher to collect in-depth and detailed information from ‘key informants’. The interviews were semi-structured, covering topics relating to the learning environment, but with flexibility to deviate according to responses. Each group consisted of two to three students chosen based on perceived friendships, to ensure they felt comfortable sharing views with a figure of authority. It is critical to acknowledge, however, that consistency and objectivity are difficult to achieve within interviews, due to the “interviewer effect” having a potential impact on responses (Denscombe, 2010, p.178). The data collected was therefore analysed alongside the observations.

Data Analysis

The data generated from the observations and interviews was analysed through qualitative thematic analysis to identify two overarching themes. I opted for deductive analysis, summarised by Braun and Clarke (2006) as a ‘top-down’ approach that analyses data in response to research questions. The process involved familiarising myself with the data, coding interesting features across the entire data set, and collating these codes into two potential themes. These themes went through a process of review, before being summarised in this paper (Braun & Clarke, 2006).

Ethics

When constructing my methodology, it was critical to adhere to *The Ethical Guideline for Educational Research* (BERA, 2018). Approval was also received from the placement school and the Faculty of Education. Constant communication was maintained with the participants throughout the project to ensure that ethical decision-making remained an “actively deliberative, ongoing and iterative process” (BERA, 2018, p.2). Informed consent was gathered from all participants and parents/guardians prior to the project, and participants were reminded of their right to withdraw before the questionnaire, interventions, and group interviews. As stated in the consent forms, involvement in the project remained anonymous and confidential. Group interviews were conducted in an open and accessible classroom, following school safeguarding procedures, and all original audio recordings destroyed. Great care was taken to ensure that the project would have no adverse consequences for participants. Both the intervention and data collection took place during timetabled art and design lessons, in consideration of the academic pressures of a year group undertaking GCSEs.

Findings

How do ‘warm up’ games affect the social dynamic of the art classroom? (RQ1)

Pre-Intervention Questionnaire

‘Social dynamic’ refers to the interaction and relationships established in the classroom. The pre-intervention questionnaire suggested that the majority of students ‘almost always’ or ‘often’ worked independently in art lessons, with half stating that they ‘almost never’ or ‘rarely’ worked in groups. Whilst most students indicated that they ‘sometimes’ interacted with one another, 55 per cent of the class opted for ‘rarely’ or ‘almost never’ sharing their ideas in lessons. One student stated that they ‘almost always’ shared their ideas. Overall, the questionnaire reinforced a classroom environment that aligns with my previous experiences in key stage 4 classes; an environment predicated by independent learning, with little collaboration or sharing of ideas.

Observations and Group Interviews

The competitive and co-operative dynamics at play during the games affected the social dynamic of the learning environment, by increasing verbal communication and physical interaction between students. Whilst students competed against each other during the first intervention, interactions observed between students demonstrated co-operative dynamics. For instance, Gemma advised Lucy to “get the base as heavy as possible” whilst building their towers. Examples of co-operation were demonstrated in the second intervention more so, due to the team-based nature of the game. Many students appeared excited to work in teams and allocate roles, as they actively deliberated on which role would suit who and committed to their role’s responsibilities. Several students ran between their team base and the second classroom, and such commotion seemed to increase the general energy and volume of the environment. This movement also encouraged students to interact with members of the class not in their team. When asked what they thought about the game during the interview, Ethan and Sarah acknowledged that such team dynamics are not regularly present in art lessons:

Ethan: It was based on teamwork as well which sometimes you don’t usually get with art, so it was more of a group project on one piece of art, which was cool.

Sarah: Yeah, because normally you work like on your own to do your own thing.

Whilst Ethan, Sarah, Rosie, and Lola responded positively to working in teams, Alice indicated a sense of indifference. When asked if she enjoyed groupwork, she noted a distinction between teamwork activities and working amongst peers; “I can work on my own but I’d rather... not teamwork, but just to have like other people around you”. Most students recognised a degree of competitiveness in the class elicited by the games, although some stated that they were not competitive people. This did not, however, detract from enjoyment or engagement, which seemed to be motivated by the game format, and the prize on offer:

Interviewer: What did you think of the tissue paper activity yesterday?

