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**Learning Through the Arts in Denmark: A Positive Psychology Qualitative  
Approach.**

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**Abstract**

This article disseminates the results of a qualitative, case-based study carried on in Danish schools in 2008-2011. Results show that learning outputs can be seen as more than academic achievement, and the arts' contribution to learning can be viewed as more than the ancillary support of academic performance. Learning within an artful mindset implies a broader view on school learning, for the key reason that art offers many optimal opportunities for formal, mediated, meaningful and material learning. The main empiric and theoretical issue explored in this article is the experience of positive emotions and cognitive intensity within the artistic activities in school projects and its consequences for individuals' learning, development and well-being.

*Keywords:* arts, learning, arts-based education, emotions, positive psychology; Education, Positive Psychology, Cultural Studies.

### **The artfulness study**

The present article addresses the distinctive and complementary relationship between positive emotions, learning and the arts as addressed in a qualitative study with a focus on a positive psychological approach. I will present the findings of my research project, *Making the Ordinary Extraordinary: Adopting Artfulness in Danish Schools*, by emphasizing the theme of positive emotions and optimal learning. This project has been part of a larger Danish study (Mange Måder At Lære På-MMALP, “Many Ways of Learning” project), whose purpose was to observe the multiple ways of learning and the qualities of well-being in schools. MMALP involved an entire municipality in Jutland, in order to give the whole school system an opportunity for research-based development and to contribute to the debate on engaging learning and teaching practices with development-based research. The project lasted for three years (2008–2011) and involved every K-16 public school in the Vejle Municipality, a total of 35 schools, with 1,600 teachers and 12,000 pupils. All of the schools were asked to develop projects meaningful to them and to respond to both quantitative (well-being survey and statistics for school leaders, teachers and students) and qualitative research (case-based narratives within specific development projects).

Concerning the well-being survey (“The Good School”, a job satisfaction questionnaire), the research staff focused on 12 qualities that positive psychology (Csikszentmihalyi & Nakamura, 2011) recognizes as necessary for humans to flourish, such as physical environment, physical health, experience of positive learning and development, meaningful social relationships, clear leadership, creativity and so on (Knoop et al., 2009; 2010; 2011). The survey collected quantitative data, which were used as background information about the schools before, during and after the developmental projects were launched in the schools. In a mixed methods approach, the quantitative data were integrated with the qualitative case studies for specific developmental projects. Themes of the qualitative studies (arts-integration, altruism, cooperative learning, good relationships, International Child Development Program-ICDP) varied as much as their theoretical approaches, but all of them referred to a positive psychological approach.

The themes of arts-integration were the main focus of the Artfulness research, which documents what happens in schools when the arts are integrated into teaching routines or strategies, and how schools foster good learning and teaching with specific focus on artistic, aesthetic, creative learning and teaching methods. The research methods applied were essentially qualitative, drawing from ethnography and arts-based research (Knowles & Cole, 2008), with distinct focus on the participative elements offered by action research (Reason & Bradbury, 2001). I collected data by means of a triangulation of outer-view (my ethnographic classroom observation), inter-view (of respondents: teachers, artists, students) and inner-view (self-assessment of teachers and students). The quantitative data within the Artfulness study were limited to flow-self-reports.

The sampling of projects to be included in the study comprised telephone interviews of all 35 school principals in the Municipality and asking them if their schools hosted a project specifically focused on the arts or arts-based activities. Half of the schools replied positively, from which I chose the arts projects that added to the usual curricular routines with elements of arts-integration, attention to reflection or community involvement, as defined by their participants. At the end, seven schools were visited with in-person interviews, but only three schools were included in as

many case-based reports, while the others delivered the background understanding of arts- or play-based school practices. The developmental projects within the arts closely studied were: a partnership between school and animation artists for teaching pupils Danish grammar and mathematic by making animation film; a joint focus on innovation and design with the teachers of visual arts, needlework and handicrafts where idea-generation, prototyping, art-making and expert feedback were included activities; and a teaching artist/school partnership with focus on community involvement and mural art.

In the table below, I visualize the MMALP research design that includes the Artfulness study among other qualitative cases (in red).

