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Children's Voice and School Improvement: The Role of Technology in the Inclusive School of the Future¹

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Abstract

The purpose of the study is to indicate the importance of inclusive education. This study focuses on the need for student's voice to be heard and considered during educational planning. By doing this, the study intends to detect which students are marginalized, and use this method towards school improvement. The research was conducted in two kindergartens. In the first, twenty-two students and two teachers were interviewed (kindergarten teacher and headmistress), while in the second, we used the method of non-participant observation with five children attending the integration class, as well as the teachers, during one month. Interviews were conducted in the second school, too, only with two teachers (qualified pedagogue and headmistress). During our study, marginalized students have been identified due to the difficulties they face, and we have managed to strengthen children's confidence, and help create a more empathetic school environment. These have been implemented through a school project in which students narrate their personal stories using digital storytelling software. Our aim has also been to encourage the creation of stories for the production of which Scratch digital storytelling software was used.

Key words: cooperation; digital storytelling; improvement of the school unit; pluralistic education; preschool children.

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Introduction

Since the 16th century Reformation, and until the French revolution of 1789, a belief was gradually formed that education can be the fundamental factor towards social change. It is actually a reconstruction mechanism of human consciousness via the educational view of social problems. This belief has been, and still is, the basis of contemporary pedagogy (Pantazis, 2015).

Contemporary pedagogy sees school as a miniature society, within which the citizen of tomorrow acts and behaves. Therefore, it is considered of vital importance for every school to function as a model of a thoroughly fair, ethical and democratic community. This would be a society where the opinion of all students is reconstructed via the contribution of each student in particular, giving voice, in equal terms, to all future citizens (Angelides & Stylianou, 2011). That way, beginning from the voice of the student, we can build inclusive education, which, placing the student in the center, will lead to a radical reformation of the school unit (Sourtzi, Ioakimidou, Vlachos, Koutsospyrou, & Xatzimichaelides, 2013).

According to Sourtzi et al. (2013), education is a principal right of all children, whereas the accessibility of knowledge is a factor of school politics, which constructs a mechanism for learning for each student. Based on this principle, contemporary pedagogy, with reference to issues of special education, has begun replacing old terms, like those of integration and incorporation, with the term “inclusive education”. Inclusive education is characterized by the continuous effort via the transformation of the educational methods, to raise subjects relevant to the needs of all students and, next, to design solutions, engaging all parties of the school environment (parents, community, other schools) in the procedure in a cooperative way (Ainscow, Dyson, & West, 2012). In the inclusive school, students with severe difficulties are integrated in the general program, while their learning and socialization become parts of the teacher's responsibility (Stasinou, 2013).

In inclusive education, the main component which forms and weaves the connections between the networks created, is dialogue aimed towards cooperative action (Sourtzi et al., 2013). It is about a collective and multi-factor action, where each member of the school community ranging from the student to the teacher and the director, can and should play an important role in the inclusive process, leadership is being shared, so that even students can play leading roles (Angelidou, 2011). That way, the school of inclusion is thought of as a living organism, the parts of which cooperate and choose roles, with the students' needs placed at the center of the inclusive system.

The present study was started with the above mentioned aim, that is the need to give prominence to the voices of all children, towards the creation of a school culture which includes each student, bringing out their unique needs and personalities. For the purpose of this research, our study will be focused on the following questions:

1. How can listening to the voice of all children help give prominence to children being marginalized socially and academically in the school environment?

2. How can the things the children want to tell us help create an inclusive and pluralistic school unit (school improvement)?
3. How can technology emerge as a medium of promotion of students' voices and as a tool for inclusion?

Although the benefits and pluralistic character of inclusive education are generally well known, in Greece there still exists the belief amongst educators that special schools are necessary for children with special educational needs, as they offer specialized help. However, the experiences of people who have studied in special schools claim that they have often felt neglected because of the lack of opportunities for a systematic learning and also of a lack of career prospects due to insufficient education (Symeonidou & Ftiaka, 2012). This fact leads us to the conclusion that there is an absence of a general inclusive culture in the school community, which lies especially in the foundation age education (Angelides & Michaelidou, 2012). The study of relevant bibliography has lead us to the conclusion that inclusion as a tactics is totally absent in the Greek nursery school, so it seemed to us that is was necessary to further examine the importance of inclusive methods, starting from the foundation age.

The results of this study give prominence to the need of introducing this tactics, as the hearing of the children's voices emerges as a principal factor of inclusion, which constitutes the basis for a constantly changing and evolving school environment (Anderson, Druin, Fleischmann, Meyers, Nathan, & Unsworth, 2009; Angelides & Michaelidou, 2012; Messiou, 2012; Parsons, Guldberg, Macleod, Jones, Prunty, & Balfé, 2011). Thanks to this restless attempt of restructuring the school community, the use of technology as a means of pluralistic tactics seems to be really important (Anderson et al., 2009; Prensky, 2005).

Next, through qualitative data from two nursery schools (public and private ones), we will observe children who seem to be at a disadvantage in the school environment, while we will look for factors which reinforce this situation. At the same time, via the construction of digital stories an attempt will be made to improve the school climate. However, before we proceed to the methodology we used, it seems necessary to make clear our basic research terms.

Children's Voice and School Improvement

According to Tangen (2008), the meaning of the phrase: "children's voices", can be related to different interpretative levels. More precisely, the voices, as referred to in educational research, mean the way via which we manage to listen to children's opinions, the need to listen and really comprehend them in reference with various school problems (children's indifference, old-fashioned teaching methods, racism) and finally, in the need for these voices to be seriously considered, so that the students can take part in the decision-making procedure on school issues.

