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RESEARCH ARTICLE

Engaging first-graders in language arts through 'arts-flow activities'. Curriculum perspectives

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Abstract
Introduction This paper examines how an elementary curriculum can be impacted by flow theory and current pedagogical perceptions of arts integration.
Aim Specifically, the purpose of this study was to explore how 'aesthetic flow activities' affect first- graders' engagement in the language arts learning process. These activities were used to compare with current curriculum activities, all designed to conform to the same academic goals.
Sample The sample consisted of 80 children in four first-grade classrooms, two of which functioned as the experimental groups and the other two as the control groups. Data collecting process The data were collected through participant observation. In addition, the children filled in a five-scale smileyometer, so that they could register their level of satisfaction in participating.
Results - Conclusions From the analysis of the data there were indications that 'aesthetic flow activities' can raise pupils' engagement. The indicators of pupils' engagement which were measured were the verbal participation of the children in the sample, their multimodal/arts involvement in the taught subject, their creative responses to the taught subject, their multifaceted/holistic activation during the lesson and their satisfaction at participating in the lesson.

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Introduction

A key issue in the standard of formal education and an abiding concern for every educator, whatever their specialisation or whatever level they teach, is "facilitating students' deep engagement in learning activities" (Schmidt 2010, p. 605). Contemporary literature reveals that pupils in general seem not to be engaged in learning in school, are frequently passive in class, feel managed, while the demands of curricula often interrupt their concerted efforts and prevent them from immersing themselves in projects (Shernoff and Csikszentmihalyi 2009; Suttie 2012; Taylor and Parsons 2011; Whitson and Consoli 2009). Specific examples are advanced nations such as the UK, Canada and the US, where many students perceive learning as a boring and irrelevant experience (Gibbs and Poskitt 2010).

More specifically, in the language arts lesson the psychological climate in the classroom is determined by the fact that the teaching process, for the most part, consists of scheduled, rather solitary activities emphasizing controlled rather than emergent situations, literal understanding rather than interpretation (Dislen 2013; Johnson 2007; Pike 2004; Rosenblatt 1986; Wilhelm 2008). The time allotted for pupils to experience multifaceted/holistic learning is limited (Swafford and Akrofi 2005).

Although recent scholarship has shown that students' engagement in school has a positive impact on learning achievement (Wonglorsaichon et al. 2014), "only a small handful of studies of educational contexts attempt to implement a program, or intervention specifically designed to elevate engagement" (Shernoff and Anderson 2014, p. 194). Indeed, much remains to be done to develop educational strategies encouraging cognitive, emotional

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and behavioural engagement in the learning process (Fredricks et al. 2004; Willms et al. 2009).

This paper examines this important yet inadequately studied issue, that is, it seeks strategies that make children want to be part of classroom activities. An intervention was designed and implemented for this purpose and its aim was to increase children's engagement in the learning process, by examining characteristics of teaching highlighted by the literature as not utilised or underutilised: children's verbal participation (Liu and Littlewood 1997; Willms et al. 2009), their multimodal involvement (Kumari 2004; Sanders and Albers 2010), their creative response (Culpan 2010; Hui and Lau 2006; Minton 2003), their multifaceted/holistic activation (Garcia 2014; Pope 2001) and their satisfaction (Marks 2000; McCabe et al. 2011; Shernoff and Anderson 2014) with regard to a taught subject and more broadly with regard to the learning process.

Theoretical Background

We sought the theoretical basis of this endeavour in two approaches, which although they provide interesting pedagogical prospects, have not been systematically utilised so as to affect modern curricula. The first was 'flow theory' (Csikszentmihalyi 1991), which describes the state when a person exhibits a high level of self-motivation and active concentration on a task, feels control over the process, feels time distortion and other behaviours leading one to perceive him/herself as integrated in the activity being carried out. People experience flow or 'optimal experience' when they act spontaneously, automatically, without any expectation of future benefit, and the reward comes from participating (Nakamura and Csikszentmihalyi 2002). Research on flow experiences in an educational setting has shown that some basic instructional and classroom factors that positively affect flow in students are their autonomy and a level of challenge that is appropriate for their skills (Csikszentmihalyi 2014). Of these studies, most are in a high school or university setting and find correlations between students' flow experiences and their learning performance in various academic subjects, such as the sciences and language (Coller et al. 2011; Larson 2011; Shernoff and Anderson 2014; Wihelm 2008). There are also studies that show that educators experiencing flow correlates positively with students' flow experience and with students' cognitive engagement (Bakker 2005; Basom and Frase 2004). Although flow theory is considered to be related to behaviours having to do with student engagement and enjoyment in learning (Shernoff and Csikszentmihalyi 2009), these issues are to a great extent unexplored (Shernoff and Anderson 2014; Whitson and Consoli 2009) in primary education.