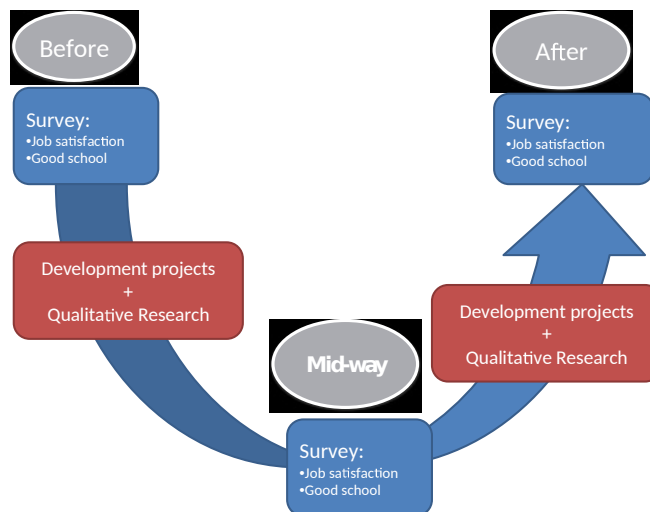


Figure 1. Description of the research design in the MMALP and Artfulness studies.

The first tentative results of this qualitative project were presented for the first time at the European Conference on Positive Psychology in Copenhagen in 2010. On this occasion, I presented my hypothesis that artfulness, defined as quality engagement in the arts, is the core of optimal development and learning. I defined quality engagement as prolonged training in the arts, based on the arts' inherent elements of cognitive intensity and positive emotions.

The aim of my research has been to describe school practices that integrate the arts into a general curriculum by bridging artistic crafts and cognitive reflection. The positive psychological approach has enriched and broadened my understanding of human flourishing, positive emotions within art experiences and the singular qualities of cognitive involvement and flow experiences.

The research questions within the Artfulness qualitative study were formulated as follows, covering both a descriptive and a developmental level:

**DESCRIPTIVE LEVEL**

- Are there any examples of arts-infused educational programs in Danish schools?
- What are their defining characteristics?
- What is the emotional and cognitive response to the arts-infused educational programs?

**DEVELOPMENTAL LEVEL**

- Can arts-infused educational programs contribute to generating a culture of thoughtful thinking in Danish schools?

- How can Danish teachers conceive and design a prototype of their optimal creative schools for the future?

This study is a unique contribution in the field of the arts in education, due to its integration of different theoretical paradigms; focus on concepts inherent in positive psychology (such as positive emotions and flow); and the data collected within the research frame described above.

### **Positive emotions in the arts**

A large number of modernist and post-modernist experiments have variously challenged the role of the arts in our culture. At the same time, paradigms of industrial efficiency consistently question the positioning of the arts in educational institutions, school settings and education in general (Reimer, 1992, pp. 20-50). These cultural and ideological developments have led to a perception of art as something that is obscure and provocative and, at the same time, has led to a hierarchic and authoritarian school paradigm, causing deep concern within one of the richest areas of human expression: the arts as a fundamental element of being human and of human development. The above paradigms are contradicted by artistic practices devoted to community building and social activism and by a pedagogy based on the ideals of wholeness (Dewey, 1963; Gardner, 1994; Perkins, 2009; Eisner, 2002), which are applied as theoretical references to the Artfulness study.

When observing school students involved in arts programs or artistic activities, their enjoyment and engagement is plain to see, as many scholars point out: “When young people are involved with the arts, something changes in their lives. We’ve often witnessed the rapt expressions on the faces of such young people. Advocates for the arts often use photographs of smiling faces to document the experience” (Fiske, 1999, p. iv). Photos are often used to make visible engagement and enjoyment, which might resist a verbalization or logical explication, as they are intimately inherent with transformational elements (“something changes in their lives”) of learning and development. Elements that are strictly related to an existential plan, which in turn is more related to life experiences than school learning. In any case, these pictures are stuck in the minds of all the researchers in the field of arts-based learning as witnesses of joyful learning experiences.

But connecting the arts with positive emotions and emotions in general is a stereotypical view. What lies behind the romantic stereotype and the anecdotal observation? What’s behind the feeling-good of arts experiences in schools? How can we scientifically document students’ and teachers’ engagement?

