Using Digital Storytelling to Help First-Grade Students' Adjustment to School

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Abstract

When coming to school for the first time, children might face a number of adjustment problems. The study presents the results of a project which used digital storytelling for helping first-grade primary school students during this transitional period. It was examined whether, through the development of the digital stories, students could understand how the school functions and whether this process helped them to change their attitudes and behaviors, thus achieving a smoother adaptation to the school environment. Students' active participation and behavioral modeling to enhance positive behaviors provided the theoretical basis. Due to the students' young age, their teachers functioned as their "hands", executing their instructions when developing the stories. At the same time, however, they indirectly guided them to certain key-points that had to be highlighted, without openly lecturing them. Observations and interviews with the classes' teachers and with the students that presented significant adaptation problems were used for data collection purposes. The results are considered satisfactory. Adaptation issues ceased to pose a significant problem and the overall classes' climate was improved. Finally, due to the project's short duration, it can be applied relatively easily, without altering the school's timetable.

Keywords: *Digital storytelling; School readiness; School adjustment; Modeling; Constructivism*

Introduction

The very first days at school mark the children's transition to a new reality; from the safety of home to school which is in an unfamiliar environment to them. Rules and routines are different from those in kindergarten or at home, and the way of teaching/learning is also different (Hartley, Rogers, Smith, Peters, & Carr, 2012). The change in settings affects their sense of identity and status (Fabian, 2007). Fear of the unknown, separation from parents, the loss of the sense of uniqueness, are but a few of the problems that may arise (Fabian & Dunlop, 2007). The short-term, as well as the long-term, implications of this transitional period, are important. How quickly students would feel the sense of belonging in the new environment and how smoothly the transition to school would be, has been associated with certain educational outcomes (Brooker, 2008) and with long-term (positive and negative) effects on children's lives (Brooker, 2008; Dockett & Perry, 2013; Fabian, 2007; Mirkil, 2010).

Children are aware of the discontinuities associated with starting school. They can understand that it is a period of significant change and that there will be differences in pedagogy. They anticipate that school will consist of more work and less play, that they will have less choice and more restrictions (Einarsdottir, 2013), that there will be increased time sitting and decreased access to the outdoors (White & Sharp, 2007). Children also underline the importance of knowing the routines and how to engage in the pedagogy of the classroom

(Margetts, 2013). From the above, it becomes evident that it is important to find ways for a successful transition and to provide opportunities for children to understand and negotiate the discontinuities between prior to school and school settings (Dockett & Perry, 2011).

School Adjustment and Readiness

From a theoretical standpoint, the literature suggests that transitions are not individual experiences; they are social constructs involving all participating members. Ecological systems theory (Bronfenbrenner, 1979) provides the theoretical background of many who investigate the transitional experiences of children (e.g. Dockett & Perry, 2009; Fabian, 2013; Margetts, 2013; Margetts & Phatudi, 2013). This theory puts the individual in the center of five concentric environmental systems and contexts, with which an individual interacts. Each system has an impact on the individual's development and also explains the way in which transition affects whoever is involved, the child included (Dockett & Perry, 2009). Social constructivism, such as Vygotsky's and Piaget's work, also highlights the role of social interactions in helping children in their successful transition to school. Vygotsky (1978) supports the notion that development and learning first take place in a social context, before being internalized. Children learn when they are supported by others to accomplish what they cannot do by themselves (Rogoff, 2003; Vygotsky, 1978). Teachers and more experienced peers can support this process (Niesel & Griebel, 2007). Piaget (1997) theorized that peer learning occurs during interactions when children encounter ideas that differ from their own and through peer conflict. Children use strategies such as negotiation, problem-solving, collaborative talk (Smith, 2012), observing and listening (Rogoff, Paradise, Arauz, Correa-Chavez, & Angelillo, 2003), watching and copying their peers (Hagan, 2007).