Lucy: Fun!

Gemma: Yeah, it was very fun, I liked the stakes.

Lucy: Yeah, good prize, I wanted to win but at the same time... it wasn't too competitive.

Gemma: I was very competitive [laughs].

Upon observations of the social dynamics in the classroom after both interventions, the general volume seemed louder than normal as students settled into their independent work.

How do ‘warm up’ games affect the cognitive preparation of students in the art classroom? (RQ2)

Pre-Intervention Questionnaire

‘Cognitive preparation’ is the extent to which students feel ready to learn and engage with art activities. The pre-intervention questionnaire suggested that 75 per cent of the class ‘almost always’ or ‘often’ felt focused in art lessons, the highest mean score across all statements. 11 students also indicated that they ‘often’ found art lessons engaging. In terms of feeling motivated, there did not seem to be a predominant response, as students answered between ‘rarely’ and ‘almost always’. Similar results were found for whether students found it easy to start working at the beginning of art lessons. Overall, whilst focus seemed high across the group, the level of ‘cognitive preparation’ experienced by students before the intervention seemed to be fairly mixed.

Observations and Group Interviews

The ‘warm up’ games seemed to prepare students for the lesson by eliciting a ‘relaxed’ atmosphere. This led to high levels of concentration and focus, although no major difference between normal lessons was observed or indicated to by students. Findings were mainly gathered from the group interviews, although interpretations could also be made from observations.

Orientating students towards art activities seemed to be a significant outcome, as students appeared to start working immediately after the games. When asked about her thoughts towards the second intervention, Lola expressed that the games were useful to put her “in the mood” to switch subjects, as she normally struggles to “concentrate straight away at the beginning of lessons”. Similar feelings were shared by other students, with Ethan and Sarah stating how it made them feel “ready”, and Isla expressing that she enjoyed the first intervention because it “opened up the lesson”. Gemma mentioned how the environment felt “more relaxed, in a way” after the first intervention, and Rosie similarly reflected on the second intervention:

I think it puts the mood up, because sometimes when you just come in from another lesson you can feel a little bit stuck, I guess but then if you're doing something like this it is relaxing. I feel like it is easier to do art when you're more relaxed.

In terms of subject-specific orientation, several students mentioned the “creative” nature of the ‘warm up’ games, which contradicted their normal perception of competitive activities. Lucy, for instance, suggested how “competitive subjects” are normally ‘fact-based’, such as maths and science, rather than “more creative and opinion based”. She further elaborated that everyone had become “creatively warmed up” following the first intervention. Rosie similarly referred to the “creative way” of responding to an artist in the second game, in that it showed a “different side to drawing” by working in teams.

How do ‘warm up’ games affect the emotional satisfaction of students in the art classroom? (RQ3)

Pre-Intervention Questionnaire

‘Emotional satisfaction’ refers to feelings of enjoyment and success experienced by students. The pre-intervention questionnaire revealed that 13 students in the class ‘almost always’ or ‘often’

enjoyed art lessons, with a further five students indicating that they ‘sometimes’ did, and three stating that they ‘rarely’ did. Similar results were also received in response to whether students had fun in, and looked forward to, art lessons. On average, these indicate high levels of emotional satisfaction. In terms of feeling challenged and a sense of achievement, the results were more varied. 25 per cent of students indicated that they ‘rarely’ felt a sense of achievement in art lessons, with a further 35 per cent of students stating that they ‘sometimes’ did. Half the class stated that they ‘often’ or ‘almost always’ felt challenged, whilst nine opted for ‘sometimes’, and one opted for ‘rarely’.

Observations and Group Interviews

Whilst it is important to note that many students in the group already experienced high levels of emotional satisfaction before the intervention, the post-intervention data suggests that the games elicited experiences of fun and enjoyment, whilst promoting a sense of achievement for some students. During both observations, laughter was noted from participants throughout the games. Many students seemed excited to begin the first game, and several even tried to start before the timer, suggesting a sense of interest and motivation to win. All students responded positively to the ‘warm up’ games during the interviews, with the majority stating explicitly that they were either fun or enjoyable. When asked whether they had done anything like this in school before, Rosie said she had “only done something like [it] at primary school”, whilst Alice reminisced on similar PE games that she did in Year 7. Both Ilona and Isla said the first intervention was challenging, with Isla elaborating that it was “still nice though”, suggesting that she would not normally perceive a challenging activity as a ‘nice’ one.