Even though they might seem clear by observation, emotions and feelings are hard nuts to crack within psychology (Damasio, 1994) and philosophy (Goldie, 2002) and difficult to document scientifically. In the present study, I attempted overcoming these challenges by means of research methodology and conceptualization. By designing a qualitative study that looked at qualities of participation in the arts projects, I grew aware of the specific elements of emotional engagement in arts-integrated learning environments. Relying on a positive psychological definition of emotions that hints at learning potentials helped me frame the arts-integrated experiences as human flourishing. I adopted the Fredrickson & Branigan’s definition of emotions: “Emotions are short-lived experiences that produce coordinated changes in people’s thoughts, actions, and physiological responses” (2005, pp. 313-332). There are two reasons for choosing this particular definition. The first is that it offers a simple and applicable conceptualization of the phenomenon of

emotions, and the second is that the two scholars have studied the cognitive effects of emotions when they are positive or perceived as such, together with the correlations that can be drawn between the perception of positive emotions and learning. Their studies, though, do not consider the arts as a unique emotional playground, but extend to any emotional trigger that can generate “positivity” (Fredrickson, 2009). In spite of this, the above conceptualization has proved useful to relate the artistic emotions to learning.

Fredrickson & Branigan define positive emotions as emotions that “broaden the scopes of attention, cognition, and action, widening the array of precepts, thoughts, and actions presently in mind” (2005, p. 315). Positive emotions in this paradigm are active means of broadening individual strengths and directly building resilience. Educators might find these findings useful, as they contribute to evidence-based knowledge about applicable tools for stimulating optimal learning. Educators who are attentive to issues of well-being at school might easily find in the broaden-and-build theory the basis for the optimal development of learning environments. The opportunity to stimulate individual learning and knowledge integration, creativity and well-being has at its core the concept of positive effects, which in Frederickson and Branigan (*ibid.*), generates thoughts that are unusual, flexible and inclusive, creative, integrative, and open to information and efficient.

Educators know very well the value of these qualities of thought and how essential it is for learners to be open to information. If individuals do not approach learning situations with openness it is impossible to learn. Educators might acknowledge, from their everyday practices, that if students are not open to unusual, creative and flexible thought, then they will not learn new and creative approaches. Finally, the educator’s personal experience might show that without inclusive, integrative and efficient learning, it would not be possible to achieve optimal learning for their students and themselves.

Thus, in this perspective, what education tends to care about is establishing optimal learning programs that are able to generate positive affects and which are intellectually challenging. Moreover, if emotions and intellectual challenges are so closely related, they might contribute jointly to learning processes, resulting in learning outputs that are potentially highly profitable for schools, in terms of both academic achievement and learners’ well-being. Neurosciences confirm, in fact, that emotions are a fundamental element of learning and not just “a toddler in a china shop, interfering with the orderly rows of stemware on the shelves” (Immordino-Yang & Damasio, 2008, p. 185). This might be the conception that is in the background of industrial models of education, where effectiveness cuts back what is seen as not strictly necessary and maintained to disturb linear knowledge acquisition processes, in this mindset defined as “learning” (Robinson, 2001).

### **Are emotions in the arts always “positive”?**

Starting from the assumption that no emotion is in itself “positive,” we can examine whether emotions in art experiences have--or can have--a positive character. As Goleman’s shocking introduction to his book on emotional intelligence (2006) tragically describes, all emotions are seen, perceived and understood within specific contexts. A father who defends his family by shooting an attacker is responding to a primal emotional need, and both his emotional state and his reaction can be valued as positively charged. Unless the attacker turns out to be the father’s daughter who wanted to surprise her father with an innocent disguise. In this case, the man’s



impromptu reaction will be interpreted as premature and irrational and therefore negatively charged.

In the same way, the artistic experiences can generate emotions that are socially constructed with a specific moral or cultural value. No artistic experience holds an absolute and universal emotional mark. Banksy's street art might get a good laugh, a deep thought or a feeling of rejection, depending on the viewer. Audiences of modernist plays might experience a sense of unease or anxiety for plays such as *Waiting for Godot* where nothing happens... twice. Audiences of Pina Bauch's modern dance might take the apparently dis-harmonic movements as a gross provocation. Readers have surely experienced rejection and anger for works challenging all kinds of moral and sexual taboos, such as *American Psycho*, *Lolita*, *Les fleurs du mal*. A passage in the letters of Virginia Woolf sums up the positive or negative reactions that a work of art can enhance:

My great adventure is really Proust. Well-- what remains to be written after that? I'm only in the first volume, and there are, I suppose, faults to be found, but I am in a state of amazement; as if a miracle were being done before my eyes. How, at last, has someone solidified what has always escaped--and made it too into this beautiful and perfectly enduring substance? One has to put the book down and gasp. The pleasure becomes physical--like sun and wine and grapes and perfect serenity and intense vitality combined. Far otherwise is it with Ulysses; to which I bind myself like a martyr to a stake, and have thank God, now finished-- My martyrdom is over. I hope to sell it for £4.10 (Nicolson & Trautman, 1975-1980, p. 566).