According to Angelides (2012), the term "school improvement" refers to a general attempt to improve schools so that learning is facilitated, focusing on a cultural

improvement, improvement of the quality of relationships among students and school personnel (creation of cooperative networks), but also on the quality of learning experience. However, as Hopkins (2001, as cited in Angelides, 2012) describes, the environment and the cultural context of each school unit can vary and change through time. Conclusively, when we discuss school improvement, we should bear in mind the idea of a “moving school”, as Rosethotz (1989, as cited in Ainscow, 1998) calls the school of the future. In a constantly changing environment, “school improvement is unique for every school” (Angelides, 2012, p. 15). At the same time, according to Angelides and Michaelidou (2012), many researchers claim that if we wish to improve our schools, the children's voices need to emerge, and actually be heard.

With the children's voice as a starting point of the inclusive school of the future, the idea of leadership is also restructured, together with school climate and culture, all constituting main factors of school improvement. More precisely, via the emergence of the students' voice, the student can act in leading roles. Messiou (2007) says that the assignment of responsibilities to all children seems to function in an inclusive way, encouraging them to take initiatives (they seemed to look for solutions for problems they faced, not asking for the teacher's help). To conclude, Harding and Atkinson (2009) claim that listening to the children's voice can lead to inclusion while at the same time, students get to know themselves better and think critically on learning issues.

To conclude, school politics, culture and environment, cooperative networks, leadership issues and school management matters, teaching methods and democratic politics, meaning all children's voices being heard, consist the principal components of “school improvement” (Gaertner, Wurster, & Pant, 2014).

Technology as a Means of Emergence of Voices and a Factor of School Improvement

According to Prensky (2005), students nowadays differ so much from their teachers that it is difficult for the latter to make use of the knowledge of the 20th century in order to judge what is better for them in educational terms. The Internet and the use of multimedia change and radically shape the way in which children learn (Druin, 2002). Technology is a vital part of the childhood of the 21st century children, as it is ubiquitous, at home, libraries, cafes, and of course, at schools (Anderson et al., 2009).

But, what is the role of technology in education and how can it be used as a way to facilitate the emergence of the children's voice?

According to Klinaki (2012), the use of suitable educational software, can lead to a multiple representation of ideas, eliminating the distance between subjective comprehension and objective definition, while at the same time, it helps present a problem or an event in such a way that students can recall the pre-existing knowledge more easily, while receiving new. What is more, according to Komis (2004, as cited in Panagiotopoulou, 2016), when learning happens through a participatory procedure, it is more fruitful, as it is considered a personal achievement. As a result, while the

principal ideas of learning according to Komis and Mikropoulos (2001), require the active participation of the child and the construction of the learning material taking into account the rhythm of progress of each student, a way of teaching in which the student constructs his/her knowledge and is placed in the center is considered necessary. At the same time, the software used will mobilize their interest to learn, remember the knowledge achieved and reconstruct it (Klinaki, 2012).

How does an educational software achieve that? Apart from a presentation of the ideas in a multimedia way, special educational techniques can be used. That way, Panagiotopoulou (2016) proposes the creation of a digital narration by the students, which can function both as a creative procedure of constructing knowledge and enforcing memory, and as a source of strengthening their self-esteem. The same idea is shared by Cassell, Ryokai, Druin, Klaff, Laurel, and Pinkard (2000), while Prensky (2005) suggests teaching lessons, specifically that of algebra, in a game form. Finally, Papathanasiou (2007) mentions the need to integrate the use of computers in the school program, as a tool of approaching knowledge, encouraging their use as a means of dialectic and creative cooperation between students and professors, aimed at a common design of the educational procedure.

Based on the above, we can conclude that it is via technology that a new student-centered environment can be constructed. That way, students take on an active role in the learning procedure while the teacher acts as a coordinator and assistant. At the same time, while new technology is combined with pedagogic techniques which encourage the participation of students in groups (cooperative learning), we bear witness to the emergence of feelings of mutual respect, trust and identification of problems, among students or between students and teachers (Bereris, Siasiakos, & Lazaridou-Kafentzi, 2006).

Methodology

The data presented in our research have been collected during May 2017 from two different nursery schools in Greece: one private and one public school, based on qualitative methods (Lincoln & Guba, 1985). As far as the private school is concerned (with 30 children and 2 teachers, the supervisor included), we based our work on the method of purposeful random sampling. We conducted semi-structured, open-ended interviews with 22 students, the supervisor of the school and also the nursery teacher. As far as the public school is concerned, we used the method of confirming cases, which really confirmed our theory (38 students attend public school classes, accompanied by four teachers and the supervisor). We collected data via the method of visible non-participative observation with reference to the five students who attend the integration class few hours per week, separately from the general one (thought to be functioning as personalized support). What is more, we used the method of semi-structured and open-ended recorded interviews and observation with the school supervisor and the educators.

To be more specific, the study was carried out during one month (May), in which we visited both schools. The interviews took three weeks in total (one or two children per day), as they would take place after the end of the daily timetable, after agreement with the supervisor and parents. It was always made clear to both students and adults that their participation was not compulsory and that each participant could quit the procedure any time they wished. The semi-structured recorded interviews with the educators were held just after the completion of the interviews with the children. The format of the interviews was designed based on methodology of other researchers (Hopkins, 2002; Pollard, 1996). On the contrary, in the case of the public school, we observed the children during the whole month, two hours per day (total time: 46 hours). The observation was held during the attendance of the children in the integration class, but also in the general class, with all their classmates. The children were observed during their “free period”, the break and during in-the-classroom activities organized by the teacher. During the first week of our study, we conducted the interview with the school supervisor, gathering information on the profiles of the integration class students, while during the last week we interviewed one of the four teachers of the school, who works as a special educator for the integration class. The same way of observation was implemented in the case of the educators in the public school, too.