The second theoretical approach comes from the field of 'arts integration', in which arts are incorporated into the curriculum, influencing the teaching of the non-arts disciplines (Deasy 2003). Within this framework, the arts are considered either as a means to foster non-arts skills related to a taught subject (Deasy 2002; Gelineau 2012; Rooney 2004; Russell and Zembylas 2007), or as a way to approach the aesthetic elements of the taught subject (Eisner 1999, 2002; Greene 2001; Pike 2004; Smith 2000; Sotiropoulou-Zormpala 2012). In the first case, the arts could provide children the opportunity to develop personally and academically, while in the second, opportunities could be created for children to undergo aesthetic experiences and to benefit from the intrinsic value of the arts. Many contemporary scholars (Eurydice 2009; Horowitz and Webb-Dempsey 2002; Russell and Zembylas 2007) advocate for both these cases being used in parallel and/or alternately employing them. Such a combined approach to the educational roles of the arts sheds light on the fact that multiple types of representation of the taught material are encouraged (Eisner 2002); pupils should be engaged in multiple literacies, such as visual, spatial, tactile, gestural, audio and oral modes of meaning (Gallagher 2014; Lynch 2007; Parsons 1990; Sanders and Albers 2010); engagement in the arts in school should be combined with multiple modes of approaching knowledge, constituting a field for developing children's creativity (Culpan 2010; Hui and Lau 2006; Minton 2003; National Advisory Committee on Creative and Cultural Education 1999; Wright 2010); the arts are considered to be opportunities for multifaceted and holistic development (Gardner 1993, 1999; Miller 2007), as well as opportunities for aesthetic experiences in class (Connell 2000; Johnson 2007; Markovic 2011; Pike 2004; Rosenblatt 1986; Sotiropoulou-Zormpala 2016). In a more specialised area of arts integration, scholars studied the effect of the arts on students' engagement as an indicator of being motivated and persistent, and of learning meaningfully (Garces-Bacsal et al. 2011; Hetland et al. 2013). Positive associations were found in teaching non-arts subjects through the arts and children's increased engagement (Catterall 1998; Cho and Vitale 2014; Smithrim and Upitis 2005; Upitis 2011). In fact, when arts activities were integrated in teaching language arts, it was seen that they brought about academic benefits, but also more general benefits with regard to a creative and aesthetic approach to language subjects (Anvari et al. 2002; Butzlaff 2000; Gromko 2005; Huotilainen 2010; Iser 1978; Johnson 2007; Rosenblatt 1986; Wandell et al. 2008). Studies that stand out are those that have shown clear causal evidence between drama activities integrated within language lessons and important verbal skills, such as text understanding, reading, and using oral language (Kelner and Flynn 2006; Podlozny 2000; Walker et al. 2011). Some of these results, however, are considered to be inconclusive and more research is considered necessary to address the many assumptions on this issue (Winner et al. 2013).

Based on these theoretical foundations, we designed activities to integrate in a first grade language lesson that would increase children's engagement in the learning process (Sotiropoulou-Zormpala and Argyriadi 2015). We called these

activities 'arts-flow activities' and made sure they had the following characteristics:

they prompt pupils to use alternatives to language (sound, theatre, art, mobility etc.) to understand taught subjects;
they prompt pupils to express what they understood in multiple modes;
they are to be experienced by pupils as playful and flow situations;
they activate imagination and other creative forms of behaviour;
they create emergent, non-programmed situations;
they are developmentally appropriate and often challenging for children's skill level;
they are largely controlled by the pupils, both in how they develop and in their results.

Purpose of the Study

The purpose of this study was to explore how 'arts-flow activities' affected first-graders' engagement in the language arts learning process. Specific factors were measured as indicators of the level of students' engagement, such as the number of children who participated verbally, were involved in a non-verbal/artistic way, who responded creatively, were active in a multifaceted/holistic way, and who enjoyed the process in the language lesson. These characteristics were examined for indications that incorporating 'arts-flow activities' in elementary curricula could help improve them.

Sample

The sample of this study consisted of 80 children (48 girls and 32 boys) aged from 6.2 to 7.1 years (M = 6.65) in four first-grade classrooms, in two different schools. Of the four classes, two functioned as the experimental groups and the other two as the control groups, and each school included one experimental and one control group. In total, there were 40 children each in the experimental and control groups. Forty-eight percent of children taking part in the study were bilingual, the children of immigrants from nearby countries. At the beginning of the school year, the educators had divided the children evenly among the classes of each grade. The sample's reading scores did not present a statistically significant difference either between the children whose first language was Greek and those who were bilingual, or between the control and experimental groups. This was expected as all children were attending the first grade for the first time and had attended a year of preschool the previous school year.

Convenience sampling was the method used, and an effort was made so that the sample was as homogeneous and typical as possible for purpose of the study. With this in mind, the two schools chosen were comparable from various standpoints: they were public schools (so that the majority of children lived in the area), nearby and were in middle to lower-middle income areas (public elementary schools in Nea Ionia and Patissia, areas of Athens, Greece). Also, they were of the same size (two classes for each grade), and none of the classes deviated from the set curriculum for the language arts (Pedagogical Institute – Ministry of Education and Religious Affairs 2003). Finally, as a testament to the similarity of the school environment between the two schools, the percentage of bilingual children was comparable: 46% in one school and 49% in the other. The consent of the principal and willingness of teachers were also necessary requirements in choosing the schools.

Description of Activities

The curriculum activities (A1, B1, C1, D1, E1 and F1) were used in the control groups, whereas the arts-flow activities (A2, B2, C2, D2, E2 and F2) were used in the experimental groups. All the activities were integrated in the Modern Greek Language lesson, in the unit on the digraphs of the Greek language (Karantzola et al. 2012, pp. 19–30). The experimental activities were designed to conform to the same academic/language goals provided for in the current cross-curricular syllabus for language (Hellenic Pedagogical Institute–Hellenic Ministry of Education and Religious Affairs 2003, v. Β′ pp. 3745–3770). Furthermore, these activities had approximately the same duration as the curriculum activities, and were implemented instead of them over the same period (January–February). The activities described were implemented over a total of six weeks. Each week, a session was held that lasted two academic hours. The entire intervention was implemented twice in two academic years. A pilot implementation had preceded the intervention and this helped improve the activities from which the research data was derived.

