INTER-DISCIPLINARY CREATIVE TEACHING Blending Physical Education and Visual Arts pre and primary school curriculum standards through embodied learning experiences as Performing Art activities.

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DOI: 10.24981/2414-3332-7.2019-10

IMAG 7

Keywords
physical education, integrated, curriculum, inderdisciplinarity, arts, performing, visual

Abstract
The specific paper is an effort to mix and match, in a creative, meaningful way, at least two subject of the preschool and primary school curriculum, Physical Education (PE) and Visual Arts (VA). The idea behind this interdisciplinary educational activities based on three major issues in first grades education: a) the internal need and nature of young children for movement and play, b) the teachers' accountability, regarding the implementation of school curriculum (teaching and assessment) and c) the need for cultivation of the 21st century skills. At least in Europe, all European countries recognise the importance of PE at school and the subject is part of all central curriculum frameworks. PE is compulsory in primary and lower secondary education (European Commission/ EACEA/Eurydice, 2013). The same exists for many countries worldwide. VA is, also, a part of compulsory education in many countries and some artistic disciplines, such as the Performing Arts (PA) involve aspects of the visual arts, e.g. drawing while moving or dancing. PA are usually connected with embodied activities, such as dance and theatre (drama) activities, where the body takes action in order to perform or create a part or a whole artifact. The paper presents this integrated idea and its first implementation at InSEA seminar in Thessaloniki, Greece (2018). This inter-disciplinary activity is also covers the nurturing of some of 21st century skills.

Physical Education: the holistic embodied mean of learning in young children in school

PE is a school subject that usually, is not limited to improve only physical abilities and motor skills, but also cognitive / perceptual and social / emotional skills. The same applies for the other school knowledge subjects, though PE is the only subject that encompasses movement, meaning the physical and motor development of children. Thus, PE may have the most multi-purpose orientation in children's development. Of course, movement and body language is the first language of children, and as Torrance (1975) stated young children mainly express their selves through kinaesthetic modality more than other modalities. That's why in educational domain, experts should always keep in mind to provide as many learning opportunities for young children as possible, to express and understand concepts, ideas, thoughts, feelings and behaviours through their bodies in action.

Developmental psychologists have long discussed, analyzed and recognized the power of action on learning (Held & Hein, 1963; Piaget, 1952). New research in many academic fields such as cognitive and social psychology, neurosciences and linguistics (Decety & Grèzes, 2006; Glenberg, 2010; Kontra, Goldin-Meadow & Beilock, 2012; Lakoff & Johnson, 1999; Niedenthal, 2007; Smith & Sheya, 2010) connected with embodied cognition (EC) or knowledge. EC is a topic within the cognitive sciences searching how our body and our environment are related to cognitive processes (Barsalou, 1999; Kontra, Lyons, Fischer, & Beilock, 2015; Shapiro, 2010). Research on learning and education is increasingly influenced by theories of EC and as Skulmowski and Rey (2018) presented several embodiment-based interventions have been empirically investigated, including gesturing, interactive digital media, and bodily activity in general. In EC, the person is treated as a whole.

This means the person experiences, interacts, analyzes and synthesizes interconnected thinking, feelings and actions and reacts as an entity within the surrounding world. None of the person's behavior in based only on a particular physical, intellectual or emotional property, not related to the others.

Keeping this in mind, PE is probably the most related knowledge subject in school to EC as it provides many opportunities for embodied cognition and learning, and the development of physical, emotional and social personality of children. Additionally, PE in many cases, through interdisciplinary activities fulfils not only its curriculum standards but other knowledge subject standards too, in school education (Connor-Kuntz, & Dummer, 1996; Usnick, Johnson & White, 2003; Zachopoulou, Trevlas, Konstadinidou & Archimedes Project Research Group, 2006; Mavilidi, Okely, Chandler, Cliff, & Paas, 2015). PE includes a wide range of activities that allow creative outcomes to emerge, such as team games, practicing sports skills, fundamental movement activities, motor improvisation and dancing.