What is more, we created a digital story, with cartoon characters who were selected from a list given to 17 students who wished to participate. The digital story was created by using Scratch software and was presented to the students after the completion of the interviews. Just after that, the school supervisor informed the researchers about the students' and parents' impressions of the story.

The data which resulted from the study were analyzed based on two stages: the inductive and the deductive stage (Erickson, 1986, as cited in Vrasidas, 2014). Firstly, we tried to organize data for each school separately. Beginning from the private school, we indexed and arranged the data, identifying possible dominant or repeated subjects. At the same time, we tried to combine subjects relevant to the organization of the teaching procedure and problems discussed with students during the interviews with the issues which came up during the interviews with the teacher and the school supervisor. As far as observation is concerned, using the method from the public school, we first gathered the data for each case in particular, combined them creating common places for each case, and, finally we combined them with the opinions expressed by the educators. What is more, the school supervisor informed us about the profile of the five children attending the integration class, based on the files offered to the school unit from the Center for Differential diagnosis, Diagnosis, and Support for Special Educational Needs (ΚΕΔ-Υ).

Two of our researchers organized the data collected from our research separately, and we next discussed our differences, reaching some principal common conclusions. At the same time, for the sake of liability, we conducted a trial interview with three students, in order to make sure that the questions were formulated clearly (Papanastasiou & Papanastasiou, 2014).

We used two types of triangulation in order to ensure validity of our research study. First, we cross-compared our data to clear the themes which arose from different sources (interviews with students compared to those with educators as far as the private school is concerned, results from observation compared with interviews with educators and study of files for the public school) (Miles & Huberman, 1994). With reference to the second case of triangulation, we eliminated the exogenous variables, examining our conclusions from many different points of view, looking into many different scenarios in order to better estimate them (Lincoln & Guba, 1985). What is more, we asked for information from the educator about the way the teaching procedure is organized in the classroom (on team work, for example), to also deal with the problem of many different responses from children during the interviews. For the needs of this study, we used pseudonyms for the students.

Results and Discussion

The Private Nursery School

In the case of the private nursery school, we observed in the interviews that two children in particular stood out: Peter and Marios. Peter referred to Marios repeatedly in his interview.

More specifically, Peter is a five-year-old, quite small for his age and rather shy. His responses to the interview questions consisted mainly of one word. He mentioned Marios three times, and when we asked him what his favorite drawing theme was, he behaved rather shyly, whispering that he draws funny things, all that Marios tells him to. Just after that, he blushed and laughed. Next, when we asked him to tell us some of the things Marios tells him, he laughed and blushed again, not responding to the question. Finally, when we asked him what he would like to be when he grew up, he responded in one word: "Policeman".

On the other hand, Marios gave us the impression of a totally different child. During the interview, we soon understood that he is a rather social child, as he responded quickly, looking at us, straight in the eyes, not being ashamed to answer. He was rather talkative and happy while even the choice of a career he told us about, leads to the conclusion that he is a child with strong confidence and personality: he answered that he wanted to be a football player in our national team.

Consequently, as far as Peter and Marios are concerned, but also with reference to the other students, we received the following results on the popularity of each child:

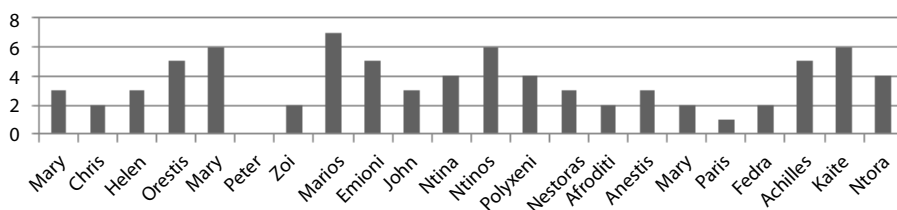


Figure 1. The popularity of students among their classmates

As we can see from the above sociogram (Figure 1), none of the students named Peter as his friend, not even Marios whom Peter described as his best friend. On the contrary, Marios has been described as a good friend by seven students. So, Peter seems not to be popular among his classmates, whereas Marios could be described as the most popular of all.

All children in the nursery school seem to have good relationships among themselves and rather choose the company of a wide group than that of a two-people friendship, according to the sociogram (only Peter was referred by nobody, and Paris was only mentioned once). The above fact was also visible in their answers in the interview, where all children agreed that there are no tensions at school (also described that way by Peter), while, at the same time, everybody answered that they prefer team play and lesson instead of a solitary one.

After organizing the data collected from the interviews with the children, we decided to hold the interviews with the educators (supervisor and nursery teacher), in order to further explore the relationship between Peter and Marios. The teacher told us this on Peter:

“Peter is a rather shy and quiet child. He rarely takes initiatives. He feels the need to prove himself as important in the group of the boys, and especially to Marios whom he seems to admire. This leads to Marios, but also other children either taking advantage of him or isolating him, not to a large extent of course. Let us be honest: children at that age show their preferences and can become really harsh sometimes. There have been occasions of verbal attack towards Peter, not from Marios although the latter seems to be inciting his classmates to do things.”

Moreover, the school director, referring to the case of Peter, described a specific incident:

“We have been organizing a class activity recently, the “star-child” in the case of which all students write messages for their classmates they would characterize as such - I always check these messages before delivering them to the children - they place the messages in a balloon and hand it over to their friends, who open the messages at home with their parents... In the case of Peter, there was a child, not Marios, who wrote something really rude once...”

The above incidents, in combination with the data we obtained from our interview with Peter, prove that he seems to be isolated by a group of children who influence his popularity. It might not be a case of chance that Peter chose a profession related to justice, it could be a way of expressing the injustice he seems to be receiving from his environment. At this point we need to mention that his lack of popularity could stem from his quiet and shy character, which does not help him act socially. So, unfortunately, his need to be liked by the group of children of his age, and especially Marios, cannot be heard.