Session 1, Activities A1 and A2: Comprehension of a Text

The goal of the first curriculum activity (A1) was comprehension of a text titled "The wish" (p. 26), as analysed in the syllabus (Hellenic Pedagogical Institute–Hellenic Ministry of Education and Religious Affairs 2003, v. Β′): "children must listen to and understand the texts read aloud by someone … and express views on them" (p. 3753). During A1 teachers read the text one time and asked the children comprehension questions (Karantzola et al. 2012, p. 37). In experimental activity (A2), the text was read by the researcher two times, each time with a background music in a different mood, *Broken hearts* (Ortega 2002) and *Instrumental march of Smyrna*

(Dalaras 2004). Pupils were asked to choose which music in their view suited the text best, and to explain why. It was repeatedly stated that there was no right or wrong answer. The activity required active listening from the children and that they interpret two musical pieces (the arts elements), encouraging them to a spontaneous, personal and interpretative involvement with the meanings of the text (flow elements).

Session 2, Activities B1 and B2: Digraph Revision

The goals of the following curriculum activities (B1) and the corresponding arts-flow activity (B2) were to recall and write words that contain the taught digraphs (/ts/, /st/ and /gg/ and /gk/) (Karantzola et al. 2012, pp. 18–19). In the control groups, teachers handed out photocopies with exercises to compare the digraphs /st-ts/ and /gk-gg/. In these exercises children had to fill in the appropriate digraph in words, or fill in words in sentences from a choice of words or pictures. In the arts-flow activity (B2), children were asked to draw "objects that begin with or contain one of the taught digraphs". Children had been instructed that the items drawn were to be products to be sold in an imaginary market. Each pupil was also asked to create a pitch/argument to promote his/her product. In this activity, in a playful environment, controlled by themselves (flow) the children were called upon to use the taught digraphs as inspiration to create works of art and theatrical language (arts).

Session 3, Activities C1 and C2: Pronunciation of Digraphs

The specific goal of curriculum activity C1 and corresponding experimental C2 was to enunciate and properly pronounce the digraphs and words which contain these digraphs (Karantzola et al. 2012, p. 20). In the control group activity (C1) the teachers wrote words containing the digraphs on the board and asked the children to categorize them based on which digraph was used and to read them aloud. Pupils were also given worksheets in which they had to fill in the missing digraph and accent in a list of words. Then they were asked to read the words aloud, with the proper stress. In the experimental groups children participated in a theatrical game in which they played the role of market vendors (C2). From the previous activity (B2) they had their drawing of the products they would sell and their pitches to sell them. The "customers" (pupils from another class whose teachers had asked to take part) were instructed to make their decisions to buy based on how persuasive the vendors were (drawings, pitches, theatricality). Those who sold their products were considered to have won the game. This activity was designed as a spontaneous, leisurely, experiential situation, emerging from the children (flow), in the form of a theatrical game (arts), in which the children were called upon to utter words containing the taught digraphs.

Session 4, Activities D1 and D2: Writing, Recognising and Processing Digraphs

The language objective of activities D1 and D2 was writing, recognising and thoughtfully processing digraphs (Karantzola et al. 2012, p. 30). In the curriculum activity (D1) the pupils highlighted words in the text containing the digraphs /ts/ and /st/ and told the class. Pupils were then asked to come up with words that begin with or contain the taught digraphs /ts/ and /st/ and the teacher wrote them on the blackboard. In the corresponding experimental activity (D2) the children formed an open circle, standing. One child held an imaginary ball which he/she then threw to another child, calling a word that began with or contained the taught digraphs. The throws had to be as quick as possible. Afterwards, the children wrote the words they liked among those called out and read them out to the class. Bodily activity and expression (arts) created an environment in which children were encouraged to use the digraphs not as a chore, but as part of a game that had many elements based on the children's initiative (flow).

Session 5, Activities E1 and E2: Noting and Production of Compound Words

The objective of the following activities (E1 and E2) was to note and produce compound words (Karantzola et al. 2012, p. 30). In the curriculum activity children were asked to describe a snowman depicted in the book and to think of why he was referred to in the text as a "snowdragon". The manner in which compound words are formed was explained, and the pupils were asked to repeat compound words they had heard in which the first part was the word snow. In the experimental activity, E2, pupils were asked to draw a snowperson and dress him up however they wanted. They were asked to give it a compound name, based on its appearance, beginning with "snow". Each child was then asked to say his/her snowperson's name and explain it. Thus, every child was called upon to discover how compound words are made, without the conventional restrictions of language (flow) and with the opportunity to express in their artwork the imaginary and real elements they associated with the knowledge they were mastering (arts).

Session 6, Activities F1 and F2: Understanding the Connection and Differences between Written and Spoken Language

The next activities (F1 and F2) aimed to have children "understand the connection and differences between written and spoken language" (Hellenic Pedagogical Institute–Hellenic Ministry of Education and Religious Affairs 2003, v. B′, 3746). These were used in teaching the digraph "eu" which is pronounced at times as /ef/ and others as /ev/. In the

curriculum activities (F1) the children were given a text in which the /eu/digraph was omitted. The children filled in the blanks and read the text. The children were also given random words which they had to classify in two columns depending on the pronunciation of the digraph. In the experimental activity (F2) the children had to choose, without telling anyone, if they wanted "to be citizens of country Ev or country Ef". They then scattered in the classroom, walked around slowly and repeated the digraph of their country. When they heard someone else saying the same digraph, they continued together seeking other "compatriots". Two groups were then formed: the citizens of "country Ef" and "country Ev". Each group wrote down words that "could be used by the citizens of their country", that is, that contained their digraph. Using their words, the children made up two stories. The children thus had the opportunity to engage in active listening, experience a theatrical role and engage in creative writing (arts), processes through which they were encouraged to exercise choosing, writing, and uttering words with the digraphs (flow).

The experimental activities programme of this research was approved by the Institute of Educational Policy and the Elementary School Directorate of the Ministry of Education. Following this, consent was given by the school consultants, the principals and the teachers taking part in the programme. Parents were informed (in writing and orally) about the research and that participation was not compulsory. All parents agreed and signed a consent form. The intervention was recorded on video with the consent of the teachers and the commitment of the researchers that the material would be used exclusively for the purposes of the study.