Two students seemed less enthused about participating in the first game. Liam stopped making his tower halfway through the first intervention, but did chat with his peer, Ana, as she continued hers. Liam was not present for the second intervention. Mia also did not appear that motivated during the first game and stopped early. She did, however, seem to enjoy working in a team during the second game, and appeared dedicated to her role as the *translator*. Both students did not partake in an interview.

At the end of the second intervention, the class seemed excited to have the ‘secret’ painting revealed to them. Many students examined the different approaches as each team’s response was displayed on the wall. Ethan noted this during the interview, commenting on how each response looked “unique”. Gemma, Lucy, Rosie and Lola stayed behind at the end of the lesson and asked the class teacher to

take a photo of the team with their response. This suggested that the students possibly felt a sense of pride and were pleased with their piece.

Discussion

Upon analysis of my findings, art-based games as ‘warm up’ activities appear to create a more interactive and engaging environment for learning. Such findings align with the outcomes of ‘warm up’ activities in other subject areas (Segura et al., 2021; Velandia, 2008). The extent to which the learning environment has changed before and after the interventions, however, is varied across student perceptions. It is also unrealistic to concretely determine, due to a limited holistic understanding of the art classroom environment prior to the intervention.

Art-Based ‘Warm Up’ Games and Interaction

Social Interaction

The pre-intervention findings highlight the dominance of ‘individualism’ recognised within art education. Such an environment could be detrimental to the creative development of students by denying them “access to the important peer-to-peer learning that takes place when students invent, solve problems, and build knowledge together” (Clapp, 2016, p.65). Upon analysis of the observations and group interviews, the ‘warm up’ games encouraged co-operative and competitive interaction, aligning with the findings of Segura et al. (2021), and Pavey’s (1979) art-based arena games. Increased verbal communication was observed between students, as they became involved in a co-operative learning dynamic to achieve a goal. This dynamic was even observed during the first intervention, when students competed individually. Whilst traditional classroom environments continue to be characterized by an emphasis on competition (MacAulay, 1990), which can be demotivating for some students (Beghetto & Kaufman, 2014), it seems that the competitive nature of the playful games had the opposite effect.

Students further recognised the collaborative nature of the second intervention which elicited the sharing of ideas, skills, and responsibility whilst working in teams. This highlighted a distinct change from the pre-intervention results and could offer positive outcomes for learning. These findings are supported by MacAulay (1990, p.247), who suggests that when elements of “cohesiveness, co-

operation and satisfaction” are perceived in the environment, students are in a better position to “maximize their cognitive, affective and social potential”. Vygotsky (1978, p.93) distinguishes a clear difference between independent and collaborative learning, referring to *The Zone of Proximal Development* (ZPD) as “the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers”. The increased social interaction between students as a result of the co-operative dynamic could consequently be significant to the quality of learning, by encouraging more collaboration and sharing of ideas. These findings further align with Beghetto and Kaufman (2014), who recognise that creative learning environments need to be established on positive relationships, open dialogue, and mutual respect. Whilst students continued to work on their independent projects after the intervention, the loud volume suggests hope for a more collaborative working environment as a result of the games.

Open Classroom

The art-based ‘warm up’ games also elicited a more interactive environment by encouraging an open classroom dynamic. Whilst the traditional classroom, predicated by rows of desks facing the teacher, may be more conducive to task engagement and cognitive gains (MacAulay, 1990), such an environment encourages little movement or interaction. This is supported by the recognition that schools are a place where students remain physically inactive, spending up to six hours a day in sedentary positions (Donnelly, et al., 2009). Open classroom environments, however, have more social gains for students (MacAulay, 1990), and may be more suitable for art-based activities. This is supported by Kelly (2017), who recognises that the physical art classroom needs to be as “flexible” as possible in terms of arrangement and teaching methods, in order to provide the most optimal learning environment for art activities.

