

## **The role of teachers' attitude towards the use of the tablet in the first-grade elementary classroom**

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### **ABSTRACT**

Schools have been increasingly paying attention to the rapid diffusion of new technologies as a means to improve the pupils' learning experience. Research suggests that use of tablets in school are a particularly versatile technology, since they allow students to learn to manage the amount of information that they face nowadays. The iPad is one of the most used tablets in schools, which accounted for more than 75% of the global education market from around 2010. Nevertheless, the surveys aimed at confirming the actual benefits of the employment of this kind of tool, particularly in the first year of elementary school, are still limited. An aspect that needs to be analysed is the role that the teachers' attitude plays, whether they are actually moving towards complementing their daily didactic practices with this tool, and the reasons why they decide, or not, to do so. Our study has therefore been aimed at analysing the school teachers' attitude towards the introduction of the iPad in their teaching practice in the first-grade of elementary school system, and the positive and negative aspects found by them during their didactic experience with the tablet.

**Keywords:** *tablet; early years; elementary school; teachers' attitude; technology; learning*

### **INTRODUCTION**

Schools have been increasingly paying attention to the rapid diffusion of new technologies to improve the learning experience of pupils. The introduction and the use of digital tools like the tablet in the classroom has been particularly enhanced at different levels of the school system (Banister, 2010; Bonds-Raacke, Raacke, 2005; Enriquez, 2010). This has helped with starting a change of the traditional idea of the role of ICT in school, that limited the use of the computer to the consolidation of certain content in specific rooms and hours. The introduction of tools such as tablets and other portable devices, wireless and the ability to always be connected to the Internet, is becoming an innovation destined to have a particularly significant impact in the way the learning process is organised, not only with respect to specific topics, but with respect to all the activities that make up the curriculum (Crichton et al., 2012; Murray, Olcese, 2011; Peluso, 2010).

Teachers often have limited experience with using digital technologies and do not consider themselves adequately prepared to use technology in the classroom, especially with young children, as they have been rarely provided with adequate training for this task (Barr et al., 2016; Voogt & McKenney, 2017). In the face of these challenges, an approach that brings together technology, pedagogy, and content knowledge (TPACK) has been proposed to help teachers integrate technology into their activity (Graham, 2011; Koehler & Mishra, 2009; Niess, 2011). The approach underlines that teachers should be able not only to develop a good level of fluency and cognitive flexibility in each of these three core components, but also to acquire an understanding of the way these domains are mutually interrelated, so as to build effective teaching practices with the help of technology. Consequently TPACK aims to go beyond the simplistic view of technology as an 'add-on' to classroom activities and takes a more ecological stance concerning the connections among technology, content, and pedagogy as they play out in the classroom environment (Blackwell et al., 2016; Park & Hargis, 2018; Uerz et al., 2018).

In this regard, several researchers suggest that the use of tablets in schools is a particularly versatile technology, since they allow younger students to learn to use anywhere and in real time the information necessary to manage the experiences that, as digital natives, they have to face

nowadays (Moran et al., 2010). Tablets seem to facilitate personalised learning, since teachers can use these devices as tools that promote scaffolding in the students' learning (Lemke et al., 2009). Moreover, tablets offer the opportunity to strengthen the connection between the school and the student's environment, reducing the distance between the students' activity in the classroom and their daily experience outside the school environment, and thus helping pupils to find their way in a world that revolves around digital communication. Considering the relatively reasonable cost of tablets, this is particularly relevant in order to reduce the digital gap that characterises mainly students from disadvantaged or low-income families (Melhuish, Falloon, 2010). Moreover the touch screen mode allows younger pupils to acquire a more direct and intuitive experience than the one offered by the mouse (Buxton et al., 1985; Huang et al., 2012). Generally, being cognitively easier to handle, teachers tend to use them more often than they previously used desktop computers or laptops (Geist, 2012).