According to Messiou (2006), the voices of some students can help bring out groups of children being marginalized both at an academic and social level. More precisely, at

an academic level, marginalization emerges as a result of the lack of access to the school program, limited possibilities for participation in the learning procedure, and lack of interest for the student's abilities. On the other hand, at a social level, marginalization comes as a result of indifference and rejection from the classmates, leading to lack of friendly relationships (Peter's case). In conclusion, it is about a two-way communication between marginalization and absence of voices, while the emergence of the former reinforces the consolidation of the latter. The children's voice brings to light the feelings children experience, both towards themselves and their fellow pupils. Parsons et al. (2011) refer to this "silence" of the students with special needs, Angelides and Michaelidou (2012) describe how drawing can encourage marginalized children, refugee children, or children with emotional problems. Pantazis (2015), in his study about racist education, refers to discrimination children face, refugee children in particular, in the classroom environment. Finally, Adderley, Hope, Hughes, Jones, Messiou, and Shaw (2015) during the research on "voices", give prominence to children who balk at taking part in the school procedure, describing loneliness as a sad and difficult situation.

At the same time, the children's voice, apart from marginalization, designs the students' experiences, their personal judgements, their feelings, also providing food for thought about the way in which the school and the educational procedure functions nowadays (Messiou, 2004). Agelopoulos (2008), in a survey which collects students' opinions, designs issues of educational values of the contemporary school, focusing on the role of teachers and giving them a dynamic character, while Pantazis (2015) thinks of the emergence of the children's voices as the principal requirement for the construction of a healthy social and democratic environment.

The case of Peter raises questions on the difficulty of the school environment to act appropriately towards the inclusion of Peter in the group of students. So, in order to try to respond to the question, during the procedure of arranging data, we focused our attention on educational practices and politics used in the specific school.

Through interviews with the educators (nursery teacher and supervisor), we observed issues for discussion, mainly leadership-related, on organization and intervention for crisis management at school. More specifically, as far as the cooperation between the teachers and the supervisor and teachers and students is concerned, the supervisor claims that she delegates responsibilities to all educators, but her words have more power. The fact that it is a private school leads to a strange relationship between employer and employee, as initiatives of the former are rather restricted. However, when it comes to cooperation issues with children, her opinion is different. She mentions that the environment of the classroom can be really variable, so the teachers should always be flexible and let children take initiative.

In summary, as far as leadership issues are concerned, the director while encouraging the initiatives used by the students, tends to restrict the practices of the teachers, creating a certain hierarchical environment. This strategy does not help create networks of cooperation between teachers and director.

Meanwhile, with reference to crisis management in and outside the class environment, regarding an incident of marginalization last year the nursery teacher mentions that she tried to integrate the specific child in the class using dialogue. More precisely, she mentions that she would discuss the issue with the children every day, explaining to them that they should not behave harshly towards them because they had certain particularity. Of course, as she described, she did not manage to integrate the child in the group.

In the specific case, as the teacher described to us, inclusion was not made possible, as the way she behaved was neither effective nor essential, as she finally managed to intensify the stigmatization of the child, separating them from the child by the use of the word "particularity". On the other hand, she only discussed the issue with the children, not using an organized way of intervention that would include the cooperation of networks (parents-educators-director) that would lead to an action plan. However, it is possible that she cannot act that way and take initiative due to school policy in order to avoid dissatisfaction of parents and children.

More specifically, the idea of school networks, which arises from the study of our data, is commonplace in bibliography with reference to issues of school improvement. More precisely, according to Ainscow et al. (2012) and Angelides (2011), as a result of many factors, improvement is based on networks of cooperation which are formed inside the school unit, but also among schools, between school and parents and school and community. Specifically, the co-working networks, as they create a cohesive system, can encourage a creation of an efficient leadership and management of the school unit, helping change the school culture, as they help teachers and school directors act in more cooperative roles.

At the same time, regarding cooperation, also mentioned before, the atmosphere of the school unit can function as a factor towards its improvement (Slee & Weiner, 1998), meaning the creation of harmonic and friendly relationships among students, teachers and students-teachers-directors, leading to effective teaching with an ethical and social background, which can make educators more productive (Angelides, 2011).

Finally, an issue raised by the director of the school when asked about the problems of the school, is the lack of necessary infrastructure, which she regards as of special importance. She mentions that she would prefer the classes to have fewer students, and two teachers caring for each class, however, she explains that it would be impossible due to the financial problems that private businesses face in Greece nowadays. The issue of infrastructure is also raised by Papanikola (2011), who claims that material resources and personnel training constitute a vital condition for school improvement.

To conclude, the private business characteristics of the school seem to prevent the director to distribute leadership initiatives, while they may also influence teachers in their way of intervention in crisis management. However, the insufficiency of dealing with the latter crises could also be a result of lack of inclusive training and lack of necessary resources.

The Public School: The Integration Class

Alice is one of the five children in the integration class. She is little and she seems to be three years old, although she is five. The school director informed us that, according to the Center for Differential diagnosis, Diagnosis, and Support for Special Educational Needs (ΚΕΔ-Υ), she faces language difficulties, while she suffers from Attention-Deficit Hyperactivity problems. At the same time, she lives with her grandmother and she has never met her mother (she was abandoned when she was a baby as the director explained to us), so she often pretends that her mother is close to her. She mentioned to us, for example, that on the holiday of 1st of May, she went to the beach with her mother and father, making up a story similar to those of her classmates.

During the activities in the general class she is not concentrated. Every time the nursery teacher asks the children to do something specific, she does not act as told. For example, when she told the children to only paint the recyclable objects from the drawing she handed to them, Alice painted all of them. The teacher called her name, but she seemed not to care about it. During the story-reading time, she usually plays with her hair or other objects, while she does not participate in conversations between the teacher and the students on stories, or the activities they have completed, as she had not been active during them either. The teacher does not address her often. Every time the teacher rebukes when she annoys her classmates, Alice answers that she wishes to play and she is bored.