During the second intervention, students ran between the team base and the second classroom to relay definitions of the painting to their team. Whilst demonstrating their motivation to win the game, such movement encouraged students to interact with others that they do not sit with in the classroom. This also turned the students into ‘active participants’, as defined by Dornyei (2001, as cited in Velandia, 2008), by completing tasks that required bodily involvement. The ‘team base’ also encouraged students to circle around group tables in the classroom, and this open learning environment facilitated easier collaboration between students. This dynamic also seemed to increase ‘team spirit’ within the classroom. Similar findings were recognised by Melissa L. Rands and Ann M. Gansemer-Topf (2017)

when investigating flexible and active learning spaces at Iowa State University. By replacing stationary desks with tables that adapt to support different instructional strategies, a sense of community in the classroom was perceived by the teachers.

Whilst no data was gathered prior to the intervention specifically exploring physical interaction, the questionnaire did suggest that some students did not share ideas or work in groups, building the perception of a traditional classroom environment. Encouraging movement in the classroom could have significant benefits for learning, as recognised by Sarah Benes and colleagues (2016). Physically active environments not only encourage interaction, but also improve academic outcomes for students including cognitive performance, concentration, enjoyment, and engagement (Benes et al., 2016). Such findings could be reinforced by the results of this study, as the physical and interactive ‘warm up’ games were enjoyed by many students in the class, and created a more relaxed environment for engaging with art activities, as outlined below.

Art-Based ‘Warm Up’ Games and Engagement

Motivation

The ‘warm up’ games provided both enjoyable and challenging experiences for students, which resulted in high levels of student engagement. This is reinforced by Shernoff, et al. (2014), who suggest that the combination of both academic intensity and positive emotional responses is key for providing an optimum learning environment and eliciting ‘meaningful engagement’ from students. Upon reflection of this action research study, it seems that the interventions ultimately engaged students through fostering motivation, an essential outcome to be considered when planning ‘warm up’ activities (Velandia, 2008).

Upon reflection of the ‘warm up’ games, two types of motivation were identified amongst students as distinguished in the *Self-Determination Theory* (Deci & Ryan, 1985). Extrinsic motivation, which refers to doing something because it leads to a separable outcome, was apparent when students referred to the “high stakes” of the game, and the “prize” on offer. This seemed to motivate engagement, reinforced by many students referring to their own competitive nature and ambition to win the game. However, many also referred to the fact that the games were not “too competitive”, simply being a “nice thing to do”. This suggests the presence of intrinsic motivation, that is, doing something for “its inherent satisfactions” such as enjoyment and curiosity (Ryan & Deci, 2000, p.71).

Intrinsic motivation is recognised as an important phenomenon in education because it often results in high-quality learning and creativity (Deci & Ryan, 1985). The presence of intrinsic motivation was further identified during interviews, when students spoke about the ‘fun’ nature of the games and their preference towards teamwork activities, irrespective of the prize on offer. Enjoyment has been identified as an ideal outcome of ‘warm up’ activities elsewhere in the curriculum, as teachers need to try and actively generate positive attitudes towards learning during the ‘warm up’ activity (Velandia, 2008).

It is interesting to draw comparisons here between these ‘warm up’ games and the playful activities facilitated in early years education. When asked during the interviews if the students had completed similar activities elsewhere at school, students either said no or reminisced on games played in Primary School and Year 7. This could reflect the lack of literature exploring play in secondary education compared to early years. This action research project, however, does suggest that games as ‘warm up’ activities do have benefits for promoting engagement in older years.

Subject Orientation

Whilst eliciting engagement *during* the interventions, the ‘warm up’ games seemed to effectively orientate students for engaging with art activities as the lesson progressed. Preparing students for learning is one of the most sought-after outcomes of ‘warm up’ activities across the curriculum (Segura et al., 2021; Velandia, 2008). The pre-intervention questionnaire indicated that some students did not always find it easy to start working at the beginning of lessons, despite this being when students are most receptive (DfES, 2004). This could relate to my observation that starter activities do not seem to be a regular practice in key stage 4 art lessons, other than a teacher-led presentation.