Data Collecting Process

The data were collected through participant observation (Emerson et al. 2001). For approximately one week before the intervention the first researcher got to know the children and took part in the daily activities of the classes as the teacher's assistant so that the children could see her as a participant member of the group. During the intervention, the generalist teachers used the curriculum activities in the control groups and the researcher helped as an aide. In collaboration with the generalist teachers, the researcher used the art-flow activities with the experimental groups. A spot was chosen for the static video camera in each class. The presence of the video camera was explained in simple language to the children on the first day, and they quickly seemed to forget it was there. On the day the activities were carried out, data on the children's engagement in the process of each activity were recorded by the researcher in a specially formulated diary. The researcher wrote a narrative of her general and immediate observations. For each activity there were six paragraphs to be filled in. The first paragraph contained observations on children's verbal communication. The second was observations on children's multimodal - arts involvement. The third contained information on children's creative response to the taught subject. The fourth included observations on multifaceted activation, and the fifth recorded elements as to the children's satisfaction from their participation in the activity. Finally, the sixth paragraph, contained "other observation comments" related to the subject of the research. When all the activities had been used in each school, the videos were transcribed into text and then subjected to content analysis, after phrases were separated based on intonation, content, and the rotation of speakers (Neuendorf 2002). At this stage the videos were closely watched. This gave us the opportunity to pinpoint important elements that we did not have the time to evaluate in situ.

Data from the transcribed texts and the videoed material were entered on an observational coding grid which was used as a basis for determining the types of behaviour that demonstrated engagement in the learning process. In the early stages of the processing, the analyses were exploratory, not based on strict hypotheses and prior theorizing (Collins et al. 2004). Observing repeating patterns helped to determine the specific criteria for the analysis of the data in terms the subjects' engagement in lessons.

In addition, the children filled in a five-scale smileyometer (Read et al. 2002) so that they could register their level of satisfaction in participating. Each individual chose one of five images (smiley faces) corresponding to five levels of satisfaction. During the pilot implementation of this tool, it was clear that the process of explaining the faces and having the children choose one of them was fun for them. In fact, the children responded better in choosing one of the smiley faces than when they had to state their preferences. Despite the documented weakness of this tool when the individuals are young (Van der Sluis et al. 2012), it was considered complementary and helped verify the findings, providing quantifiable data which could be compared to the qualitative data collected by participant observation.

Criteria for Analysing Data

Engagement is defined by Shernoff (2013) as the "combination of concentration (e.g., on specific problems), interest (e.g., for new knowledge), and enjoyment (e.g., for the process of learning)" (p. 1). According to Gibbs and Poskitt (2010), student engagement is a multi-faceted construct, components of which are students' sense of belonging and connectedness, of self efficacy and orientation to achieve, of involvement, high levels of effort, concentration and interest in subjects and learning in general, and the extent to which learning is enjoyed for its own sake. It is worth nothing that, "as such engagement is malleable by the actions of teachers"

(Gibbs and Poskitt 2010, p. 9). Also, attitudes and behaviours associated with engagement, such as persistence, resilience, energy, paying attention, asking question, taking risks, cooperating and using feedback seemed to be the foundations of children's success (Tough 2012), and related to self-regulation in class (Baum & Owen, 2002).

In this study, among the cited indicators of children's engagement, five specific ones were chosen which seem to be directly associated with the characteristics determined to be indicative of arts-flow activities (see list of characteristics above). These indicators constituted the five criteria for analysing the data: verbal participation in the activity, multimodal/arts involvement in the taught subject, creative responses to the taught subject, multifaceted/holistic activation during the activity and satisfaction at participating in the activity.

As regards the first criterion, children were counted when they exhibited the following four behaviours: verbal communication with the educator; verbal communication with classmates; answering in unison with other children; and spontaneous commentary to themselves on the taught subject (Larson 2011; Liu and Littlewood 1997; Willms et al. 2009).

The second criterion had to do with multimodality/arts involvement. Children were counted for each of the five following ways of engaging in the activities: creating and/or assessing visual arts works, music, drama, movement and use of digital media (Sanders and Albers 2010).

Types of behaviour indicative of creative responses to the taught subject were sought for the third criterion, that is, indications of a capacity for original ideas and actions (Csikszentmihalyi 1996; National advisory committee on creative and cultural education 1999; Wilmot 2011). Specifically, children were counted three times to determine the extent to which they responded to the taught subject in an interpretative (Pike 2004; Rosenblatt 1986), imaginative (Singer and Singer 2013) and/or humorous (Martin 2007) way.

For the fourth criterion indications were sought that various areas of children's personalities were being activated. Under examination was whether the children were challenged not only on an intellectual level, but also on a non-verbal/bodily, social and emotional level (Garcia 2014; Noddings 2004; Pope 2001). Children were counted four times, based on these four types of activation.

The fifth criterion was the level of satisfaction experienced by the pupils in participating in each activity. The subjects were given a smileyometer (Read et al. 2002) with five faces, which corresponded to feelings of great satisfaction, satisfaction/happiness, neutrality, displeasure and great displeasure. Children were asked to choose one of the five faces to represent what they experienced while participating in each of the activities.

Results and Discussion

Following are the results and a discussion of these, in the order the criteria for analysis were presented. The children were counted separately for every type of behaviour considered to be an indicator of their engagement. Each child was counted only once, even if he/she demonstrated repeatedly an indicator with regard to his/her engagement. In parentheses are indicative excerpts, either from the transcribed audio, or the diary. The work of decodifying and quantifying the data was carried out by us and an independent associate, a post-graduate student in Education who had attended a seminar on 'teaching through the arts', and had been trained in the analysis of this study's data. The videos of the activities were given to him one by one and in an order that did not reveal the fact that they corresponded to each other.