Here, the pain and pleasure are physical and figurative, able to materialize either hymns to vitality or martyrdom. So how does the concept of positive emotions enter the world of works of art and art perception? The point I will make below is that, within artistic experiences --be it in the making or in the perceiving- all the emotions are, or turn out to be, positive. Even Virginia Woolf was proven to enjoy and appreciate her Ulyssean martyrdom, by publicly admiring its author, James Joyce (Heffernan, 2012).

Aristotle believed that emotions in the arts are always useful, by means of *catharsis*, which is the purification or figurative cleansing of the emotions, especially pity and fear, described by Aristotle as an effect of tragic drama on its audience (2009). Within the Western philosophy, the Aristotelian concept of *catharsis* has become both an emotional state, characterized by release of tension following an overwhelming artistic experience, and a psychotherapeutic technique used to relieve tension and anxiety. The emotional state has its positive effect in restoring a spiritual balance, while the pragmatic use of technique achieves a therapeutic effect by bringing repressed feelings and fears to consciousness. Therefore, in Aristotelian terms, emotions in the arts always have a positive effect, even though the perception of them might not involve positive emotions at first. Along these lines are the concepts of Freudian sublimation and Lacanian *jouissance* (Herbert, 2010, p. 40) that seek to understand the human propensity to negative emotional experiences. Why are humans willing to expose themselves to cruel tragedies such as *Medea*, where a woman kills her own sons in order to revenge her husband's infidelity and public rejection? Aristotle answered that they do that in order to achieve *catharsis*, so that they get rid of their feelings of powerlessness, fear, and anxiety. Freud would answer that this unconscious drive is steered by a hidden desire, "where the original object of the drive (the object causing frustration) is displaced towards another object (the

object of art)” (Herbert, 2010, p. 47). The desire to kill or to get revenge is sublimated in the artwork and hopefully gets rid of these desires. Also, Lacan invests the concept of *jouissance* of a therapeutic or *catharsis*-like function “to maintain at as low level as possible the tension that regulates the whole functioning of the psychic apparatus” (Lacan quoted in Herbert, 2010, p. 40).

Other modern theorists have linked emotions in the arts to positive states, for instance Berlyne’s “arousal” theory, which focuses on “pleasure given by art’s formal properties” (Winner, 1982, p. 64) or the cognitivist perspective, which highlights the arts’ fundamental role for human growth and development: “Art serves the human need for knowledge [and] functions ultimately to reveal and clarify reality” (Winner, 1982, p. 65). Links to the positive emotional effects of the arts can be also found in some anthropological theories, such as Ellen Dissanayake’s “making special” through bonding and emotionality (2000; 1995), where the arts have been and are means of survival for the human species.

Even though all the theories mentioned here can be (and have been) criticized-- the arousal theory says something about the awakening of attention, which is not necessarily perceived as positive; the cognitivist position can be mistaken for advocating an ancillary role for the arts, useful only if a cognitive growth can be proved; the evolutionary biological theory can be dismissed by the argument that there are no real scientific proofs for it--they are all thoughtful exemplifications of studies on positive emotions and the arts.

What does this mean in positive psychological terms? Positive psychology is an “umbrella term for studies on strengths, virtues, excellence, thriving, flourishing, resilience, optimal functioning in general, and the like” (Donaldson, 2011, p. 5) opposed to the exclusive focus on dysfunctions and diagnosis. From the many studies on happiness and life-satisfaction, we now know that: “When we do not allow ourselves to experience painful emotions, we limit our capacity of happiness” (Ben-Sahar, 2009, p. xvii). In this perspective, to limit our capacity for happiness means to limit as well our capacity for learning and development. Happiness and satisfaction are the necessary conditions to experience curiosity, interest, engagement, and to be able to absorb and process information. The “negative” emotions experienced in the arts are, for positive psychology as well as for Aristotle, a necessary step in every process where individuals grow spiritually or intellectually and learn about themselves, the world or a given topic.

The intellectual dimension of art experience and appreciation is underlined by Csikszentmihalyi & Robinson (1990), where the cognitive effort needed within the decoding of artworks is interpreted as a complex problem-solving approach, which can be intellectually very gratifying. “Intense involvement of attention in response to a visual stimulus, for no other reason than to sustain the interaction. The experiential consequences of such a deep and autotelic involvement are intense enjoyment characterised by feelings of personal wholeness, a sense of discovery, and a sense of human connectedness” (Csikszentmihalyi & Robinson, 1990, p. 178).