The iPad is one of the most used tablets in schools, accounting for more than 75% of the education market at the global level from around 2010 (Khaddage, 2013). In order to make this device more user-friendly and accessible to all users, Apple has incorporated the principles of the Universal Design for Learning in the planning of the more recent devices. This approach is aimed at considering the different needs and peculiarities of the students (such as pupils with disabilities). Over the last ten years Apple has introduced a flexible design for users of these devices in terms of objectives, methods, materials, and assessments (Hall et al., 2012). Lastly, the iPad allows students to have access to several educational apps (more than 500.000), the majority of which was targeted at preschool and elementary school children (Shuler, 2012; Kucirkova, 2014). Nevertheless, despite the obvious potentialities of using the iPad for learning, the surveys aimed at confirming the actual benefits of the employment of this kind of tool, especially in the early years, are still limited (Banister, 2010; Dezuanni et al., 2015; Falloon & Khoo, 2014; Koile, Singer, 2008). The role that teachers' attitude plays within the technological innovation promoted by tablets, is an area for analysis. Analysing this aspect is fundamental to understanding to what extent the use of new technologies can really take root in the school environment (Ertmer, 2005; Ottenbreit-Leftwich et al., 2018). Despite the growing diffusion of forms of digital communication in our daily life, surveys show that inside the school there is still a systematic underuse and a poor integration of these resources by the teachers in the curriculum (Gray et al., 2010). To investigate the factors that influence the use of the tablet in the daily didactic activity it seems therefore necessary to understand the teachers' point of view with regard to it.

## **LITERATURE REVIEW**

Research has highlighted how the teachers' attitude towards technologies is determined not only by institutional constraints, but also by personal factors that include one's own teaching philosophy, perceptions of and convictions about technology, to what extent one feels at ease with it and how much one uses it. This last aspect is the most difficult to address and can have a greater impact than the institutional constraints on the actual use of technology by the teacher in his/her classroom (Ertmer et al., 1999; Ertmer et al., 2012; Oakley, 2018; Zhao et al., 2002). Moreover, most teachers have been trained on a traditional learning model, and the norms and rules that they have internalised thanks to these teaching methods have a strong impact on the way they use, or not, technology (Sheingold, 1991; Russell et al., 2003). Surveys show how teachers' attitudes towards and beliefs about technology are closely linked to their didactic practices, and that the teachers that are more convinced about the potential of technologies in supporting students' learning are also the ones that use them more and in a more diverse way (Blackwell, 2013). Moreover some studies propose to analyse the teachers' attitude on the basis of their level of acceptance of/resistance to new technologies. The incorporation of technology in the classroom often fails because of the non-acceptance by its potential users (Buabeng-Andoh, 2012; Hu et al., 2003). Consequently, even the effectiveness of the introduction of the iPad in an extensive way in schools depends largely on the extent to which teachers like to use it (El-Gayar, Moran, Hawkes, 2011; Lynch, 2017).

Besides the technological and educational potential of the iPad, the key question is therefore whether teachers are willing to incorporate this device in their daily didactic practices, and the reasons why they decide to do so or not (Brown, Warschauer, 2006; Merchant, 2015). For this reason, it is also important to understand what informs the teachers' resistance to the use of the tablet. As a matter of fact, while opening the road to new potentialities for learning, the introduction of a new technology inevitably tends to put into question the pre-existing situation (Lu et al., 2017; Wartella et al., 2010). As any organization, even schools tend to hinder changes, whether they are technological or not, through active or passive resistance in the forms of hierarchical structure, current system of rules and decisions, and repeating traditional teaching methods rooted in common practice (Chubb, Moe, 1990; Collins, Halverson, 2009). Indeed, some newly introduced technologies, particularly at the administrative level, are seen by teachers as a further burden on the already existing bureaucracy and are therefore opposed in a more or less explicit way, especially if they seem to take up time from the didactic activity or hinder what teachers consider to be the efficient functioning of this activity (Buckingham, 2007). The introduction of technological innovations therefore tends to be faced with a considerable level of 'friction' from the school and the single teachers, that can be considered in part responsible for the poor use of these resources that has been pointed out previously (Blackwell et al., 2013).