Standard-based framework for the development of the activity

Integration or interdisciplinarity is not a new concept in education. It crosses the boundaries of an academic discipline or a knowledge subject and mix at least two or more subjects into one activity or project. While brainstorming and searching for fresh ideas and activities for young children, teachers are dealing with several methodological and pedagogical principals, processes and issues. Their main thought is to transmit information to children through targeted, meaningful, re-creative and motivational learning experiences. They wish and strive to schedule, organize and implement activities to promote children's knowledge, perception, thinking and behaviours while usually try to follow standard-based curriculum in school setting. Following and implementing curriculum in educational settings is a matter of teacher's accountability and this is a major theme in education (Drake, 2012). Accountability means that teachers should teach, implement and follow the curriculum and students should learn what the curriculum describes. Standards in curricula it's like a mathematical formula, a doctor's prescription or a guide in order for children to gain the indicated outcomes. However, as Drake (2012) referred standards should ideally improve student's learning and not only measure it.

Nowadays, in many countries around the world, the organization of the content of studies in preschool education, in every knowledge subject, is approached through standards. The following figure (1) presents the knowledge subjects (Greece and Cyprus curriculum) which were used as the framework for the development of the specific integrated activity. Many of the standards of each knowledge subject recruited in the following activity. Though, it's at the discretion and the qualification of the teacher to specifically focus in some of the following more than other ones. This framework, which is based on specific standards of the involved subjects, covers teachers' accountability regarding the implementation of school curriculum.

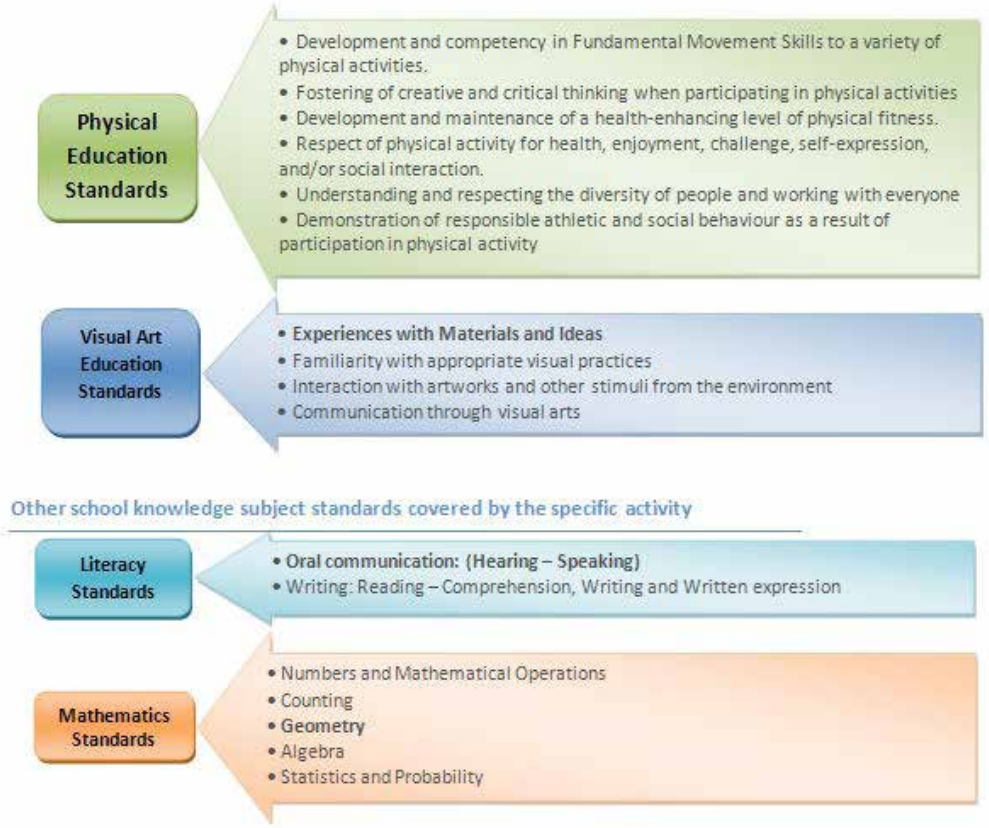

Figure 1. Standards in Physical Education, Visual Arts Education, Literacy Education and Mathematics in preschool education curriculum in Cyprus and Greece.