In learning and education, the positive synergy described by Csikszentmihalyi & Robinson is enormously valuable, because it is capable of activating an optimal individual response, such as engagement, curiosity, wish to learn and ease of learning. What can be challenging for educational institutions is the autotelic quality of these experiences, as, for autotelic, Csikszentmihalyi & Robinson intend an activity that has its purpose in itself. That is to say that humans cultivate the arts (but also sports or play/game activities) for their own sake, for their intrinsic value and enjoyment. This theoretical stand seems to bridge two different approaches

to positive emotions: the hedonistic and the eudaimonic. The ancient Greek philosophy defines hedonism as the search for pleasure and absence of pain, and eudaimonia as the state of meaningful happiness (Tamir & Gross, 2011, pp. 89-91). What the autotelic experience seems to imply is that, with the purpose of the activity self, a pleasure-driven psychological process guides artistic activities. We make or enjoy art because the enjoyment in itself is our drive. However, to this hedonistic attitude, Csikszentmihalyi & Robinson add an eudaimonic one: the cognitive gratification that follows with the artistic activity might not be pleasurable in itself (it is indeed an effort), but what is gratifying is the instrumental end, that is, the feeling of having decoded a complex message, of having solved a mystery. Even though Csikszentmihalyi & Robinson do clearly mention either hedonic or eudaimonic viewpoints, they also seem to bridge the two, with the approach of Tamir & Gross (2011, p. 92) in defining a motivated view: “Optimal experiences, in this respect, involve the presence of useful emotions (i.e., emotions that promote goal attainment) and the absence of harmful emotions, regardless of whether they are pleasant or unpleasant to experience” (ibid.). From the perspective of the above theories, art is-- and should be--kept alive in schools and society, with the background of their intrinsic connection with positive cognitive, emotional, relational and cultural needs and achievements and of their pleasurable *and* meaningful experience.

But how can empirical studies contribute to a more detailed understanding of the role of positive emotions within artistic activities in schools? The Artfulness project has shown several qualities of positivity enduring in these settings, discussed below.

### **Positive emotions in schools by means of art**

Being asked about what kind of deep thinking and cognitive challenges their students experience within arts programs in school, teachers within the Artfulness study mentioned that students appear to:

- Be more experimental and daring
- Be or become more curious: “They learn that they can learn without the teacher”<sup>1</sup> (Chemi, 2014)
  - Learn that they must make an effort: processes take time and technique pays off
  - Cope with complexity and accept that “not everything can be understood” (ibid.)
  - Experience and maintain flow for a longer time than in traditional teaching settings
- Experience meaningfulness: “They feel that if they make an effort, they can do something meaningful” (ibid.)
- Experience an appreciation process, with visible consequences for self-esteem and self-confidence

- Understand that their role in the creative process is unique and necessary: “My contribution is just as important as the others” (ibid.)

These findings seem to be consistent with other studies on the impact of the arts in learning (Bamford, 2006; Deasy, 2002; Fiske, 1999; Journal of Aesthetic Education, 2000; Rabkin & Redmond, 2004). An extensive bibliography can be accessed at the ArtsEdSearch website ([www.artsedsearch.org](http://www.artsedsearch.org)), which is included in the Arts Education Partnership (AEP), and builds on *Critical Links: Learning in the Arts and Student Academic and Social Development* (Deasy, 2002).

Like the above studies, the Artfulness study shows a wide range of reported positive emotions from the students in the domains of social relationships, learning of academic and non-academic content, self-perception, and overall well-being. The generated arts projects in all of the visited classes exhibited appreciable amounts of fun and joy. More important, students reported that the opportunity of interacting with, or learning about, the specific elements of art forms was a source of joy, fun and satisfaction. They highlighted several sources of their positive perception: 1) the tangible, material, sense-based, dynamic and mediated activity (the “making” of artworks or parts of artworks, using arts materials and processes); 2) the complex and multi-level planning and understanding of arts creation (the adoption of the artist’s mindset and values); 3) ease in acquiring academic knowledge by artistic means.

Learning is reported as a source of positive and energizing emotion and something students don’t take for granted. Students describe an optimal learning synergy: from learning to joy, from joy to learning.