The interviews revealed how the games “opened up” the lesson, and made the environment more “relaxing” to work in. These findings are supported by Gray (2013), who proposes that playful activities are generally conducted by active, alert, and non-stressed participants, emotional states that could be critical for engaging with art activities. Game-like tasks also encourage more risk taking from students (Clifford & Chou, 1991), suggesting that the interventions could have further prepared students for experimentation in their coursework, as is an aim of the art and design GCSE (DfE, 2015).

Richard Allwright further suggests that warm up activities are designed to “attract students’ attention, to help them put aside distracting thoughts, and to get them ready to focus individually and as groups” (Allwright, 1984, as cited in Velandia, 2008, p.11). The ‘warm up’ games seemed successful in achieving such outcomes, as students were observed working sufficiently well during the rest of the lesson on their coursework projects. This is reinforced by the interview responses, which also highlighted how the class had come from different subjects. The intervention could have consequently united the students together in an appropriate and focused atmosphere for artmaking, considering the social nature of art education advocated above. It is key to note, however, that this class is often well focused, as suggested by the pre-intervention questionnaire. Subsequently, whilst the ‘warm up’ games seemed to promote such positive environments to work in, this was potentially already present in lessons before the interventions.

Further Findings

Whilst not related to the classroom learning environment, it is key to observe how the art-based ‘warm up’ games encouraged artmaking processes positioned away from the traditional school art canon, a conclusion supported by Patton (2014).

Acknowledged by a yearlong study conducted by The National Foundation for Educational Research (NFER), the art curriculum at key stage 3 and 4 is defined by the prevalent use of “painting and drawing” and “artistic references from the early twentieth century” (Downing, 2008, p.122-123). The study found that the inclusion of contemporary art practices could further expand the knowledge and skills acquired by students, facilitating “a wider understanding of what is art/what art can be” (ibid., p.127). Following the interventions, I taught a lesson providing students with some contextual references to a range of both Modern and contemporary artists who make use of games and rules in their practices, including my own portfolio. Whilst students had been exposed to games as a ‘warm up’ activity with a motive to affect the learning environment, I wanted to reinforce how such “fun” experiences can be a form of art in their own right. The collaborative and competitive nature of the second intervention was one such example of how the games could influence the students’ approaches to artmaking, exposing them to a “unique” way of drawing that they had not considered before.

This study has consequently highlighted how art-based games could be use in the classroom, not only as a ‘warm up’ up activity, but also as an art practice. Such approaches could broaden the tightly confined library of mediums currently present in the art classroom, as recognised by Downing (2008),

and could even be facilitated across key stages. This could suggest an area of further research concerning art-based games.

Conclusion

Reed Larson and Maryse H. Richards propose that students see themselves as “passive participants in a mass, anonymous educational system” (Larson & Richards, 1991, as cited in Shernoff et al., 2014). Such an environment is detrimental when contextualised within the expressive and dynamic nature of art education. This action research study has provided evidence towards the value of using ‘warm up’ games in the art classroom, by highlighting the presence of a more interactive and engaging learning environment. On this basis, it would be advised that art educators aim to include ‘warm-up’ activities at the beginning of key stage 4 lessons, considering the social, cognitive, and emotional benefits for students. The playful nature of games could not only facilitate a relaxing atmosphere for learning but could also provoke more risk taking from students within their art practices, as is an aim of GCSE art and design (DfE, 2015). There is opportunity, however, to consider more participatory research within this project. Such an approach would further avoid student passivity, as students could become co-researchers through either designing the games themselves, or deciding when and how data could be generated.

Whilst this research provides a basis for implementing art-based ‘warm up’ games, this recommendation is limited by the small-scale nature of the project where the findings are only truly applicable to the class involved. This is made more problematic due to the lack of previous research into learning environments and ‘warm up’ activities in the art classroom. Consequently, my findings cannot be considered within a wider context of directly related research. Further cycles of the intervention would be ideal, with a wider participant base. It could be particularly insightful to investigate the effects of art-based ‘warm up’ games with more boys, for instance, considering that boys generally respond more favourably to competitive activities, whilst GCSE art and design is predominantly taken up by girls.