In the integration class, Alice is the most restless of all. She keeps protesting that she wants to leave this class, and go to the other one, where her classmates are. She often finds the opportunity to get out of the class and walk to the schoolyard where her classmates are on their break.

As far as socializing is concerned, she has chosen the company of three girls, who often fight with her, mainly because she is uncooperative and demands things in a selfish way. However, there are cases, in which although Alice has not caused the fight with her behavior, and the teacher, not having seen the incident from its beginning, stands against her when intervening to calm them down. One day when the four girls were playing chase during the break, Alice complained that she was constantly told to chase them. It was then that a classmate of hers responded that she should be the one who chases as she is a bad girl, and integration class is where the bad children like her and Petros go. Alice refused to accept it, but her classmate insisted, so Alice pushed her and she fell. The teacher, who saw the incident from far away, thought that Alice was the one to blame, and punished her immediately.

The second child who attends the integration class is Dionisis. He is a classmate of Alice's in the general class and meets the other children at breaks and at the integration class. He has been diagnosed with a rare syndrome called SOTOS. He is a rather tall child (he looks like an older boy) with an evident scoliosis problem. His head is big and rather oblong and he has difficulty moving. All the above characteristics are typical of the mentioned syndrome, according to the diagnosis by ΚΕΔΥ.

During activities in class, he seems to be really bored. He does not like drawing, and as soon as he finds a difficulty he pretends to be in pain and claims that he cannot continue. He often makes a strange sound (probably imitating the sound of a car engine) instead of drawing. When he does not manage to attract attention this way, he usually gets aggressive. It happens when the teacher separates him from the rest of the children. During an activity in which the students had to cut some shapes of flower using a pair of scissors and then glue them on a paper vase, Dionisis asked the girls with whom he was sitting close to, if he was cutting correctly. One of the girls replied that he was doing it the wrong way, so he threatened her with the scissors. The girl immediately complained to the teacher. The latter replied to the girl that she should better ignore Dionisis.

During the break, Dionisis plays alone, pretending that he is driving a tractor while he imitates the sound of its engine with his mouth. His classmates seem to fear him and avoid him. This makes him want to constantly be close and seek attention of the teachers, often pretending to be slipping and falling.

Agelos is the third child in the integration class who is diagnosed with High-Functioning Autism. He avoids eye contact and is generally silent, both in class and during the break. He often makes repeated movements, like moving his body back and forth while sitting.

During his stay at the general class of 20 students, but also during the break, he is always influenced by the presence of the other children, and isolates himself. He does not take part in the conversations with the teacher; he imitates his classmate Peter (the fifth child in the integration class). On the contrary, during his stay in the integration class he is more active and acts independently (he willingly participates in activities and appears to be enjoying the procedure, not making repeated movements). He has an obsession with darkness, to which he keeps referring. Although he likes drawing with a black crayon, the teacher keeps telling him that the colors he is using are not “happy”, while the children call his drawings squiggles. He answers: “They are not squiggles, it is darkness”.

Peter is the fourth child in the integration class. He has been diagnosed with severe psychomotor problems and language difficulties. According to the special education teacher, he needs personalized intervention in order to develop these skills, which is her goal via the integration class. We observed that Peter has difficulty in drawing letters on a line, and he cannot cut shapes of things using his scissors. Peter is together with Zoe (the fifth child in the integration class) and Agelos in the general class. When he attends this class, he tries to attract the teacher's and the children's attention. For example, each time the teacher praises a child, because he or she is drawing nicely, Peter, who usually does things more slowly than other children, quits and starts to complain. He expresses his refusal to draw only when he is in the general class. His crises are intense and so are his emotional variances. He often gets up from his chair and hits things on the desks when he does not wish to do something, in order to interrupt the lesson. When the teacher tries to take things from his hands, he shouts that he will play the way he likes. When the

teacher threatens him with a lack of break, he answers: “*Of course I will take the break, you will not*”. He often screams, not being able to control his anger. When he seems to be really uneasy, the teacher lets him play with his bricks instead of participating in the classroom activities in order to be able to control the flow of the lesson for the other children. That often leads to Peter expressing his anger, when he realizes that he is being neglected by the teacher.

When he is in the integration class, with the special education teacher, his behavior is totally different. He seems to be disciplined and willing to draw. He is often the first to finish his drawing, not being in a hurry, he seems rather calm, content and focused. During breaks, Peter always plays with Agelos. Agelos does not fight; he seems to imitate Peter, at the same time avoiding quarrels with him. Zoe often becomes a member of their group, standing up for both of them in cases of conflicts with the other children.

Zoe, the last child in the integration class is a child of immigrants. She has been diagnosed with severe language problems, with reference to her oral skills only, while her writing skills are really good in comparison with the other children in the class. Because of the fact that she realizes the problem she is facing, she constantly avoids talking. She often avoids answering teacher’s questions, or nods “yes” or “no” by moving her head.

Although she has remarkable skills, especially in drawing, she does not wish to participate in team activities at all. While the other children sit in groups around tables, she does not sit with them, she usually sits at the teacher’s desk or she paints alone with a brush on a canvas at one corner of the classroom. She seems to ignore her teacher when she tells her to sit with the other children. Only once or twice during story-reading she sat next to the group of the children, close to the teacher. However, when Peter started biting his foot to interrupt the activity, Zoe left the group.

During the break, she is almost always alone. She sometimes approaches the company of Peter and Agelos, but only when she feels that she needs to protect them. She has pushed children who were fighting with Peter several times. Just after the end of the incident, she usually leaves and climbs the fence, or watches groups of children playing, at a distance of approximately one and a half meters.