Nevertheless there are also schools and teachers that show interest and invest in the possibilities offered to didactics by using technologies such as the iPad. As a matter of fact, the pompous statements by the industry that often accompany the presentation of new devices or applications for education help with polarizing the field of attitudes in two opposite positions, the 'enthusiasts' and the 'sceptics' (Collins, Halverson, 2009). This dichotomy does not promote a correct evaluation of the effects that the introduction of these technologies may have in the school (Becker, Ravitz, 1999; Cuban et al., 2001). In this sense, an analysis of the teachers' attitude towards the use of a tool like the iPad in their daily teaching practices can help understand which are its real use models and the possibilities of being incorporated in the curricular activities (Ifenthaler, Schweinbenz, 2013; Liu et al., 2016; Pynoo, Braak, 2014). Research on this subject has been carried out mainly in secondary schools, whereas studies regarding elementary schools (especially children in the first grade) are far fewer (Flewitt et al., 2015; Henderson, Yeow, 2012; Hutchinson, 2012; Kucirkova, 2014). The latter highlight the presence of some critical elements, regarding the technical handling of the devices and the choice of the apps. In relation to this last aspect, Brown and Harmon (2013) highlighted the importance of choice and the need for evaluation of the apps to be made in close collaboration with the pupils, in regard to supporting their motivation and increasing their ability to select activities and levels in an increasingly autonomous way.

Our study has therefore been aimed at analysing the elementary school teachers' attitude towards the introduction of the iPad in their teaching practice in the first-grade. We will also explore the extent to which there are elements of acceptance and resistance to using this device, and which are in general, the positive and negative aspects found during their didactic experience.

## **METHODOLOGY**

Our research was conducted in a comprehensive institute in Lombardy and involved the teachers of four first-grade classes of the same school, attended respectively by 21, 22, 24 and 19 pupils respectively. In two of the classes there was a pupil with disabilities attended by a support teacher and a teaching assistant. There were 12 non-Italian students, evenly distributed in each class. All of the pupils were second-generation bilinguals, except for one pupil of Indian origin that had been put in one of the classes after the beginning of the school year.

There were 6 class teachers, 2 support teachers and 2 teaching assistants working in these classes. Although the latter are not teachers, we considered it appropriate to include them in the study since their involvement in the teachers' team in all the school activities (including the decisions about teaching with the iPad) was very strong. Table 1 below shows the characteristics of the teachers that participated in the study.

**Table 1:** Characteristics of the teachers involved in the study

<i>Teacher</i>	<i>Age</i>	<i>Role</i>	<i>Years of service</i>	<i>iPad knowledge</i>
ML.	42	Class teacher	10	No
B.	38	Class teacher	6	Yes
M.	57	Class teacher	12	No
G.	45	Support teacher	15	No
C.	33	Teaching assistant	6	iOS (iPhone)
MB.	45	Class teacher	12	Partial
E.	45	Class teacher	9	No
S.	51	Class teacher	20	No
A.	42	Support teacher	11	Ebook
V.	28	Teaching assistant	4	Tablet (not Mac)

Since the use of tablets in Italian elementary school is still not very widespread, the classes involved were conveniently chosen, being part of the schools that have recently started the experimentation with the iPad. Thanks to the donation from one sponsor, the first-graders of the school identified for pilot classes for this project were given a loan to use agreement of an iPad for the duration of one school year. At the time the study was conducted, the project had been going on for six months.

A qualitative approach was chosen for the methodology that was to be used in the study. In fact, on one hand the limited number of people involved in the study did not allow for processing of the data on a statistical level. On the other hand, we were deeply interested in understanding the teachers' point of view, in particular the reasons for their attitudes and choice in relation to the use of the iPad. For this reason we used a research strategy based on two tools, participant observation and semi-structured interview.

The observations were carried out in the four classes over two months during which the tablet was used for completing activities, over a total of 38 hours. Since the headmaster of the school felt uneasy about gathering photographic material or videos, we chose a pen-and-paper mode of observation, to provide evidence to support the subsequent conduct of interviews with the teachers about their relationship with the iPad in their teaching practice. The observation method allowed for the gathering of several detailed notes onsite, which were subsequently transcribed through a text processor for its subsequent analysis.