Results and Discussion of Verbal Participation

As regards pupils' verbal participation the results for every activity separately are presented in Table 1, where the numerical superiority of the children in the experimental groups can be seen. In the entire intervention, 57.3% of the control groups communicated with the teachers (F1: "Miss, I don't understand when it's pronounced /ef/ and when as /ev/"), while in the experimental groups the figure was 92.7% (B2: "Do you spell euro with an omega?"). The respective numbers that communicated with their classmates were 8.8% and 72% (C2: "I'm selling it for 100 euros"). Answering in unison was 66.1% in the control groups (B1: how to syllabize the words) and 49.6% in the experimental groups (F2: "who are the citizens of the country/ev/? We are"). Also, in the control groups 13.2% spontaneously commented to themselves on the taught subject (A1: "The lesson doesn't show the names' of the heroes") while in the experimental groups the respective numbers were 45.7% (B2: "My uncle is a vendor"). Besides the above, further findings that arose from the diary were that children in the experimental groups communicated with each other more than did those in the control groups; that in activity B2 "many children asked for more time, and when this was allowed they reacted with words and cries of enthusiasm"; that in the control groups there were more cases of children not participating; and pupils' communication was more frequently characterised as spontaneous and interpretative, in contrast with that of the children in the control group whose communications were considered to be descriptive and literal. Also, it was observed that in the control groups there were more cases of verbal exchanges not related to the subject of the class.

The scores in the control groups revealed a typical structure of verbal exchange in a class in which the teacher asks a question, some children raise their hands to speak and one is chosen (Liu and Littlewood 1997). Also, teachers frequently

Table 1 Descriptive statistics of verbal participation

Verbal participation	Activities													
	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	F1	F2	Total. Curriculum activities	Total. Experimental activities
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Communication with the teacher	9 (22.5)	40 (100)	25 (62.5)	40 (100)	35 (87.5)	38 (100)	25 (62.5)	37 (92.5)	23 (60.5)	32 (91.4)	13 (38.2)	28 (71.8)	130 (57.3)	215 (92.7)
Communication with the classmates	2 (5)	2 (5)	2 (5)	34 (85)	2 (5)	38 (100)	0 (0)	34 (85)	6 (15.8)	20 (57.1)	8 (23.5)	39 (100)	20 (8.8)	167 (72)
Answers in unison	19 (47.5)	30 (75)	22 (55)	30 (75)	25 (71.4)	30 (78.9)	18 (45)	0 (0)	34 (89.5)	0 (0)	32 (94.1)	25 (64.1)	150 (66.1)	115 (49.6)
Spontaneous comments	6 (15)	13 (32.5)	8 (20)	28 (70)	0 (0)	38 (100)	2 (5)	12 (30)	5 (13.2)	3 (8.6)	9 (26.5)	12 (30.8)	30 (13.2)	106 (45.7)

Percentages appear in parentheses below frequencies

Sample size: A1, A2, B1, B2 = 40, C1 = 35, C2 = 38, D1, D2 = 40, E1 = 38, E2 = 35, F1 = 34, F2 = 39

asked questions which the children were called upon to answer in unison. The experimental activities on the other hand, possibly because of their structure, elicited dialogue in which many children communicated with the teacher and amongst themselves, a key indicator of students' engagement (Gibbs and Poskitt 2010; Tough 2012; Willms et al. 2009). In fact, the content of the verbal communication had better qualitative characteristics, that is, had more spontaneous and interpretative elements, and was more frequently feedback sought by the children. All of the above were considered to be indications that during the experimental activities children display characteristics in descriptions of 'flow experience': they are intensely engaged (Csikszentmihalyi 1991; Csikszentmihalyi 2014; Gibbs and Poskitt 2010; Nakamura and Csikszentmihalyi 2002; Shernoff and Csikszentmihalyi 2009; Suttie 2012) in their school environment while being taught language through arts activities (Anvari et al. 2002; Butzlaff 2000; Gromko 2005; Huotilainen 2010; Johnson 2007; Kelner and Flynn 2006; Podlozny 2000; Upitis 2011; Walker et al. 2011; Wandell et al. 2008).

Results and Discussion of Multimodal/Arts Involvement

As regards multimodal/arts involvement the itemised findings for each activity can be seen in Table 2 where the numbers reveal that in the experimental groups more children were involved than in the control groups. In the curriculum activities, 24.2% of individuals were involved in the visual arts (A1: concentrated on the pictures in the book, B1: drew pictures without being asked), while in the experimental groups 51.3% did (B2: "Miss, look what happens when I use the white with the brown", E2: "I drew ears because I drew a snowrabbit"). The respective rates of theatrical involvement were 2.2% (A1: conspiratorial or playful expressions when "to find a good woman to marry" was heard) and 60.3% (C2: changed their voices in the role of the vendor, D2: they pretended they were a team playing volleyball). For musical-sound involvement the number of individuals in the control groups was 0% and in the experimental groups it was 33.6% (A2: repeated melodies they heard). For movement expression the numbers were 0% and 40.5% (C2: made pretend motions of accepting money, D2: they pretended to throw and catch the imaginary ball). For use of multimedia the numbers were 0% and 2.2%. According to the additional information recorded in the diary, children in the experimental activities expressed themselves in alternative modes (other than verbally) for the greater part of the period, they exhibited a tendency to enrich the taught subject with arts elements (forms, colours, sounds, roles and expressive movements), the classroom "looked like an art studio", and the children separated one part of the classroom as a "stage".