Upon reflection of this study, the most fundamental limitation lies in the misalignment of data collected before and after the intervention. Due to time constraints, it became challenging to reflect on how the environment had truly changed as a result of the intervention. This is because only a questionnaire was used to collect data prior to the intervention, and then the change was measured

with observations and interviews, relying on interpretations to understand the affects. If this project were to be developed further, I propose that observations of the original classroom learning environment would be necessary. This could build a strong understanding of how the classroom functioned *before* the intervention.

This project, however, was the first of its kind and has provided a foundation to continue exploring art-based ‘warm up’ games. Within my own teaching practice, I will endeavour to continue using such activities, whilst considering the dynamic of the class to ensure the games are facilitated accordingly. There is also further scope to implement such practices across key stages, and encourage students to design their own games, as both ‘warm up’ activities, and as artmaking processes.

References

- Addison, N. (2010). Artist teachers/teaching artists: Negotiating pedagogic identities. *Journal Of Research In Art Education*, 11(1), 51-84.
- Addison, N., Burgess, L., Kinsella, V., & Kenning, D. (2014). Learning in art and design education. In N. Addison & L. Burgess (Eds.), *Learning to teach art & design in the secondary school* (pp. 21-70). Routledge.
- Beghetto, R. A., & Kaufman, J. C. (2014). Classroom contexts for creativity. *High Ability Studies*, 25(1), 53-69.
- Benes, S., Finn, K., Sullivan, E., & Yan, Z. (2016). Teachers’ perceptions of using movement in the classroom. *The Physical Educator*, 73(1), 110–135.
- BERA. (2018). Ethical Guidelines for Educational Research, fourth edition.
<https://www.bera.ac.uk/publication/ethical-guidelines-for-educational-research-2018-online>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research In Psychology*, 3(2), 77-101.
- Carse, J. (1986). *Finite and infinite games: A vision of life as play and possibility*. Free Press.
- Clapp, E. P. (2016). *Participatory creativity: Introducing access and equity to the creative classroom*. Routledge.

- Clifford, M., & Chou, F. (1991). Effects of payoff and task context on academic risk taking. *Journal Of Educational Psychology*, 83(4), 499-507.
- Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education* (8th ed.). Routledge.
- Crotty, N. (1998). *The Foundations of Social Science Research. Meaning and perspective in the research process*. Sage.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. Plenum.
- Denscombe, M. (2010). *Good research guide for small scale research projects* (4th ed.). Open University Press.
- Department for Education and Skills. (2004). *Pedagogy and practice: Teaching and learning in secondary schools - Unit 5: Starters and plenaries*.
https://dera.ioe.ac.uk/5668/8/bd4ba685563fcd91f0f1f97eb1afa5e7_Redacted.pdf
- Department for Education. (2015). *Art and design GCSE subject content*.
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/397548/GCSE_subject_content_for_art_and_design.pdf
- Dewey, J. (1916). *Democracy and education: An introduction to the philosophy of education*. Macmillan.
- Donnelly, J. E., Greene, J. L., Gibson, C. A., Smith, B. K., Washburn, R. A., Sullivan, D. K., DuBose, K., Mayo, M. S., Schmelzle, K. H., Ryan, J. J., Jacobsen, D. J., & Williams, S. L. (2009). Physical activity across the curriculum (PAAC): a randomized controlled trial to promote physical activity and diminish overweight and obesity in elementary school children. *Preventive medicine*, 49(4), 336–341.
- Downing, D., (2008). School art: What's in it? In R, Hickman (Ed.), *Research in art & design education: Issues and exemplars* (pp.121-128). Intellect.
- Eisner, E. (2001). Should we create new aims for art education? *Art Education*, 54(5), 6-10.
- Fluxus Digital Collection. (n.d.). <http://fluxus.lib.uiowa.edu/categories/game.html>
- Fraser, B. J. (1986). *Classroom environment*. Routledge.
- Froebel, F, (1885). *The education of man* (J. Jarvis, Trans.). New York: A. Lovell & Co.