The semi-structured interviews were carried out with the eight teachers and the two teaching assistants that had been previously observed during their activities with the iPad in the classroom. All the interviewees used the iPad during their lessons, although the modes of use varied considerably depending on the individual. The interviews included the following thematic areas:

- Previous experience in the ICT area in school or elsewhere, in particular in the use of tablets;
- Reflections on their own modality of using the iPad in didactic activities (on the basis of the observations in the classroom);
- Elements that were considered positive in the use of the iPad in the classroom;
- Elements that were considered negative in the use of the iPad in the classroom;
- Possible areas of improvement in light of the experiences.

Choosing thematic areas, instead of a set list of questions, had the aim of making the teachers feel comfortable about a subject that made some of them feel insecure, and it was therefore necessary to set a non-judgemental atmosphere for the interview. Moreover, a certain overlapping among the areas facilitates bringing the conversation back to the subject of the study (the teachers' attitude) when the interviewees often tended to highlight the pupils' behaviour instead of their own professional experience.

Lastly, the semi-structured interview was aimed at allowing not only the elicitation of answers from the teachers, but also the appearance of those aspects that the interviewees considered crucial from the point of view of their didactic experience with the iPad. All ten interviews were recorded and subsequently transcribed verbatim through text processor.

The texts gathered through the observations and the interviews have been subsequently analysed by the researcher using Atlas.ti©, to achieve a systematic comparison among the data. In this way the meaningful sections, in terms of concepts and categories (nodes, in the language of Atlas.ti) of the texts examined have been extracted and encoded. Through this software for qualitative analysis, these codes have then been discussed and revised by two independent researchers, to guarantee a considerable level of reliability of the results in terms of inter-coder agreement ( $k=0.87$ ). We could then identify the links among the different nodes observed during the study and build the thematic constructs of synthesis (super codes) that have allowed us to interpret the data gathered.

The information in Table 2 below summarises the thematic constructs identified during the analysis. These constructs, together with an analysis of the teachers' previous experiences, will be analysed and discussed in the next section.

**Table 2:** Thematic constructs revealed by the study

<b>Construct</b>	<b>Meaning</b>
Acceptance/ Resistance	Open or enthusiast attitude towards the use of the tablet vs. suspicious or sceptical attitude.
Opportunity	User-friendliness of the iPad. Added value in relation to the students' learning potentialities. Possibilities that offer with respect to other learning modalities.
Innovative/traditional teaching	Tendency of the teachers to use the iPad as a support to the traditional way of teaching or as a tool that promotes a pupil-centred teaching.
Cooperation	Use of the iPad as a support for the organization of work group in the classroom and of the exchange with groups outside the classroom.
Difficulty	Technical problems arisen while using this device. Difficulty in identifying contents that are suitable for the planned didactic activity.
Interference	Problems due to the iPad being a source of possible distraction during the lesson or of uses on part of the pupils that are not connected to the teaching practice.
Preparation	Teachers' perception of having a competence that is not adequate for using the iPad in the classroom. Need to receive greater preparation and/or support in this respect.

## ANALYSIS

### *The teachers' previous experiences*

To understand the teachers' attitude towards the introduction of the iPad as a teaching tool, we found it necessary to analyse their previous experiences with this kind of tool, both external to and within the school. All the teachers attended a two-days-and-a-half crash course at the beginning of the school year, taught by an external teacher, that introduced the working of the iPad and its possible modalities for use in the educational field. Six teachers had a general knowledge of the Office package (four of them were self-taught), but they did not think that this competence had particularly helped them when they started to use the iPad. Thanks to the interviews we found that only one class teacher (identified as B) already owned an iPad before the start of the course and had a good knowledge of its functions. Another teacher (identified as MB) borrowed an iPad for a short time before the beginning of the school year. All the other teachers did not have previous experience in the use of the iPad. One support teacher (identified as A) had recently bought an e-book, one teaching assistant (identified as C) had a general knowledge of iOS (since she had an iPhone), while one teaching assistant (identified as V) owned a tablet (not Apple) but did not know its potentialities at the educational level. In general, the teachers tended to take B, the only one with a good knowledge of the iPad, as a point of reference, since she was an 'expert' in dealing with technical problems and using this device. However, as she herself stated, compared to the

first period of experimentation the requests for assistance from her colleagues had considerably diminished.