Physical Education learning outcomes according to Standards

Especially for PE, in teaching processes educators should focus, stimulate, refer to, enhance, promote and assess the following PE learning objectives/outcomes (figure 2) which enhance the holistic development of children.

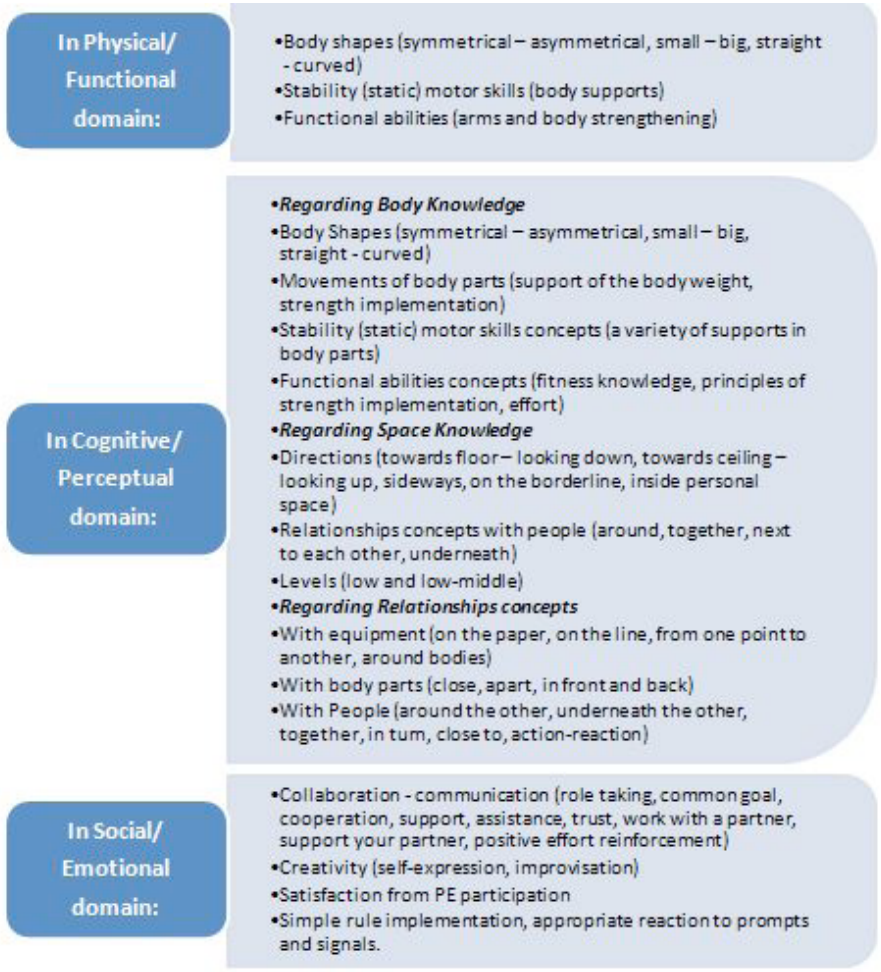

Figure 2. Some of the Physical Education learning objectives/outcomes associated with specific domains of children's development.

Nurturing the 21st century skills in school

In recent years, several school and PE curricula, worldwide, encompass many of the 21st century skills (Trilling & Fadel, 2012) through their standards (figure 3). Collaborative environments such as a school and class community, should act as fruitful places for the cultivation of this kind of knowledge and behaviours. Of course, educational policy and systems should first take actions towards this direction but teachers can make the difference too, with new and fresh ideas in class. Today, it's commonly acceptable that students not only need memorization skills (thus achieving codified knowledge acquisition) but they also need the 21st century skills (Trilling & Fadel, 2012), which are crucial for living and surviving in the modern societies and economies. Through the following activity many of the 21st century skills are cultivated, especially the Learning & Innovation Skills. More specifically, regarding for example creativity, PE includes a wide range of activities that allow creative outcomes to emerge, such as team games, practicing sports skills, fundamental movement activities, motor improvisation and dancing (Konstantinidou, Michalopoulou, Agelousis, & Kourtesis, 2011).