During her stay at the integration class she is rather cooperative. She likes the special educator, whom she often hugs. She seems to enjoy the activities since she is always willing to leave the general class and move to the integration one. There, she is more confident to express herself verbally; she does not hesitate to pronounce words and even sentences in order to communicate with her classmates. The five children of the integration class never had a fight during our stay at the nursery school.

We reach the conclusion that the teachers from the general class often deal with crises which emerge the wrong way, both inside and outside the classroom. More precisely, their way of intervening in conflicts between the children often functions by way of separating and isolating instead of creating a friendly environment. We saw that Dionisis was isolated from the other children, on teacher’s advice, and Alice being punished without enquiry about the reason for her anger. This tactics of the teacher towards

Alice can influence the image their classmates form of her. The fact that one girl called her “bad girl” because she attends the “integration class” just like Peter, could be a result of the teacher’s approach, however, it could also be the result of the mere existence of the “special class”, which segregates children from the whole, even if it is only for one hour a day.

However, on the contrary to integration, inclusion, according to Ainscow (2007), promotes the study for all children (refugee and immigrant children, children with learning difficulties or health problems) in the general class, as listening to the children’s voice can promote education without exclusion. Messiou (2007) focuses on research by Lewis (1995), who describes that during the cooperation of students of special schools with these of general ones, it was observed that the first improved their language development, while there was a successful attempt to develop communication which came from both parts.

According to Adderley et al. (2015), attention should be focused on the functioning of the general class, which can help find solutions on diversity issues. That is, the school unit should reform and change into a positive response to diversity. As Brooks and Muray (2016) mention, the importance needs to be transferred from preparing children for school, to preparing schools for receiving all children. In this context, school units, having implemented the necessary reform, can function as seedbeds for democracy in which the children’s voice will emerge and be given value, leading to school improvement. Consequently, a democratic way and a cooperative atmosphere can be the base of the inclusive school of the future (Adderley et al., 2015).

The lack of inclusive culture seems to affect the academic prospects of the students, apart from their social behavior. The failure of the teachers to deal with crises can affect the academic future of the students. Peter’s nursery teacher does not encourage him to take part in team activities, while she does not try to help Zoe participate in the activities with the rest of the children. The lack of inclusive education and ideology which would focus on listening to the children’s voice and needs can create problems both in the intrapersonal relationships of the children as well as their school performance. For example, in the case of Agelos, the teacher encourages him not to use black color in his drawings thinking that this will help him improve his painting, while it is very probable that in this way she reinforces the negative critique he faces from his classmates who call his pictures “squiggles”. Hence, he is not able to develop his art and decode his thoughts through it.

With reference to the understanding of the needs of the children, we must mention that all children, except for Alice, are calmer and more cooperative within the integration class. More precisely, four out of five children were observed to complete their activities at approximately the same time, while receiving support from the special educator in order to deal with difficulties on the procedure. What is more, Zoe seems to be more at ease to express herself verbally. To conclude, the need of the children to feel important and equal is more satisfied in the integration class than the general, where certain students express feelings of isolation, anger or both. The self-confidence of students in

the integration class is eliminated in the general as they cannot compete with the other children. At the same time they feel more freedom to express themselves when in the integration class as they do not feel being judged for their performance.

According to Pantazis (2015), a democratic school policy is relevant to the way in which students interact during play and social interaction (even during conflicts), but also in the classroom, in matters of cooperation, mutual understanding and respect. So, we reach the question: "Which factors function as obstacles to mutual respect even in the cooperation among the children?" The first component we will mention is that of the idea of self-perception which determines the sentimental world of a child, as it sets its self-image. Self-perception is influenced negatively by lack of social interaction, mainly in the important period of childhood. On the contrary, children with high self-perception and self-image, often perform excellently in their academic and social life (Voulgaridou, 2008).

The second principal component, as Pantazis (2015) describes it, is about empathy, our ability to sympathize with our fellow men. The lack of empathy, is a factor which prevents relations among children, and also relations between students, teachers and school directors alike.

Based on the above, we can understand that the lack of children's voice can preserve low self-perception and lack of empathy among children. This is so because children's voice gives prominence to marginalized children, creating the base for better communication skills, openness, tolerance, reward and flexibility (in the teaching procedure and school environment as well) (Pantazis, 2015).

However, a problem which arose from our data with reference to the "general class", apart from the need for training of the educators, is that of absence of school networks, meaning the network for cooperation among teachers. An important reason for which children in the integration class work more efficiently when they are in this class, is that they always receive help from the teacher, not feeling that they are being compared or neglected. The question is, why does not the same thing happen in the general class?

As we mentioned before, there are two general classes at the public school, each of them with many students (20 and 18). In the class of Dionisis and Alice, there is only one educator, while in the second class there are two; however the second is rather less active. More precisely, she did not help every student during our stay in the public school, and she did not express her feelings to them either. She was rather indifferent to them, and she only once took the initiative to read a story to them. We observed that, not only did the specific teacher not cooperate with the other two educators in the other classes, but also showed no interest towards inclusive organization of the educational procedure in both classes. Instead, she remained neutral. This fact does not help the other two teachers organize activities, while the two of them do not cooperate with each other neither, finally being incapable of helping the children.

More specifically, Messiou (2012) claims that understanding of the children's needs can and should lead teachers and school directors to make leadership decisions. More

precisely, teachers need to be alert and able to constantly reorganize their teaching, listening to the children's voice, changing the teaching when necessary, and customizing it at times, in cooperation with the special educator, school director and the students (Sourtzi et al., 2013). Therefore, professors need to intervene in the school program, respecting the needs of all students, as school improvement is linked with school politics and the effort for better school performance (Sebba & Ainscow, 1996). The educators need to be flexible, active and cooperative.