The adjustment time needed is unique for every child, as it depends on the problems that he/she might face, and it is closely related to what is called school readiness. Generally speaking, school readiness is the ability to understand and respond to the demands that the school environment dictates (Carlton & Winsler, 1999). It requires certain academic skills, such as pre-literacy and pre-numeracy, but also behavioral skills, such as regulating emotions and pro-social behavior (Lemelin et al., 2007). One can support the view that the school readiness is the result of other types of readiness; mental, emotional, social, and physical, that all of them allow the child to accept, process, and utilize the stimuli of the environment (Drosinou et al., 2009). Undoubtedly, biological factors (e.g., age) play an important role (Gesell Institute of Human Development, 1982), but social factors, such as the wealth or the deprivation of raw stimuli from the early childhood, also influence school readiness (Koutsouvanou & Gialamas, 1998). Smooth school adjustment may be impeded in a number of ways, depending on the age and developmental level of the child. Reasons that can stand brake, are the change of place of residence, the birth of another child in the family, a chronic illness, parents' divorce, the family's poor economic status, teachers' or students' rude behavior, to name but a few (Zafiropoulou & Kalantzi-Azizi, 2011).

Teachers can assist students' adjustment to school by using techniques to create a productive and efficient learning environment (Rogers, 2003). These techniques are described with the term "behavior management" (Maag, 1999; Zirpoli, 2008), and are classified into two broad categories: (a) techniques to increase positive behaviors, and (b) those aiming at the reduction of negative attitudes. The present study involves the use of a technique to foster positive behaviors and peer learning, combined with digital storytelling, in order to help young students during their first days at school, as described in the following sections.

Digital Storytelling

Narration can be defined as the interactive art of using words and actions, for the representation of the elements on one hand and the images of a story on the other, in such a way that the listener's imagination is stimulated (Genette, 1998). More simply put, it is the art of telling a story to an audience, in order to convey important messages. The way in which a story is told can create the strong emotional participation of the listener who -sometimes- identifies himself with a character of the story (Papagiorgis, 1983). Due to the technological developments, traditional storytelling has become digital. Digital narratives are a combination of conventional oral or written storytelling with multimedia and hypermedia elements and through this process, the written or the oral text is enhanced (Lathem, 2005). From the early days of digital storytelling, it was noted how easily people were able to tell their stories, in a really powerful way, in a relatively short time, and for a relatively small amount of money (Tucker, 2006). Today, there is a variety of powerful, yet inexpensive software tools, that allow even novice computer users to be producers and publishers of digital media.

Narration, either digital or conventional, constitutes a very useful tool in the hands of the teacher. According to Matthews (1977), the way of encoding and presenting a piece of knowledge, like any other kind of information, significantly affects the ability of people to memorize and recall it in the future. Since narrations cause the keen interest of students, apparently, this helps them to easily consolidate and assimilate information (Coventry, 2008). Narrations also increase the oral and written skills while, at the same time, strengthen critical thinking and the ability to analyze and synthesize information (Ohler, 2006). According to Gersie (1992), the narrative can contribute to the effectiveness of the educational process, by formulating a friendly and pleasant educational environment.

When it comes to digital narratives, they encourage students to record their ideas, free from the fear of failure or disapproval, in case these are applied in a "wrong" way. What is important is not the beginning, the middle, and the end of the digital story, but the production of ideas (Semali, 2003). Perhaps the greatest benefits can become evident when students have the task of creating their own digital stories, either individually or as members of a small group. As they do so, pupils develop improved communication skills, because they learn to conduct research on a topic, to ask questions, to organize their ideas, to express their views and to make meaningful narratives (Robin, 2006). Visualization of thoughts is another skill that digital storytelling enhances (Regan, 2008). Students can also learn to voice criticism on their own work and on the work of others, facilitating social learning and emotional intelligence (Robin, 2008).

Rationale and Implementation

The adjustment problems that first-grade students face during their first weeks at school were what motivated the development and implementation of a project, that took place in five primary schools in Athens, Greece, from mid-September to late October 2015. Its aim was to examine whether the development of digital stories can;

- help students understand how the school functions.
- contribute to changing students' attitudes and behaviors, thus achieving a smoother adaptation to the school environment.

The project's stages were:

- Pre-stage (one week, mid-September, 2015). During this stage, observations of the classes took place and teachers were interviewed. Students who during the observations were found to present significant adaptation problems became the focus students and were also interviewed.
- Main stage (two weeks, seven two-hour sessions, late September 2015). At this stage, the digital stories were developed. In parallel, the classes (with special attention to the focus students) were observed.
- Post-stage (one week, late October 2015). Once again classes were observed and teachers, as well as the focus students, were interviewed.