### **Acceptance/Resistance**

The introduction of the iPad in class activities was the result of a project promoted by teachers B and MB, in collaboration with the headmaster of the comprehensive institute. However, in the interviews only B confirmed support from the beginning with enthusiasm and without any doubts during the first months of this experimentation. B noted:

*I've always considered it a very worthy project... Also because I already had an iPad and a friend had showed me that there were different possibilities of using it with children, not only for playing games, but also for learning foreign languages, maths and so on. Then I found out that there were different apps that could be used in school, and I tried using them... you know... on my own, let's say... And so when I got the chance I proposed it to my colleagues. [...] At the beginning they said yes, but later they were not that convinced. Now they are a bit more, I think, but it's been a process... let's say more difficult than what I had imagined at first. Some of them were, maybe not against it, but you know... let's say that they kept their distance.*

Other teachers have experienced various phases during the months in which use of the iPad in the classroom started. Some of them showed a positive attitude or possibility towards this experience. MB noted:

*Well, it surely seemed to me a good opportunity for our classes, so I supported the project even though I wasn't really sure of my ability to use this kind of tool in class activities. Actually I am not very confident even when using my phone, so... Then B. lent to me hers [iPad] for two weeks during the holidays... and I realised that it wasn't beyond my reach, on the contrary for some things it is very easy to use... For example, taking pictures or drawing is very simple.*

Another teacher G, tells how, after an initial positive approach, some difficulties arose over time.

*So, at first positive [the evaluation], but now, after a few months, it seems less easy. As I was saying, at the beginning there was a lot of enthusiasm among the colleagues for the introduction of the tablet, and even among the pupils there was definitely a lot of interest... and there still is, surely, as you could notice too, as they become more and more expert at using it. Then I realised at some point that it wasn't just about complementing the traditional activities with some more stimuli that the iPad can offer... we are coming to a point where the tablet is used nearly for everything, especially because of its Internet connection. So, I find myself in a kind of crisis, you know, because this requires changing my teaching practice, the materials I have to prepare, the pace of the lesson... It's really a big change, and I must say that I wasn't quite ready for it...*

Lastly, one teacher showed a more perplexed attitude toward the introduction of the iPad in the classroom, highlighting some negative effects that its introduction caused. According to M:

*Let's start with the fact that I, being the oldest one in the group, I've had a lot of difficulties to get used to it since the beginning... actually, I wasn't particularly good at using computers either. Anyway, in my opinion, there are not many activities to which the iPad adds something really essential... also because once you get used to using it, I think it's more difficult for very young students to keep the concentration that is necessary to read a text, that is an aim of ours anyway... Besides I fear that the tablet distracts them from what they*

*should normally do. Besides we had to spend a lot of time explaining to the parents that the tablet would not be used for playing, that there weren't any dangers because the net surfing is safe... really a lot of time. Not to mention the colleagues who see us as privileged... I don't know, I think there are some pros but also many cons, for now.*

### **Opportunity**

An aspect about which every teacher seems to agree is that the iPad is a very intuitive tool at first use, and this has been a crucial element when starting the project. As noted by S:

*I remember how hard it was for me to learn those fundamental bases of Office... I worked really hard because I saw many colleagues using it, and I didn't want to be cut out. But it was complicated: windows, drop-down menus, files... Now instead, since you work directly on the screen, everything is more direct, I think. Except for the very first moment, when you wonder how you can use it without mouse or when you try to understand where the buttons are... whereas in fact the physical buttons are only two, and one is simply the on/off button. In short, it's user-friendly, you do everything with your fingertips... and it's amazing when you see the kids, it's incredible how quickly they learn the main commands.*