Life & Career Skills	Learning & Innovation Skills	Information, Media & Technology Skills
Flexibility & Adaptability	Critical thinking & Problem Solving	Information Literacy
Initiative & Self-Direction	Creativity & Innovation	Media Literacy
Social & Cross-Cultural Skills	Communication & Collaboration	ICT (Information & Communication Technology) Literacy
Productivity & Accountability		
Leadership & Responsibility		

Figure 3. 21st century skills.

Activity

- Welcome the children and inform them that they are going to have some artistic experience through their bodies with specific kind of movements (body shapes and supports-balances). In order to proceed with this experience they should cooperate with their partners and listen to simple instructions and prompts.
- Ask children to form pairs and take roles. One is the painter the other is the performer.
- Have a big thin white cardboard for each pair on the floor (in many different shapes) and put some calm music to stimulate creative expression.
- Ask the performers to form a body shape onto the white cardboard (symmetrical or asymmetrical, big or small, straight or curved) and cover it with their bodies according to their feelings to the music.
- Ask the painters to hold their thick black pens and form the outline of their performers' bodies. Together they will start create their artifact. It's about creativity, self-expression, mood for cooperation, communication, support and feelings of trust, faith and belief in the abilities of their partner (figures 4, 5, 6, 7, 8 & 9).

Some examples of prompts or guidelines for the development of Physical/Functional and Cognitive/Perceptual Domain of children:

1. Can you take a symmetrical/assymetrical body shape on the cardboard?
2. What will happen if you turn your body sideways?
3. Show me that you can form a small outline on the cardboard. How should you stand on the cardboard? Can you shape a smaller shape/outline?
4. Use your imagination to form a curved/straight body shape/outline.
5. Is it possible to form a body outline with straight and curved lines?
6. Form a body shape/outline facing the ceiling with hands in symmetrical and legs in assymetrical position or both in assymetrical position.
7. Keep your arms/legs apart/close, or one in front the other on your back. Imagine the result. Try to have them as apart/close as you can.

Figures 4-9 reflect some of the responses of the participants according to the instructions and prompts given by the instructor.

Figures 4 – 9. Examples of body outline drawings' process

- After the body outline is formed, explain that you are going to ask the performers to support their selves, every time, in some different body parts. They should supports their selves in their body parts for at least some seconds (8''-10'') in order to give enough time to their partners (painters) to draw some lines. The body parts of the performers (e.g. two palms and two feet) should contact on their outline on the white cardboards. While the performers support themselves and about for 8''-10'' seconds each time, their partners (the painters) should draw lines from one contact point to the other with their black pens, inside the outlines. Additionally, each pair should decide and choose, from the beginning, the style of the lines they will draw (straight, with dots, with dashes, zigzag, double, with curves, with spiral, e.tc.), which the painter should use to connect the contact points of the performer on the cardboard (figure 10-15).

Some examples of prompts or guidelines for the development of the static stability movement skills:

1. Support youself in two feet and a palm.
2. Try the opposite! Two palms and a foot.
3. Have both feet on the ground with bend knees and bend body, looking at the ceiling.
4. Use your head your elbows and your knees to support yourself.
5. Support in four contact points as you want! Show me what you can do!
6. Show me that you can use your hand and a foot to support yourself while looking at the floor.
7. Curl your body and use both palms and feet.

At the end of this activity each pair will have a black body outline with some lines inside of it. For each pair the body outline and the lines will be different.

Figures 10-15 reflect some of the responses of the participants according to the instructions and prompts given by the instructor.

Figures 10-15. Stability motor skills drawing performance

- You can extend this activity by asking each pair to choose two primary colours and paint some spots inside their shapes, between the lines with these two colours (e.g. yellow and red, and some spots with the combined secondary orange) or have some small different shapes inside each formed gap.
- At the end of the activity ask them some questions:
– What do you think were the strong points of your cooperation?
– What difficulties did you confront while performing and creating your artifact?
– Do you feel you could change something if you had the opportunity?
– Can you imagine synthesizing and creating something else?
– If you draw outside the body outline do you think you should have some restrictions?
– Can you think a process of working this way in teams?
- Ask children to change roles. You can let them make some of the proposed changes.
- Have an exhibition in school with children's artifacts.

A special Thanks to all the participants of the InSEA seminar at Thessaloniki, 16-18 July 2018 and to our friend, photographer Antonis Keramidas (akeramid@otenet.gr) for the photo shooting..

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