Finally, in the case of Alice, who constantly tries to avoid the integration class, an important problem was observed that seems to affect her mainly: the special educator does not follow a specific schedule according to which she gathers the children in the integration class. For example, during the researchers' stay at the school, she twice called the children of the integration class to enter the classroom during the break. This act caused Alice's anger, as she had not had the opportunity to enjoy her break, although it did not affect the other three students (out of five), who have created relationships among themselves. This type of unscheduled beginning of class reinforces the segregation caused by the integration, while it isolates children, not allowing them to socialize with others. To begin with, Alice is separated from the company of her friends and is being isolated, while at the same time the attempt to bridge the gap of the relationships among students of the integration class and the others is failing.

The Digital Story

After the completion of the interviews in the private nursery school we continued to create digital stories making use of parts of the interviews with the students. More specifically, we created a video titled: "The children's voices", composed of three parts. In the first part, we chose a digital character for each child, matching their appearances. Next, we visualized their answers to the questions we asked them. In order to explain the idea based on which we worked, we quote here the case of George, one of the 17 children who agreed to take part in the digital stories. Here are his answers:

Researcher: *What color would you give to your best friend?*

George: *Green, the color of grass and nature.*

Researcher: *Which is your favorite season of the year?*

George: *Summer, because this is when we go to the beach.*

Researcher: *What things do you usually draw?*

George: *I rarely draw, I have drawn ghosts.*

Researcher: *Talk to me about you. What do you want to be when you grow up?*

George: *I want to be a traveler, and travel all over the globe. I want to travel on vehicles and see countries and capital cities.*

We asked the 17 children (among whom George was as well) the questions and all are presented during the story, the questions being the same for all children, while, of course, the responses vary. Each time a child responds, the background of the picture shows the reply, with the digital character of the child in the foreground. For example

in the case of George, the background was filled with an image of beach where George - the digital character actually was. Finally, when he replied that he would like to be a traveler and travel all over the world, a globe picture was presented, the globe was turning and George was travelling from Greece to Cuba. After the short story of George, what followed were the stories of the rest of the children, while in the background we listened to the songs: «Αγάπη μέσα στη καρδιά» [Love in the Heart], «Το Χρυσολιφούρφουρο» [The Golden Fish] by Manos Hatzidakis and «Η Ταραντέλλα» [The Tarantella] by Giorgos Hatziperis.

The second part of the video refers to the value of learning as a source of freedom and independence, but also to the need of children to play. Firstly, images of school classes are shown, each time an image from a developed country next to that of a developing one. Ten pictures are shown in total, to be followed by photos of children at play all over the world. We used excerpts from the "Little Prince" by Antoine de Saint-Exupéry and Maria Montessori's phrases as captions. The background music is "Hey Mister Tambourine Man" by Bob Dylan.

Finally, the last part focuses on diversity, showing 34 photos of faces of children from all over the world, (from Syria, for instance), but also from different tribes (Roma people), while in the end there are two photos of a child with Down syndrome, laughing in the first and smelling a flower in the second. The background music is "The Sound of Silence" by Simon & Garfunkel.

The main software which was used for making the video was the programming software "Scratch". Its interface is used at many levels of the Greek education system, like for example in the primary school, for video-making lessons, lessons of animation and interactive stories. It is also used in secondary education for an introduction to basic terms of programming. We also used the free open source Audacity interface to prepare the production of the video which will now be described.

First, the Audacity software was used for the processing of the sound files of the interviews. The parts of the interviews which were actually the answers to the researcher's questions were isolated, and their sound quality was improved. Next, the audio files together with the necessary photographs were loaded to the Scratch software, and they were synchronized. The software provided separate one-minute videos referring to the personal stories of each student. Finally, the videos were joined together in the final video. The procedure was recorded to be used as an example for other schools.

The digital story was ready in June. We delivered the story to the private school in a DVD disk at the beginning of the month and on the 15th of June we visited the school, and met the director who described to us the impressions of the parents and the children.

According to the director, the children were really enthusiastic during and also after the presentation of the stories. They watched the digital stories with keen interest, and they would clap after the end of each story. They expressed many questions referring to the countries of the children in the photos, leading to a conversation among students, parents and teachers on the subject. With reference to the video, the director assured us

that she is thinking of organizing a school project through which the children will learn some characteristics of the people from each country mentioned. In the case of Peter in particular, the director told us that his classmates applauded warmly after his story was presented, and he was happy and content. After the end of the stories, he started discussing with Marios and their classmates on the professions they had chosen. The director told us:

“The fact that he received the applause from his classmates gave him power and reinforced his self-confidence. It is the first time I have seen him so dynamic and excited.”

As far as the parents are concerned, they all expressed positive feelings, according to the teacher. They characterized the stories as a source of information for them on their children (on their socialization, on their shyness compared to others, on their feelings for their friends). Some of them were really moved. They would applaud together with their children and were willing to participate in the dialogue after watching the video. Some of them stated that they would like to take part in the school project, too.

According to the director, the images, colors, children's voices and the music of the video constantly changed the views of the children, exposing them to vivid emotions and kept their interest level high through the experience which created thoughts in their minds, mainly with reference to the children's needs. As she told us, the video helped her realize that:

“The digital story gives power to the children's voice, offering all children a right to be heard, reinforcing mutual respect, which is precious as the basis of democratic education”.

With reference to the idea of mutual respect, Gioka, Vasilopoulou, and Skourti (2016) claim that learning via computers is gradually becoming more and more experiential, and it enables students to develop their empathy, acceptance of difference and mutual understanding. This fact was also confirmed by our digital story, as it helped create a friendly environment among all students, where segregation was eliminated, all children received a warm applause, and a productive dialogue was achieved.