- Gray, P. (2013). Definitions of Play. *Scholarpedia*.
http://www.scholarpedia.org/article/Definitions_of_Play
- Hicks, L. E. (2004). Infinite and finite games: Play and visual culture. *Studies in Art Education*, 45(4), 285–297.
- Kelly, M. (2017). *Forming the optimal art classroom environment in order to activate flow within students*. [Unpublished MTeach thesis]. The University of Melbourne.
- Khine, M. S., (2001). Using the WIHIC questionnaire to measure the learning environment. *Teaching and Learning*, 22(2), 54-61.
- MacAulay, D. J. (1990). Classroom environment: A literature review. *Educational Psychology*, 10(3), 239–253.
- McRobbie, C., & Tobin, K. (1997). A social constructivist perspective on learning environments. *International Journal Of Science Education*, 19(2), 193-208.
- Moos, R. (1980). Evaluating classroom learning environments. *Studies In Educational Evaluation*, 6(3), 239-252.
- Nemoto, T., & Beglar, D. (2014). Developing Likert-scale questionnaires. In N. Sonda & A. Krause (Eds.), *JALT2013 Conference Proceedings*. JALT.
- Patton, R. M. (2014). Games that art educators play: Games in the historical and cultural context of art education. *Studies in Art Education*, 55(3), 241–252.
- Pavey, D. (1979). *Art-based games*. Routledge.
- Pearce, C. (1997). *The interactive book: A guide to the interactive revolution*. Macmillan Technical Publishing.
- Pearce, C. (2006). Games as art: The aesthetics of play. *Visible Language*, 40(1), 66-89.
- Rands, M., & Gansemer-Topf, A. (2017). "The room itself is active": How classroom design impacts student engagement. *Journal of Learning Spaces*, 6(1), 26-33.
- Robinson, K. (2010). *RSA ANIMATE: Changing education paradigms* [video]. YouTube.
<https://www.youtube.com/watch?v=zDZFcDGpL4U>.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78.

- Segura, E.M., Vidal, L.T., Waern, A., Duval, J., Bel, L.P., & Bertran, F.A. (2021). Physical warm-up games: Exploring the potential of play and technology design. *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*.
- Shernoff, D., Abdi, B., Anderson, B., & Csikszentmihalyi, M. (2014). Flow in schools revisited: Cultivating engaged learners and optimal learning environments. In M. Furlong, R. Gilman., & E. Huebner (Eds.), *Handbook of positive psychology in schools* (pp.211-226). Routledge.
- Siegesmund, R. (1998). Why do we teach art today? Conceptions of art education and their justification. *Studies in Art Education*, 39(3), 197 – 214.
- Somekh, B. (1995). The contribution of action research to development in social endeavours: a position paper on action research methodology. *British Educational Research Journal*, 21(3), 339-355.
- Stake, E. R. (1981). A needed subjectivity in educational research. *Discourse: Studies in the Cultural Politics of Education*, 1(2), 1-8.
- Taber, K. (2013). *Classroom-based Research and Evidence-based Practice: An Introduction*. Sage.
- Thomas, G. (2009). *How to do your research project*. Sage.
- Velandia, R. (2008). The role of warming up activities in adolescent students' involvement during the English class. *Profile Issues in Teachers Professional Development*, 10, 9-26.
- Vygotsky, L. S. (1978) *Mind in society: The development of higher psychological processes*. Harvard University Press.

Appendix 1

Pre-intervention questionnaire

Student Opinions on the Learning Environment of the Art Classroom

5-minute Research Questionnaire

Name: _____

Please tick the appropriate box next to each statement to indicate how often each practice takes place.	Almost Never	Rarely	Sometimes	Often	Almost Always
1. I feel focused in art lessons.					
2. I find art lessons engaging.					
3. At the beginning of art lessons, I find it easy to start working.					
4. I feel motivated in art lessons.					
5. I know what I need to do in art lessons.					
6. I interact with other students during art lessons.					
7. I share my ideas in art lessons.					
8. I work in groups during art lessons.					
9. I learn from other students in art lessons.					
10. I work independently in art lessons.					
11. I enjoy art lessons.					
12. I look forward to art lessons.					
13. I have fun in art lessons.					
14. I feel challenged in art lessons.					
15. I feel a sense of achievement in art lessons.					