However, it must be stressed that students do not report a generic or indiscriminate joy for learning, but for a specific content-related learning, which is mediated in a new, creative and engaging way. They have very clear ideas about what they were learning and what made them happy about the project, and the enjoyment they reported is associated with both the experiential and educational level. Students rejoice because the experience is fun and also because their academic learning has been easier and was accompanied by a new and different learning, which is relevant to them and which schools normally don’t cover, such as animation art or design techniques. What the students say is that the artistic experience has been enjoyable in itself (hedonic approach) and that the process up to the artwork production has been hard and challenging: “We had fun, but we still worked hard”; “There was nothing in [the project], that has been particularly easy, but there was also something that was harder than the other” (Chemi, 2014). Nevertheless, they report satisfaction for the learning achieved, showing an instrumental (eudaimonic) view of their positive emotions.

The positive emotional experiences that students mention are: fun, ease, comfort, satisfaction with academic achievement or learning outcomes, commitment and enthusiasm, interest, curiosity, feeling of perseverance and success experiences, ownership, mutual respect and responsiveness, and positive approach to social relations. Pleasure seems to arise from multiple dimensions, such as the social (working with others), the artistic and arts-mediated (drawing and cutting to create animation and to master certain technical elements of the artistic process), the educational (learning in an interesting way or to learn academic subjects in a new engaging way), the self-expressive (to be allowed to generate and appreciate own artworks). One of the students summarizes much of the above in this comprehensive statement: “It was fun to work together in different groups [social]. It was fun to learn how to erase the images [technical and artistic]. It was a good and new way to teach

mathematics [educational design]” (ibid.).

Large cognitive benefits are reported at both the emotional and intellectual levels, the former as positive emotions (fun, commitment) and the latter of moderate cognitive intensity (complex, challenging, thinking matter to be reflected upon, calling for attention to detail and awareness to quality).

I define cognitive intensity as a condition in which the individual feels intellectually challenged at an appropriate and manageable level. The intensity suggests that learners experience challenges as slightly above what is adequate, that is, fully manageable. In flow terms, one can say that individuals experience cognitive intensity when they move further out of their comfort zone and toward engaging challenges, but still feel safe. Individuals are guided or invited to exceed their own intellectual limits. If I visualize cognitive intensity within the flow model, it would look like a wave that moves in and out of the flow channel, oriented toward a high degree of difficulty. The intensity refers to a qualitative complexity of the phenomenon in which the individual may feel challenged in different intellectual or academic levels. I started my Artfulness study with the assumption that the inclusion of the arts in education could contribute to student learning in a deeper way. The observations and interviews have shown that in spite of the many types of learning, students have reported only a moderate cognitive intensity. Unfortunately, the cases in this study show that a clear and sustained link between the practical creation and the more reflective activities, inherent in artistic processes, is largely absent. Perhaps this is the reason why teachers, as they had reported, didn't notice breakout creative solutions in the students' artistic products or work methods.

The schools' encounters with art and artists have basically been characterized by a craftsman-like approach. The specific time frames for the different projects have been flexible and extensive enough to give students a different experience of learning, an experience that is inspired by the way artists think and create, and the way the artistic process is put together. All development projects in the Artfulness study included collaboration with a professional artist: an architect, an artist, an animation artist or teachers perceived by students as amateur artists and experts. Interviewees report great satisfaction with the opportunity of teaching and learning “in a different way” and that the art project has been “more fun than a regular school day” (ibid.), but none of them shows full use of the program's learning potentials.

Consistent with the flow theory (Csikszentmihalyi, 1990), the experienced –and reported – satisfaction for the arts projects builds on the teachers' ability to create learning environments where children can be (in these cases moderately) challenged cognitively, while experiencing success and emotional gratification, that is to say designing an optimal balance between challenges and skills. Moreover, these environments seem to offer the teachers themselves opportunities of positive flow experiences.

Teachers also report positive emotional experiences and cognitive challenges. Understandably enough, they are concerned with time, resources, leadership support, and all sorts of practical trials. “How can we integrate the arts in the school's everyday-life?” “How can the “artist's way”, which is a longer, complex and often chaotic journey, be accepted in schools that teach for tests, schools that are measured by standardized national tests?” ‘How can schools establish a sustained collaboration with the arts and artists?’ All these questions remained unanswered during the course of the study, but clearly articulated the need for further experimentations in the field. At least two of the schools within the present study are

currently working on further developments of the observed arts-based projects. They are attempting to address the teacher's ability to freely and boldly try out new and creative ways of teaching in order to offer the students new and creative ways of learning.