The outline of the stories was "A day at school" and the central idea was to develop digital stories which: (a) would take place in a school, (b) fictional students and teachers would be the story's characters, and (c) would have two parts. On the first, problems at school, "wrong" students' behavior and a dysfunctional class were to be depicted. On the second, all problems would have been resolved and the "ideal" students' behavior would be portrayed.

To reinforce students' positive behaviors, the technique of modeling was utilized. Complex behaviors are acquired through direct conditioning and/or through mimicking -or modeling- of others' behavior (Akers, 1977). Learning through mimicking involves observing a model that expresses the desired behavior and, subsequently, adopting this behavior (Rogers, 2003). The problem was that, by presenting students with a ready-made story, would not actively involve them in the process of understanding what behavioral model they are expected to adopt or what routines they should follow; it would be like lecturing them. On the other hand, since they were not yet able to read and write, it was considered very difficult to ask them to create their own stories. Therefore, it was decided that students would be the "brains" and teachers would act as their "hands".

By using the classes' video projectors, students were able to see the stories' developing software, the menus, and all the available choices. They collectively determined what to do (the course of the stories, the actors, the dialogues, the backgrounds etc.) and teachers were the ones who implemented their commands. The whole process was designed in such a way so that students would have the impression that they were the ones in control. In reality, on the basis of pre-stages' observations and in collaboration with the teachers, it was decided that certain key points had to be included in stories. These key points were about specific problems and incidents that were observed that all indicated poor school adjustment and transitional problems.

The teachers' task was to guide the students so that these key points could be included in the digital stories. This was achieved by;

- providing a starting point, in the form of short questions, like: "What is this little guy doing during the lesson?", "Why he/she does not pay attention to the lesson?", "What does the teacher think about all this?", "What happens when the bell rings (for a brake)?", "If this little girl continues doing this, what might happen?"
- constantly asking questions about the conditions that prevail in the classrooms (and in the schoolyards during breaks).
- encouraging students' reflection on the consequences of wrong (or right) behavior and of following (or not following) rules.
- allowing conversations between students (so as to come to an agreement on what to include), and by assigning an actual wrong behavior to a -fictitious- character of the story (Figure 1).

The same procedure was followed during the second part of the stories; students were asked to imagine their classes without problems and a right behavior was assigned to a character (Figure 2). In case students wanted to portray something else, teachers obeyed their will but reinstated the matter to a following scene. All students were encouraged to participate, but participated as much as they wanted and all had the same chances to contribute to the development of the stories.