It seems that the use of digital stories can help develop mutual understanding among students, bridge the gaps between them and single out some of them (like Peter). More specifically, the need for an inclusive education, where all the children's voices are heard, leads to more pluralistic models of learning, where all children can be heard, even the ones who face problems of social and school acceptance (refugee children, children with learning difficulties, health issues etc.). Xanthouli, Gouli, and Smirneou (2013) mention that representation and diversity of expression and management of information, are the most important factors for special education, while Schepis, Reid, Behrmann, and Sutton (1998) observed an improvement of interaction between children with autism and their environment, after the use of special software (VOCA). As far as hearing impaired children are concerned, Xanthouli et al. (2013) claim that transforming sound data to visual via the use of certain software, can help them acquire knowledge more easily, while Andrikopoulou (2016) mentions that technology can help provide equal opportunities for all, while adding to the educators' motivation.

So, in which way does technology elicit the children's needs? The answer can be found above: that is, via its features but also via a pluralistic method of use. Technology arises as a vital tool for inclusion, with the help of which students can have their own voice heard, and learning can interact with the future, against obsolete learning methods (raising hands, learning by heart, teacher-centered learning, students always facing the blackboard), disproving technophobic ideas which present technology as an obstacle to knowledge acquisition and a means of destruction of human thought.

Conclusion

The aim of the present study, which was completed using qualitative methods, was the accentuation of all children's voices as a principal factor for inclusion. More specifically, according to the results of the study, the care for the children's voice is a prerequisite for the building of a democratic school; it constitutes a threshold for organizing a framework of inclusive education. This is because all that children can tell us proves to be precious for handling crises in the school environment (marginalization, school violence, racism, learning difficulties). It is obvious, thus, that school needs to readjust, deconstruct non-effective techniques and become dynamic and flexible, respecting each child as a unique being who interacts with the whole pleasantly, on the level of the class but also on the society level.

Towards building inclusive education in Greece and the substitution of the old-fashioned tradition of the integration class, but also towards an elimination of the difficulties stemming from the business-character of the private schools, a series of steps should be followed: first of all, the culture and the philosophy of the educators need to change. More specifically, a student-centered cooperative education is necessary, where each member of the school community can and has to play leader roles, having the responsibility to share leadership through interaction with others. This is because true learning, not stale knowledge, can only be possible as a result of unprompted effort and cooperation, not as an effect of a hierarchical relationship which ignores school networks and substitutes them with business rules and superficial relationships.

At the same time, with reference to the idea of digital stories, we reached the conclusion that technology can be a precious medium for inclusive education, as it is capable to create an empathic environment in class, reinforcing the self-confidence of children being marginalized. Apart from this, it is via digital stories that the teachers together with parents can further explore the characters of their students.

Other contemporary researchers have reached similar conclusions, focusing on the children's voice as a source of finding socially and academically marginalized children (Anderson et al., 2009; Angelides & Michaelidou, 2012; Messiou, 2012; Parsons et al., 2011). Some researchers have described the procedure of listening to the children's voice as a principal factor for inclusive education, which leads to school improvement (Adderley et al., 2015; Angelides, 2012; Angelidou, 2011; Messiou, 2004), while Schepis et al. (1998) and Xanthouli et al. (2013) focused on the importance of technology towards a transformation of learning to meet each child's needs.

The results of the present study underline the need of restructuring the Greek school environment so that human rights, and especially the rights of children are being respected. The contemporary educational policy should turn to thinking of the school unit as a model for a democratic pluralistic society (democracy seen as a dynamic procedure). The Ministry of Education needs to invest in education, improve training and professional development of the educators, improve structures and resources, and offer contemporary technological tools for learning, establishing the philosophy of inclusion in every school (keeping in mind that the education system in Greece is subject to the responsibility of each government).

Furthermore, based on some new research issues which came to light in this study, we would like to encourage future researchers to deal with the creation of digital stories in schools also attended by foreign language speakers (refugees, immigrants) or students with hearing impairment, language problems or generally, non-typical abilities (with optional use of subtitles as images will speak for what the children think). Furthermore, we would like to propose the use of that kind of stories on higher educational levels, too. Finally, we suggest a combination of interviews and observation for each school to be examined, in order to ensure the validity of the results (we mention this because the interview with the students of the private school was a methodological problem for us, as we faced the difficulty to draw data from the one-word replies of the students because of their young age).

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Glas djece i poboljšanje škole: Uloga tehnologije u inkluzivnoj školi budućnosti

Sažetak

Zadatak ove studije je naglasiti važnost inkluzivnog obrazovanja. Ova je studija usmjerena na potrebu za slušanjem i razmatranjem mišljenja učenika prilikom planiranja obrazovanja. Na taj način studija planira otkriti koji su učenici marginalizirani i iskoristiti ovu metodu za poboljšanje školske jedinice. Istraživanje je provedeno u dva vrtića. U prvom su intervjuirana dvadeset i dva polaznika i dvije odgojiteljice, a u drugom smo se koristili metodom neaktivnog promatrača petero djece koja su pohađala integrirani razred, i odgojiteljice tijekom jednog mjeseca. Intervjui su provedeni i u drugom vrtiću samo s dvoje odgojitelja. Marginalizirani učenici se identificiraju zbog poteškoća s kojima se suočavaju. Tijekom provođenja studije uspjeli smo pojačati samopouzdanje učenika i pomogli stvoriti suosjećanije školsko okruženje. To se postiže u vrtićkom projektu u kojem polaznici s pomoću digitalnog softvera za pripovijedanje pričaju svoje osobne priče. Naš cilj bio je i potaknuti stvaranje priča za produkciju, za što se koristio digitalni softver za pripovijedanje Scratch.

Ključne riječi: suradnja; digitalno pripovijedanje; poboljšanje školske jedinice; pluralistički odgoj I obrazovanje; djeca predškolskog uzrasta