The low scores of the children in the control groups are an indication that the recommendations of the Curriculum in favour of multimodal strategies (Hellenic Pedagogical Institute–

Hellenic Ministry of Education and Religious Affairs 2003, v. B′, p. 3750) remain merely recommendations, and traditional teaching methods continue to be language-centred (Gardner 1999; Kumari 2004). It appeared that children in the experimental groups engaged, focusing on the artistic - mainly visual arts, musical, theatrical and movement expression- (Csikszentmihalyi and Schneider 2000; Eurydice 2009; Garces-Bacsal et al. 2011; Horowitz and Webb-Dempsey 2002), but also on the academic dimension of the process (Catterall 1998; Cho and Vitale 2014; Deasy 2002; Smithrim and Upitis 2005; Upitis 2011). They perceived a larger part of the reality connected with the taught subjects and enriched them, giving varied and different perspectives (Eisner 2002). In other words, it seems as if these children's engagement increased significantly through the synthesis of language arts instruction, arts and multimodality (Deasy 2003; Gallagher 2014; Hetland et al. 2013; Huotilainen 2010; Kelner and Flynn 2006; Lynch 2007; Parsons 1990; Podlozny 2000; Sanders and Albers 2010; Walker et al. 2011).

Results and Discussion of a Creative Response

The findings with regard to a creative response to the subject taught appear in Table 3, where it can be seen that for each separate activity the scores of the experimental groups are higher than those of the control groups. In all curriculum activities 4.8% of pupils responded to the subject and the process in an interpretative way (A1: "How is it that the fish gave the fisherman the key? It should have been the other way around"), while 70.3% did in the experimental activities (A2: "The second sounded anxious, even though the lesson doesn't have a lot of anxiety", C2: "Buy a suitcase and you get hangers free", D2: "I'll send two words: grape sweet"). The measures of an imaginative response were 0% for the control groups and 20.7% of the experimental groups (A2: "The first music reminded me of fairies… The second was like someone went to the parade", "It was like there was a war"). As to humour, the rates were 5.3% (E1: laughter at the appearance of the snowdragon) and 38.4% respectively (B2 and C2: laughter and humorous comments at the sales pitches). In the diary it was observed that interpretation in activity A2 involved the text, but also the aesthetics of the music. A "pleasant and happy atmosphere" was noted during C2 and F2. "The tendency of children to describe rather than interpret elements in the text in response to the teachers' questions" was noted as a possible explanation of why few creative behaviours were observed during the curriculum activities.

What was interesting was that in the curriculum activities children were encouraged by the teachers to process the taught subject literally. They seemed to follow this style of lesson without particular deviations, as was seen in the analysis of the sample's verbal participation (Table 1). This is a possible explanation of why these children had a low score in interpreting and humour and zero scores in imagination. In juxtaposition, the children in the experimental groups, to a great extent, connected what was being taught to their past, their daily experiences, their imaginations, and to humorous situations. Furthermore, the progress of the experimental activities was controlled to a greater extent by the pupils themselves, as it appeared that the teacher's role was limited to some initial instructions and supporting the children's musical, visual art, movement and theatrical activation. This left room and time for the children's initiative and improvisation, and an environment was created that was more child-centred and open to emergent elements, such as humour and interpretation (Martin 2007; Singer and Singer 2013). These elements frequently occur during arts activities and their results indicate a creative approach to the taught subject, as well as the children's increased engagement in the process (Csikszentmihalyi 1996; Culpan 2010; Hui and Lau 2006; Minton 2003; National Advisory Committee on Creative and Cultural Education 1999; Winner et al. 2013; Wright 2010).

Results and Discussion of Multifaceted/Holistic Activation

As regards children's multifaceted activation the results are presented analytically for each activity in Table 4. In aggregate, 54.2% of the sample responded on a non-verbal/bodily level in the curriculum activities (they looked to their classmates when the latter expressed their opinions), while 96.6% responded in the experimental activities (C2: buying and selling gestures). It is worth noting that physical signs of non-engagement (drawing on the desk, asking permission to leave the class, yawning) were observed in 57.1% of pupils in the control groups and 20% in the experimental groups. As for intellectual activation, the numbers were 67.8% for the control groups (A1: selected information from the text to answer a teacher's question) and 98.3% for the experimental groups (A2: arguing for their choice of music, D2: "Don't let's finish! I have three more ideas", E2: "Do we leave a space between compound words?"). On a social level 7.9% of the control groups were activated (conversation among children about the text) and 79.3% of the experimental groups (B2: discussed the use of space on their paper, F2: Two children secretly agreed to be on the same team). Emotional activation was 0.4% among the control groups (B1: "I like the cucumber"), and 73.7% among the experimental groups (A2: "The first music was sad and suited the end of the text that makes you feel like that"). According to further observations noted in the diary, the experimental group displayed non-verbal/bodily activation for a longer time than the control group. There was also a great difference between the two groups in their facial expressions in terms of the type, intensity and expressiveness ("in the control groups: earnest, inexpressive and serious", "in the experimental groups impatient, questioning, enthusiastic, and smiles"). The experimental group's non-verbal responses

Table 2 Descriptive statistics of multimodal/arts involvement

Multimodal /arts involvement	Activities														Total. Curriculum activities	Total. Experimental activities
	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	F1	F2				
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)			N (%)	N (%)
Visual involvement	6 (15)	20 (50)	21 (52.5)	40 (100)	0 (0)	24 (63.2)	0 (0)	0 (0)	28 (73.7)	35 (100)	0 (0)	0 (0)			55 (24.2)	119 (51.3)
Theatrical involvement	5 (12.5)	7 (17.5)	0 (0)	17 (42.5)	0 (0)	38 (100)	0 (0)	40 (100)	0 (0)	0 (0)	0 (0)	38 (97.4)			5 (2.2)	140 (60.3)
Musical involvement	0 (0)	40 (100)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	38 (97.4)			0 (0)	78 (33.6)
Expressive movement involvement	0 (0)	18 (45)	0 (0)	1 (2.5)	0 (0)	31 (81.6)	0 (0)	40 (100)	0 (0)	0 (0)	0 (0)	4 (10.3)			0 (0)	94 (40.5)
Multimedia Involvement	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	5 (14.3)	0 (0)	0 (0)			0 (0)	5 (2.2)