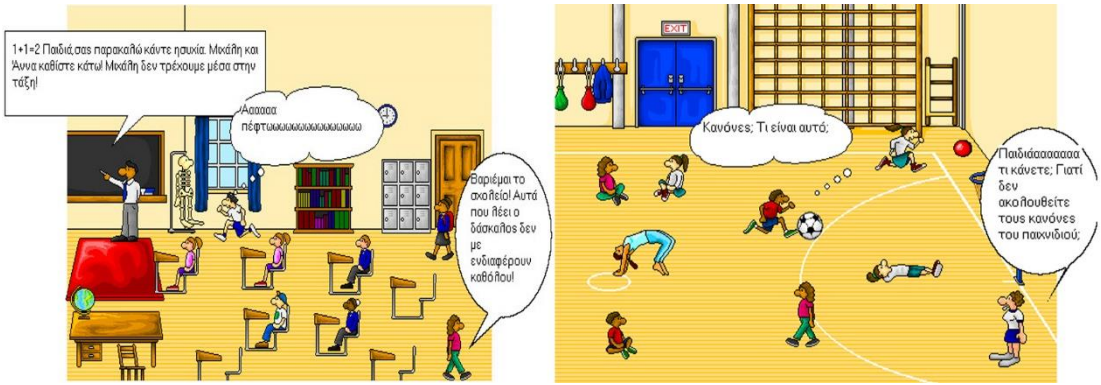

Figure 1. Indicative scenes from the first part of a story

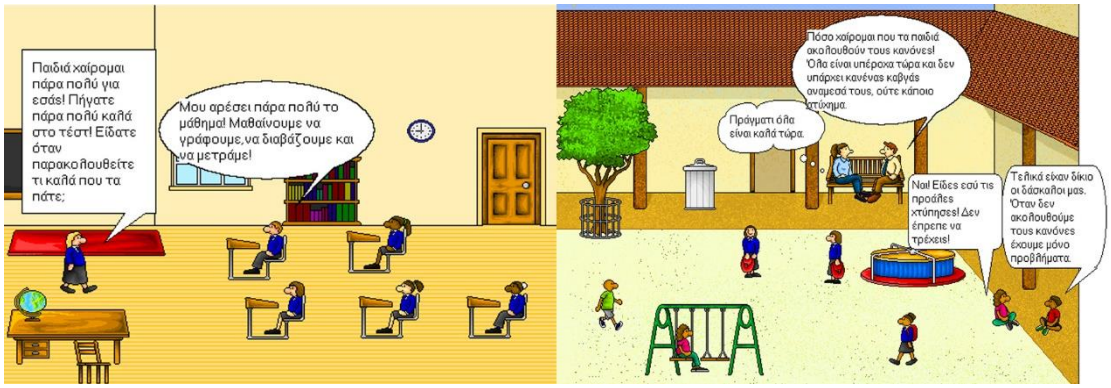

Figure 2. Indicative scenes from the second part of a story

There were some difficulties during the first two sessions of stories' development, but once students understood their roles and the method for developing the stories, the whole process started running according to schedule and thereafter all students (including the focus students) actively participated. They found the notion that teachers were their "hands" and that they were the "brains" very interesting and fun, and they were constantly asking to add more and more elements/scenes to the stories. During the development of the first part of the digital story, it was quite easy to guide students in illustrating the characters' wrong behavior at school, since these characters actually represented their own wrong behavior.

What was not expected was students to easily portray the second part's ideal conditions. Not only were they able to do so effortlessly, but also during the first part they were constantly criticizing a character's wrong behavior. All the basic functions and rules that govern school seemed to be understood and the same applied to what was considered appropriate behavior in class and during brakes. There were considerable discussions and negotiations between students on each and every detail of the stories. As instructed, teachers provoked discussions regarding the implications of either positive or negative behavior and of following or not following rules and commented in favor of replies that included other students or the teachers as recipients of the consequences.

Methodology

For data collection purposes, a combination of observations, interviews with the teachers and interviews with the focus students was used. This is a form of triangulation useful for investigating a topic from different perspectives and for reducing the likelihood of researcher's bias (Cohen, Manion, & Morrison, 2007).

Observations

A total of ten two-hour observations (5 during pre- and 5 during post-stage) were conducted in each school. The initial observations took place during the first two weeks of the school year (schools in Greece start in early September). By conducting observations, the researcher is able to witness exactly what is happening in the classroom and has the opportunity to gain some perspective on which behaviors are common and which are unusual (Cohen et al, 2007; Cotton, Stokes, & Cotton, 2010). The focus of the observations was the verbal and non-verbal interactions between students and between students and teachers, episodes of misbehavior and, in general, incidents that indicated poor school adjustment.

Interviews

The teachers and focus children were interviewed using a semi-structured approach. Interviewing both enabled different ideas to be considered and gave them the opportunity to present their own point of view (May, 2011). Questions were asked about the observed episodes, in order to understand and clarify their intentions and/or interpretations of the events. Interviews with focus students were approved by their parents, took place at school, and, at least, one parent was present so that students would be familiar with the environment and feel more relaxed (Danby, Ewing, & Thorpe, 2011). All interviews were recorded and transcribed at a later stage.

The interviews together with the observational data, were read and re-read three times by two individuals and were organized into themes and categories (Braun & Clarke, 2006). Each set of data was coded in relation to the two research objectives (Cohen et al, 2007). The resulting codes were examined to identify patterns, similarities and differences. Data sets were also compared to establish commonalities and differences and to determine whether the observed behaviors confirmed what the participants communicated in their interviews. It has to be noted that both coders were trained prior to analyzing the data and their reliability was assessed: (a) informally (during their training), (b) formally (in a pilot test), and (c) formally during coding of the full sample. An interrater reliability analysis using Cohen's kappa coefficient was performed to determine consistency among raters. The interrater reliability was found to be $\kappa = 0.82$ ($p < .0.001$), 95% CI (0.874, 0.764), which was considered very good (Landis & Koch, 1977).

Results Analysis and Findings

A total of 105 first-grade students, from five different schools, participated in the study. The results are presented in the following sections.