A final consideration is whether the engagement and joy of these the artistic activities are always positive, or considered as such, in formal learning environments. One anecdote: Two middle-school boys, normally resistant to any artistic activity during the ordinary school day, were captured in the design project by a specific assigned task to such an extent that, when the school bell rang, they refused to interrupt their work. However, the teachers were tired and deserved a break; the room was not fit to leave children without adult supervision; the school expected all classes to take a break at the same time; and the teachers truly believed that some fresh air would benefit the students. The result was that the two industrious boys, when asked to leave their work and take a break, sarcastically replied: "When we don't work, you say that we have to, when we work you say that we have to stop and take a break!" (literal quote from field observation). In the school working with animation, a similar situation emerged, but with a different ending: A group of boys and girls didn't want to take a break ("We don't want to take a break. We have a lot of ideas. If we go out and play football, they will vanish!" literal quote from field observation). In this case, the two teachers decided to take shifts in taking their own break, so that one adult would always be in the class, allowing the kids to continue working on their task and fully make use of their inspiration and engagement.

These anecdotes show how fragile the activities that promote curiosity and interest can be in formal learning settings where frames of space and time are not flexible. Finally, in the following section we will see the specific ways in which the arts affect emotions and cognition.

### **How the arts (can) positively affect emotions and cognition**

Extending the above findings to the overall results of the Artfulness study, I can sum up the following qualitative elements:

- A cultural gap between the way teachers and artists think when they cooperate in projects where the two disciplines of teaching and art-making are integrated
- Major benefits, at an emotional and relational level, in the form of positive emotions (fun, commitment, interest, curiosity) and social interactions (positive team work, peer learning and feedback)
- Moderate cognitive intensity (complex and challenging ideas for reflection, requiring attention to detail and to quality) as a result of the development of creativity as pure craft
- Teachers' need to further experiment with new teaching methods based on the integration of creative and academic subjects or on a systematic use of artistic methods in the classroom
- A challenge for teachers when students' enthusiasm may interfere with a rigid school timetable, exemplified by how a teacher should respond to students so dedicated to their work that they will not take a break
- Artistic processes based on creativity and innovation are not enough to foster creative kids. The encounter with the arts should be facilitated, designed and guided, preferably by involving professional artists as inspiration and role models.

In what unique ways do the arts influence the optimal balance of positive emotions and cognitive challenges? They do it by means of a number of functions and characteristic aspects: expression of complexity, *opacity*, metaphors, communication *in absentia*, inputs by senses and body, meaningfulness, sociality and relationships.

The arts build a complex environment and system of messages, which must be deciphered (Bourdieu), decoded (Eco) or socially constructed (Vygotsky), depending on the hermeneutic approach that is used (see Connery, John-Steiner & Marjanovic-Shane, 2010). The arts set out a network of meanings, which are simultaneously complex (therefore challenging) and safe (thus prone to generate positive affects). The challenges are basically a cognitive puzzle-game where individuals try to find their way through inquiries: What does it mean? Why is it like that? Why has the artist chosen this color? Who is the main character? What is the story? These inquiries can stimulate curiosity and scientific thinking, if nurtured and facilitated. The role of the artwork is to provide a specific quality of complexity, by communicating what is visible and what is not visible (omissions, pauses, hints, suggestions and so on), and to provide a material witness for inquiries. The work of art is always there for us to point at and find (scientific) evidence for our opinions, even in the case of ephemeral modalities, such as the performing arts. The artwork in its materiality or in the memory of its materiality will always be there for observing, listening, reading, participating, interacting.

Learning environments in the arts feel “safe”, because the arts offer us an extraordinary experience, different from ordinary, everyday life. They are make-believe, thus promoting and allowing being different. Within the arts we can be--or imagine to be--someone else, such as in drama or novels; we can be extreme and provocative, such as in the grotesque or irony; we can communicate and express ourselves by non-verbal means, as in dance, music and visual arts; we can turn the world topsy-turvy, as in Absurdism and Futurism. The experience within the arts is safe, because, in spite of its intense emotional impact, it is still extra-ordinary.