Percentages appear in parentheses below frequencies

Sample size: A1, A2, B1, B2 = 40, C1 = 35, C2 = 38, D1, D2 = 40, E1 = 38, E2 = 35, F1 = 34, F2 = 39

revealed interaction with their classmates and with the teachers, and the latter expressed their pleasure at this. In the control groups "it was the same children who took part in all the activities, their bodily activation was frequently conventional, that is, having to do with facilitating the programmed teaching process (e.g. raising hands to be allowed to speak, standing next to the blackboard)".

These findings demonstrated that the experimental activities can function along the standards of a holistic approach to teaching (Garcia 2014; Markovic 2011; Miller 2007; Noddings 2004; Pope 2001). More specifically their ability to create multifaceted and aesthetic experiences was shown (Connell 2000; Eisner 2002; Johnson 2007; Pike 2004; Rosenblatt 1986; Smith 2000; Swafford and Akrofi 2005; Sotiropoulou-Zormpala 2012, 2016). The control groups achieved a high level of intellectual activation, greater by a wide margin than other types of activation. This could be considered a sign that the curriculum activities are one-sided and favour the intellectual (logical-mathematical and linguistic) development of pupils (Gardner 1993, 1999). Also, even in intellectual engagement the experimental activities seemed to be more effective than the programmed ones, thus revealing prospects of better performance in learning through arts-flow activities (Anvari et al. 2002; Butzlaff 2000; Deasy 2002; Gromko 2005; Kelner and Flynn 2006; Podlozny 2000; Rooney 2004; Walker et al. 2011; Wandell et al. 2008; Wonglorsaichon et al. 2014). In counting social (among classmates) and emotional activation, the control groups revealed a behavioural atmosphere that must be avoided in teaching environments (Miller 2007). In contrast, the arts-flow activities gave the children opportunities to move, communicate with each other, express themselves and display emotions in the classroom with regard to the subject being taught. As a crowning achievement of the findings, the educators in the experimental groups frequently expressed their satisfaction at the teaching situation, the vivaciousness of the children and the learning result of the teaching, thus confirming findings in the literature (Bakker 2005; Basom and Frase 2004; Tough 2012).

Results and Discussion of the sample's Satisfaction (Smileyometer)

Children were allowed to express the satisfaction they experienced taking part in the activities (see Table 5). The assessments of children in the control and experimental groups about all the activities were respectively: 6.6% and 0.9% experienced great dissatisfaction, 9.3% and 1.7% dissatisfaction, 45.8% and 3.9% neutral, 12.3% and 1.7% satisfaction and 27.3% and 91.8% great satisfaction. In the diary it was noted that, while the children of the experimental group were filling in the smileyometer, many were verbally expressing the fact that the activities had been emotionally positive. Some pupils

Table 3 Descriptive statistics of a creative response

Creative response	Activities													
	A1 N (%)	A2 N (%)	B1 N (%)	B2 N (%)	C1 N (%)	C2 N (%)	D1 N (%)	D2 N (%)	E1 N (%)	E2 N (%)	F1 N (%)	F2 N (%)	Total. Curriculum activities N (%)	Total. Experimental activities N (%)
Interpreting	2 (5)	22 (55)	2 (5)	40 (100)	0 (0)	38 (100)	0 (0)	17 (42.5)	7 (18.4)	32 (91.4)	0 (0)	14 (35.9)	11 (4.8)	163 (70.3)
Imagination	0 (0)	5 (12.5)	0 (0)	2 (5)	0 (0)	2 (5.3)	0 (0)	9 (22.5)	0 (0)	30 (85.7)	0 (0)	0 (0)	0 (0)	48 (20.7)
Humour	0 (0)	0 (0)	0 (0)	26 (65)	0 (0)	30 (78.9)	0 (0)	0 (0)	12 (31.6)	28 (80)	0 (0)	5 (12.8)	12 (5.3)	89 (38.4)

Percentages appear in parentheses below frequencies

Sample size: A1, A2, B1, B2 = 40, C1 = 35, C2 = 38, D1, D2 = 40, E1 = 38, E2 = 35, F1 = 34, F2 = 39

Table 4 Descriptive statistics of multifaceted/holistic activation

Multifaceted/ holistic activation	Activities													
	A1 N (%)	A2 N (%)	B1 N (%)	B2 N (%)	C1 N (%)	C2 N (%)	D1 N (%)	D2 N (%)	E1 N (%)	E2 N (%)	F1 N (%)	F2 N (%)	Total. Curriculum activities N (%)	Total. Experimental activities N (%)
Bodily Activation	9 (22.5)	40 (100)	25 (62.5)	40 (100)	35 (87.5)	38 (100)	25 (62.5)	37 (92.5)	23 (60.5)	32 (91.4)	13 (38.2)	28 (71.8)	130 (57.3)	215 (92.7)
Intellectual Activation	2 (5)	2 (5)	2 (5)	34 (85)	2 (5)	38 (100)	0 (0)	34 (85)	6 (15.8)	20 (57.1)	8 (23.5)	39 (100)	20 (8.8)	167 (72)
Social Activation	19 (47.5)	30 (75)	22 (55)	30 (75)	25 (71.4)	30 (78.9)	18 (45)	0 (0)	34 (89.5)	0 (0)	32 (94.1)	25 (64.1)	150 (66.1)	115 (49.6)
Emotional Activation	6 (15)	13 (32.5)	8 (20)	28 (70)	0 (0)	38 (100)	2 (5)	12 (30)	5 (13.2)	3 (8.6)	9 (26.5)	12 (30.8)	30 (13.2)	106 (45.7)