Pre- and Post-Stage Observations

During pre-stage, it was noted that the overall classes' climate was dysfunctional; too much noise during lessons and disciplinary problems, while teachers seemed to make a significant effort to maintain order. Fourteen students (9 boys and 5 girls) had considerable adjustment and behavioral problems and became the study's focus students. Each one of them repeatedly exhibited at least 4 of the following categories of problems:

- Lack of self-restraint/discipline. This was the most common type of problem. Teachers had to constantly try to bring students back to order, before being successful.
- Lack of interest in the lessons, which was the second most common problem. Quite often students were observed to be absent-minded, easily distracted and preoccupied with activities other than paying attention to the lesson (e.g., playing).
- Denial of participation in the lessons or in the school activities.
- Denial to follow rules. This category of problems was different from simple disciplinary problems because students were openly stating that they do not want to follow a rule or an instruction that a teacher tried to enforce.
- Use of offensive language. Some students used bad language when addressing other students during in-classroom conflicts. The same students, when teachers reprimanded them, used bad language and made inappropriate gestures when they thought that the teachers were not watching them.

Also, 24 students presented some problems, but these were sporadic, not repeated on a regular basis and/or were not so intense (compared to those of the focus students). Since it could be argued that they constituted minor problems, these students were not included in the study. The rest of the students did not present any problems, or they were negligible. Six extreme incidents were noted, indicative of (some) students' difficulty to understand the rules and functions of the school. For example, a girl started packing her things during the lesson and wanted to leave school, because she wanted to go home and watch her favorite cartoon series. On another instance, a boy refused to return to the classroom after the break, because he wanted to continue playing. When the teacher tried to reason with him, he started crying and wanted to go home.

During the post-stage observations, a sharp decrease in all problems was noted but they were not totally eliminated. The results were especially interesting in the focus group in which the majority of the students (12 out of 14) exhibited only minor behavioral issues. Also, of the 24 students that initially had minor problems, just a few (8 cases) remained unaltered. Teachers seemed to be more relaxed and the overall atmosphere of the classes was significantly improved. The most important finding was that all teachers, quite often, referred to the digital stories when they wanted to lecture a student or to bring the classes back to order (82 records). Students were also referring to the digital stories during in-classroom conversations or when they had an argument (56 records). Table 1 summarizes the categories of problems, during pre- and post-stage observations.

Table 1. Focus students' adjustment and/or behavioral problems (pre-stage/post-stage)

School	Focus student	Type of problem						Students with minor problems
		Dis.	Inter.	Part.	Rules	Lang.	Extr.	
1 (20 students)	A	22/8	14/5	3/0	10/1	0/0	0/0	7/2
	B	16/7	12/8	7/1	5/0	0/0	1/0	
2 (22 students)	C	19/5	16/4	10/2	8/2	0/0	0/0	5/3
	D	18/6	15/6	7/1	8/0	0/0	0/0	
	E	18/9	11/4	8/0	7/2	4/1	0/0	
3 (22 students)	F	24/21	15/12	8/8	10/9	7/2	1/0	4/1
	G	20/11	12/6	9/2	7/4	0/0	1/0	
	H	18/7	12/8	7/2	9/3	0/0	0/0	
	I	16/6	11/4	5/1	7/2	3/0	0/0	
4 (20 students)	J	21/19	15/17	8/6	6/5	0/0	1/0	3/0
	K	17/7	14/8	0/1	6/2	3/0	0/0	
5 (21 students)	L	22/10	15/5	8/0	6/1	5/0	1/0	5/2
	M	20/9	15/7	8/2	4/1	0/0	1/0	
	N	18/7	11/5	0/0	6/0	2/0	0/0	

Notes: Total cases observed during the 5 2-hour pre-stage and the 5 2-hour post-stage observations in each school. Disc. = Disciplinary problems, Inter. = Lack of interest, Part. = Denial of participation in school activities, Rules = Denial to follow rules, Lang. = Use of bad language, Extr. = Extreme incident.

Pre- and Post-Stage Focus Students' Interviews

Focus students' interviews revealed a number of interesting facts. Half of them (7 cases), were the only child in the family or from single parent families (4 and 3 respectively). Out of these seven, four were the ones with the most problems (cases A, F, J, and L). All focus students gave a variety of reasons for their behavior or for explaining the incidents in which they were involved (Table 2). The problem was that for incidents falling under the same category, the explanation or the reasoning was not always the same. For example, when a child was not paying attention, he/she would say that it was because he wanted to go out and play; on a similar case he/she would say that it was because he was bored. Therefore, patterns of reasons that could explain adjustment and/or behavioral problems did not emerge from the interviews.