Elliot Eisner (2002) maintains that, unlike scientific symbols, which point at the meanings they intend to convey, relying upon their transparency, artistic symbols are opaque, non-literal and representational (p. 31). Works of art are built on a systematic and programmatic strategy of concealing and disguising, which is not only extraneous to other epistemic traditions, such as science, but in contradiction to it. Science needs to explicate and communicate as clearly as possible; art does *necessarily* hide its meanings, purposes, tools and processes in order to express itself through complexity. Even the cultural attempt of showing “what is hidden” in art replicates the artistic disguise. For instance, Realism pretends to report faithfully via make-believe features. These elements of disguise, complex multi-layered texts and opacity are at the very core of the artistic dialectics. For David Perkins, art is invisible and “the invisibility of art is virtually a logical consequence of how art functions as a symbol system” (1994, p. 21). This concept has a forebearer in Goodman (1976), who expresses the arts’ density as *repleteness*.

The paradox is that the invisibility of art seems to contradict the other specific quality of art, that is, the thingness of the arts. The arts are artifacts, things that are visible, clear, and approachable through the senses, in part because, “It’s not the work that is invisible but our way of looking at it that fails to make it visible” (Perkins, 1994, p. 32). The cognitive work we are asked to perform in the arts is to perceive and understand what awaits and what hides. What awaits is what is immediately offered to perception and decoding. What hides is often not separable

from what awaits, and can be defined as what is hidden in artworks and waits for an act of discovery to take place.

Artists' strategies are mostly hidden, the arts' purposes, meanings and messages are conveyed by means of dense symbols, metaphors and allegories, making the perception and understanding of the work of art a complex task of decoding or socially constructing man-made displays. Often, the arts signify *in absentia*, that is the absence of color, sound, movement and so on. The cognitive puzzles offered up by the arts oblige us to slow down the rhythm of our thinking and to direct our attention toward deep understanding and reflection. The arts are meaningful and generate meaning, whatever forms they take, either as fully-shaped or fragmentary or incomplete material presence, abstract or absent.

Therefore, even though many different activities are able to generate positive feedback or cognitively challenge individuals, or even to generate flow experiences, works of art are systematically and programmatically conceived and designed to generate positive emotions and flow experiences. They offer a huge learning playground with extensive learning opportunities that shouldn't be left unspoiled. The challenges offered by the complex learning environments in the arts are balanced by the make-believe and extra-ordinariness of the art experience. The dialectic balance between challenges and the feeling of safety in the make-believe can be the trigger of flow experiences, thus enhancing concentration, desire of learning, experiential joy, creativity and development.

In this sense, inspired by Fredrickson (1998, pp. 304-306), we can say that the arts can systematically and programmatically stimulate positive emotions like joy (as the interviewees within the Artfulness study have reported), which can lead to a momentary urge to play and a durable building of necessary physical, intellectual, and social skills. When participants in the Artfulness project report increased interest, either for the academic matter mediated by the arts or for their newly discovered artistic competences, they have developed both a fleeting urge to explore and a durable building of knowledge. In both cases, interviewees have reported a strong desire to learn about, play with, or explore the art forms experienced within the project, as well as deep learning, which they considered different from, and more enjoyable than, normal school learning.

In other words, learning takes place in a pleasurable, appealing and "easy" way, because of the fun, suspense and interaction included within the artworks. The arts are intrinsically rewarding and flow-generating and therefore able to generate positive emotions, which are linked to intellectual activities by self-reinforcing relationships. The more positive experiences in learning we experience, the more we wish to experience, and the more cognitive nuts we crack, the more satisfied we are. In this way, positive emotions can strongly influence the quality of experience, which "is a valid predictor of engagement in one's area of talent, and of school achievement in general" (Csikszentmihalyi & Schiefele, 1992, p. 184).

To conclude, I wish to advocate for the arts in learning environments as motivated experiences. Those are experiences that have purpose in their own unfolding, and, therefore, do not need advocacy or application in other contexts. They are also experiences with optimal instrumental application (Tamir & Gross, 2011). However, "In a society that values measurements and uses data-driven analysis to inform decisions about allocation of scarce resources, photographs of smiling faces are not enough to gain or even retain support. Such images alone will not convince skeptics or even neutral decision-makers that something exceptional is happening when and where the arts become part of the lives of young people" (Fiske, 1999, p.



iv). What, then, do we do? Perhaps we might want to revise our very understanding of advocating for the arts by giving up easy-to-sell arguments that make big headlines on the language of measurements and standardized tests, and instead holding on to the genuine and specific qualities of the arts in learning.

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1 Not referenced quotes, as in this case and below, refer to respondents' opinions.