Percentages appear in parentheses below frequencies

Sample size: A1, A2, B1, B2 = 40, C1 = 35, C2 = 38, D1, D2 = 40, E1 = 38, E2 = 35, F1 = 34, F2 = 39

Table 5 Descriptive statistics of satisfaction

Satisfaction	Activities													
	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	F1	F2	Total. Curriculum activities	Total. Experimental activities
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
☹	0 (0)	0 (0)	4 (10)	0 (0)	5 (14.3)	1 (2.6)	2 (5)	1 (2.5)	3 (7.9)	0 (0)	1 (2.9)	0 (0)	15 (6.6)	2 (0,9)
😕	17 (42.5)	0 (0)	2 (5)	0 (0)	1 (2.9)	1 (2.6)	0 (0)	3 (7.5)	0 (0)	0 (0)	1 (2.9)	0 (0)	21 (9.3)	4 (1.7)
🙂	16 (40)	0 (0)	18 (45)	2 (5)	6 (17.1)	4 (10.5)	23 (57.5)	0 (0)	18 (47.4)	3 (8.6)	23 (67.6)	0 (0)	104 (45.8)	9 (3.9)
😊	4 (10)	0 (0)	0 (0)	1 (2)	3 (8.6)	2 (5.3)	11 (27.5)	1 (2.5)	10 (26.3)	0 (0)	0 (0)	0 (0)	28 (12.3)	4 (1.7)
😄	3 (7.5)	40 (100)	16 (40)	37 (92.5)	20 (57.1)	30 (78.9)	4 (10)	35 (87.5)	7 (18.4)	32 (91.4)	12 (35.3)	39 (100)	62 (27.3)	213 (91.8)

Percentages appear in parentheses below frequencies.

Sample size: A1, A2, B1, B2=40, C1=35, C2=38, D1, D2=40, E1=38, E2=35, F1=34, F2=39

expressed the desire to have the activities repeated, and/or have further visits by the researcher.

It appeared that the 'arts-flow activities' could bring out high levels of pleasure/joy in the pupils participating in the class, and much higher than those brought about by the curriculum activities with the same academic goals. This is in line with the above findings and is an indication that traditional educational settings frequently lead to low levels of engagement and pleasure in the pupils (Coller et al. 2011; Larson 2011; Schmidt 2010; Shernoff 2013; Taylor and Parsons 2011), while the activities that contain elements of flow and the arts contribute to a happy and attractive atmosphere, as this is defined and measured in relevant studies (Marks 2000; McCabe et al. 2011; Read et al. 2002; Shernoff and Anderson 2014; Van der Sluis et al. 2012; Wihelm 2008).

Conclusions, Limitations and Curriculum Perspectives

This study involved developing a strategy to increase engagement among first-graders in the language arts classroom, and a method of collecting and analysing the relevant data. From the teaching situations studied, it appeared that the control groups in which curriculum activities were used registered low levels of interaction, had few arts elements, responded to the taught subjects in a more literal rather than interpretative manner, did not utilize their imagination, did not experience humour and were not engaged emotionally. It would seem that all of these findings point to children's low level of engagement, and a teaching environment with serious defects, (Dislen 2013; Fredricks et al. 2004; Shernoff and Csikszentmihalyi 2009; Suttie 2012; Whitson and Consoli 2009; Willms et al. 2009). In a very different learning atmosphere, the children of the experimental groups verbally participated more, engaged in the subjects in multiple modes, responded to the subjects in a creative way, were activated on multiple levels, developed richer relations with their classmates, felt that the teaching hour passed more quickly, experienced challenging situations, more frequently required feedback on their performance, received feedback from teachers more frequently, and had a positive affective experience (Csikszentmihalyi 2014; Eisner 1999, 2002; Gelineau 2012; Greene 2001; Iser 1978; Noddings 2004; Russell and Zembylas 2007; Shernoff 2013; Sotiropoulou-Zormpala and Argyriadi 2015; Wilmot 2011). Based on these findings, it seems that 'arts-flow activities' can raise levels of engagement in teaching language arts to children in the first grade. In fact, from the methodology of the implementation presented here, it appears that factors such as children's verbal participation, the multimodality of the process, the development of creative types of behaviour, multifaceted/holistic activation, and the level of satisfaction from participating, are indications of an increase in engagement caused by 'arts-flow activities'.

Given its size (number of activities, duration and size of the sample), the intervention must be considered a preliminary one. The results should not be considered generalizable, but they are evidence of improving the learning environment through increasing children's engagement. A larger future experiment would be useful to reveal dimensions of the research having to do with the potential implications of adopting 'arts-flow activities'. An examination of the effects on the relations of the group and on the academic performance of the children would be interesting. A future study could also examine to what extent the increased engagement caused by the arts-flow activities integrated in a specific lesson transfer to all lessons and outside school. It is worth noting that the fact that the intervention implemented by the researcher, an individual with expertise both in designing and implementing experimental activities, leaves open the question of whether general teachers could implement and utilise them. The issues which arise as worth examining involve the content of the pre-service and in-service education and training of teachers and its ability to increase their awareness so that they can develop challenging and attractive activities in their daily school teaching so as to achieve teaching readiness.

In summarizing the possible impact of implementing the activities used in this study, one could say that arts-flow activities can lead to an innovative and more ambitious type of schooling, towards what Aristotle called "learning with pleasure": it seems that activities designed based on the combination of flow and the arts could contribute to making school curricula less verbalistic, more child-centred, more multidimensional, more challenging, and open to communicative, emotional and creative processes.

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