The most common reasons students gave for their problematic behavior were that they did not like going to school, that they were bored during lessons, and that, while they wanted to go out and play, they had to stay in the classroom and study. Half of them stated that sometimes they had trouble understanding the rules and/or what behavior was expected from them. Some (5 cases) were stressed when coming to school or they were afraid of the new environment and that made them misbehave. Few (4 cases) indicated that they purposively misbehaved as a reaction to the others constantly telling them what to do. Almost all students could understand that their behavior was wrong or that they should not do certain things at school, but that was because their teachers or their parents told them so. In 8 cases students exhibited the same problematic behavior not just at school but at home as well (confirmed by their parents).

Table 2. Focus students' explanations of their behavior

	Und. wrong behavior	Explanation						Und. necessity of rules	Same behavior at home
		Stressed or fear	I cannot und. how to behave	I don't like school	I want to play	I am bored	I don't want to be told what to do		
A	yes	yes	no	yes	yes	yes	yes	yes	yes
B	yes	no	yes	yes	yes	no	yes	no	yes
C	n.r.	no	no	yes	no	no	no	mixed	no
D	yes	no	no	no	yes	yes	no	no	no
E	yes	no	yes	yes	no	yes	no	no	yes
F	n.r.	yes	yes	yes	yes	yes	yes	mixed	yes
G	yes	no	no	yes	yes	yes	no	no	no
H	n.r.	no	yes	no	yes	yes	no	mixed	no
I	yes	no	no	yes	no	yes	no	yes	yes
J	n.r.	yes	no	no	yes	yes	no	yes	yes
K	yes	no	yes	yes	yes	yes	no	no	no
L	yes	no	no	yes	yes	yes	yes	no	yes
M	yes	yes	yes	no	yes	no	no	mixed	yes
N	yes	yes	yes	no	yes	no	no	no	no

Notes: n.r. = no reply, Und. wrong behavior = Understands that his/her behavior is wrong, Und. the necessity of rules = Understands the necessity of rules

A noteworthy finding was that focus students had trouble understanding the necessity of following rules or adopting certain behavioral patterns at school. Though they could understand that their behavior was wrong, they could not make the connection between wrong behavior and its consequences, except for the ones that were related to them. They were repeatedly probed by me in order to clarify this finding. In 7 cases, students' replies were similar to: "If I [do something wrong/misbehave], the teacher is going to [yell at/punish/lecture] me." In 4 cases students' replies were mixed; sometimes indicating that they understand that there are broader implications and sometimes not. Only 3 students gave answers that clearly involved others and not just them: "When I make a lot of noise, [name of a classmate sitting next to focus student] is not able to listen to the teacher and that is not good." Teachers were instructed to have this finding in mind during the development of the stories; to ask questions that would initiate discussions among students in order to reflect on the implications of wrong behavior not just on themselves but on others as well.

During post-stage interviews, all focus students expressed their enthusiasm for taking part in the development of the digital stories. What they enjoyed most was that teachers followed their commands and that the whole process resembled a game. Having in mind that during the pre-stage interviews most of them had problems in understanding that wrong behavior has an impact not just on themselves but on others as well, I asked them once again, to evaluate if any changes had occurred. Indeed, 8 students gave answers that clearly indicated that they understood that there were broader implications: "…Well [pause] yes, if I don't pay attention [when running in the school yard during the break] I might accidentally hit someone." The rest (6 students), gave mixed replies; sometimes mentioning implications just on themselves and sometimes mentioning implications to others.

Pre- and Post-Stage Teachers' Interviews

All but one teacher were females. The male teacher (in School 1) had less than 6 years of teaching experience and it was the first time that he was going to teach first grade students. The female teachers had more than 20 years of teaching experience and they were proficient in teaching first-grade students (5 to 7 times each). They noted that the number of students that present adjustment problems is, more or less, the same each year and agreed that the focus students were the ones with the greater number of problems. Lecturing, giving examples of the expected behaviors, and talking to parents (as a last resort), were the only methods they used (and that they were aware of) when dealing with students with adjustment problems. The male teacher stated that: "… I feel kind of lost. I do not know what to do and if I am going to cope with these problems." The rest of the teachers stated that the climate of the classes was dysfunctional but not problematic. They were also more confident (probably due to their experience) that problems will eventually be resolved, but they noted that valuable time is lost during the first couple of months: "… It would be nice if I did not lose so much time trying to lecture students how to behave or trying to bring the class back to order. In reality, lessons start in December."

On their post-stage interviews, all teachers mentioned that there was a significant improvement in the climate of the classes. They attributed the improvement to time that had passed since the beginning of school, but also to the digital stories. According to teachers, the digital stories acted as a point of reference when they wanted to lecture a student or set a good example: "…When [name of a focus student] misbehaves, all I have to do is to remind him what the story's characters thought about misbehaving students", "…When they start making noise, I say 'Class! Let's be like the students in the second part of our story' and I can easily bring the class back to order."

Discussion

Coming to school for the first time is a turning point in a child's life. The first few weeks are a transition period; new rules and behaviors have to be assimilated in a short period of time (Fabian, 2007). The degree of school readiness is not the same for all children; minor and/or major problems may arise (Fabian & Dunlop, 2007). More or less, all students adjust to school environment after some time (days, weeks or even months), but the sooner this adjustment occurs, the better, individually and collectively. This was the goal of the project. Whatever results it produced, were at the crucial period of time when students were still adjusting, because it started two weeks after the beginning of school. Therefore, one might assert that the behavioral changes that were observed afterward, can be attributed to the project, at least to some extent.

Social constructivism (Piaget, 1997; Vygotsky, 1978) together with ecological systems theory (Bronfenbrenner, 1979) provided the project's theoretical foundation. By adopting the Vygotskian perspective, teachers were the ones who (indirectly) guided and supported students (Niesel & Griebel, 2007). By adopting the Piagetian perspective, students collaborated, negotiated, and came to a common consensus on what constitutes an erroneous (or a correct) behavior and what rules and routines they should follow (Smith, 2012). Direct lecturing was avoided; students had the feeling that they were in control and that they discovered everything by themselves.

The methodological approach was a variation of modeling. Although in modeling one observes and mimics a model that expresses the desired behavior (Rogers, 2003), in this case, and through the digital stories, the model was elicited and constructed by the students. I assumed that this could be a more effective method than just presenting the desired behavior/model and asking students to follow it. It is my belief that there is a significant difference between constructing knowledge on your own and acquiring knowledge because someone else deems that it is important to do so and, in a way, imposes his views on you. This assumption is in line with the constructivists' views for learning/teaching and how knowledge is acquired (Ertmer & Newby 2013).

Regarding the choice to use digital storytelling and especially to ask students to develop their own digital stories instead of using ready-made ones, a number of reasons can be accounted for. They acted as a canvas upon which students;

- were able to visualize their thoughts, as suggested by Regan (2008).
- expressed their own interpretations of the world based on their experiences, embedded their knowledge in the situations in which they are used (schools), engaged in real-world situations, and validated their knowledge through social negotiation, which all are features of the constructivistic learning environments (Ertmer & Newby 2013).
- because collaboration and discussions were encouraged, they were able (a) to observe and listen to their classmates, and (b) watch and copy the stories' characters who acted as role models. Both are the characteristics of peer learning, as Rogoff, Paradise, Arauz, Correa-Chavez, and Angelillo (2003) and Hagan (2007) point out.
- were given the opportunity to understand and negotiate the discontinuities between prior to school and school settings, a need that was underlined by Dockett and Perry (2011).

Also:

- The whole process was fun and appealing to students, formulating a pleasant educational environment (Gersie, 1992). Probably due to this, they were able to memorize and recall scenes of the stories either by themselves or when the teachers reminded them, as Matthews suggested (1977).
- The digital stories were simplistic and "childish", compared to commercial applications. Then again, the aesthetics and the scenarios were not important. What was important was the ideas in them, as Semali (2003) noted. Indeed, students accurately illustrated dysfunctional and functional classes, "bad" and "good" behaviors, and the consequences of following and of not following rules. This means that the students' need to understand the basics of the school routines and how to engage in the pedagogy of the classroom, as noted by Margetts (2013), was satisfied.

As a result of the above, students' digital stories acted as behavioral models for them. Their effectiveness was confirmed by the results:

- As it was mentioned in the previous section, 14 students presented certain problems in their adjustment to school. Although these were not extreme cases, together with the less important problems the other students had, shaped dysfunctional learning environments. During the follow-up procedure, it was noted that only 2 students continued to have significant problems, while the other students' adjustment problems had significantly decreased, at least to a degree that they were no longer considered a problem.
- Of course, one can assert that the time that had passed since the beginning of school was enough for behavioral changes to take place. On the other hand, all teachers often referred to the digital stories each time they wanted to lecture a student or to bring the classes back to order and, by doing so, they were able to successfully deal with situations

where students reverted to previous, undesirable, behaviors. Also, students recalled certain scenes during their arguments or during their in-classroom conversations.

Perhaps the study's most important finding was the lack of connection between behaviors and rules on one hand, and in understanding their broader implications on the other. This finding emerged during the initial focus students' interviews. Almost all of them while they, more or less, knew how to behave at school, they could not imagine what consequences their behavior (good or bad) had on others. As instructed, teachers helped students in making these connections, by referring to situations that were present in the students' stories, by asking questions, by provoking discussions, and by commenting in favor of replies that included other students or the teachers as recipients of their actions. During post-stage students' interviews, it was noted that the majority of them were able to make these connections while the rest were partially able to do so.

Even though focus students' family background was beyond the scope of the present study, there were some indications that there is a connection with transitional problems as Zafiropoulou and Kalantzi-Azizi (2011) suggested. Half of the focus students (7 cases) were the only child in the family or from single parent families and 4 of them were among the ones with the most adjustment problems. Also, 8 students exhibited problematic behavior at home as well. These findings have to be viewed with caution and more in-depth study is needed toward this direction.

Conclusion

The findings of the study add to a growing body of research about the transition to school and how new entrants can be supported so as to adapt to the school environment. Two advantages of the project are its short duration and that it can be easily applied, without altering the school's timetable. Though it is certain that long term interventions yield good results, time is a crucial factor. Short term innovative interventions are needed because results can be produced right away and problems can be dealt on the spot. This holds true for the present study; whatever results were attained, were achieved fast, since its main stage lasted for two weeks (seven two-hour sessions). Also, no specialized equipment was needed and software similar to the one that was used is freely available. In addition, the simplicity of the case's design allows interventions with similar settings and goals to be easily applied to kindergarten students, preferably at the end of the school year, preparing them for their transition to primary school at an even earlier stage.

Most importantly, the study presented an alternative method for achieving students' smooth transition to the school environment, instead of simply lecturing them. The process of creating the digital stories, having the teachers act as the students' "hands", was fun and resembled a game; students were highly motivated and engaged. In turn, this engagement to the process allowed increased levels of collaboration and interactions between students, which are the main characteristics of peer learning. In essence, the way that the project was planned and carried out, allowed the desired behavioral model to be elicited by the students, while the teachers overviewed the process and guided them when it was necessary to do so.

All in all, the results are considered satisfactory. On the other hand, there are limitations that need to be acknowledged. The main constraint of the study is the small sample size. Also, it was conducted in Greece. Therefore, its results cannot be easily generalized. Even though all necessary precautions were taken, important details might have been missed during

observations. Also, one can never be certain whether students and/or teachers expressed their actual thoughts and feelings when they were interviewed.

Further studies are needed with larger sample sizes and from different educational systems, in order to identify differences or similarities to the findings of the present study and to obtain more reliable results. In addition, since the duration was short, longer-term projects can be tested, examining and comparing their results to short-term projects. Additional data collection tools can also be used, for example, interviews with the parents, so as to establish the degree of which the home environment plays a significant role in students' dysfunctional behavior at school. It would also be interesting to conduct research using conventional, instead of digital storytelling and compare the results. By doing so, it would be possible to determine if the results can be attributed to the medium used and/or to the method.

Nevertheless, taking all limitations into consideration, the findings support the idea that by developing their own digital stories students were helped -at least to some extent- to understand how the school functions, to change their attitudes and behaviors, and to adopt a positive behavioral model. Therefore, one can support the notion that it is a good practice and teachers can consider using similar interventions to achieve a smoother integration of first-grade students in the school environment.

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