Another important opportunity, as we pointed out, is the fact that the iPad has acquired several accessibility features (due to Universal Design for Learning principles), and this is an aspect that is particularly valued by the support teachers. As noted by A:

*I must say that what really impressed me were the voice commands, when they showed them to us in the course. I am a support teacher, mine is quite a demanding situation, as you know... When I saw that the tablet could read texts out loud, and that it could receive voice commands, I immediately thought about my pupil, who has got great problems in reading and writing... She needed a bit of time to get used to it, but now with system she's really advantaged, she can do more things than before. Of course, it's not perfect... sometimes Siri gets it wrong and the text pronunciation is a bit mechanical... but for her it was big step ahead. If anything the real problem is to dial... sorry, I meant digitise the texts that she needs.*

However, there are also some critical opinions about some aspects linked to the actual user-friendliness of this tool. As noted by V:

*The first impression is positive and it's quite easy to use, no doubt about that. But there are some shortcomings that should be considered more carefully, in my opinion. First of all, it's true that there are many apps, targeted for education and elementary school. But most of them are in English, and this narrows down the choice nowadays, as matter of fact. Okay, Italian is a niche language in this tablet world, but anyway... And then there's this issue they told me about, and it's true, Apple is a closed world, there are many restrictions. For example, you cannot exchange files with others as I do with my tablet, if you have to transfer a document it's complicated...whereas in class you should be able to do these operations rapidly, when you need it. In short, at the beginning it's easy, but when it comes to exchanging things the situation is different.*

### **Innovative/traditional teaching**

Several teachers have stated that using the iPad has allowed them to discover new ways to develop a theme in class, through the addition of multimedia content in the activities that were carried out. As noted by ML:



*Do you remember when two weeks ago we went to the garden?... we took a series of photos of the kinds of plants that there are there. In the classroom we made a selection of the photos. Then last week we prepare a presentation with the tablet. Besides the photos we also added audio materials, the outside world sounds, the comments that the children had made for every photo [...] We even made a little animation, [name of the pupil]'s dad helped us, he taught us how to do it. The kids were enthusiast, and I myself was very satisfied, it was the first time we did something like that... I've got to say that compared to the presentations that we made before in the classroom this is another matter. I don't mean to say that those presentations were not beautiful, you see... but here everything was more... rich, let's say. Everyone had their part on arranging the photos, organising the comments, recording the sounds...*

However, another teacher was a bit concerned about this ease of transfer from a subject to another which the iPad seems to make easier for the pupils. M noted as follows:

*In my opinion, it's true that with the iPad you have many apps, a lot of information is available. But I'm also afraid that the young pupils get lost... that they lose focus of what they are doing and why. Sometimes, when we treat many subjects, then I feel like... I mean... what did they actually learn and what did I offer them as a teacher?*

### **Cooperation**

One of the most positive aspects revealed by the teachers' comments is that, according to them, the iPad allows for cooperation in class more easily, and once some rules are established, to manage it in a way that is efficient overall. As noted by C:

*So, as far as working together is concerned I think that... the activities that are better carried out are the ones in which the children work in small groups, for example to do a research or to do a presentation. In those case the iPad really becomes a tool for cooperating... especially if the task is quite clear and the teacher has clearly established the roles before, otherwise it doesn't work... Not all the teachers know how to manage this kind of activities, by the way. [...] I saw that J. [pupil with disabilities] can participate more in that kind of activity, even if he needs time to say a sentence they listen to him... whereas in frontal lessons he's a bit cut off. Of course, we need to create the groups carefully, that is fundamental.*

The flexibility aspect is also pointed out by another teacher, who highlighted how a particularly interesting aspect of the tablet is its mobility during the educational activity. As noted by ML:

*I remember that at the beginning I, as anyone else I think, made the children use it as a normal notebook in which they could learn how to put down notes, search something on the Internet, everyone on their own iPad, by themselves. Then later, quite rapidly, the situation has evolved... and I'd say that the pupils were the ones proposing new ways of using it, to use it in a more interactive way that later we ourselves learned to use! [...] For example in the garden experience, for organization issues I had to divide the class in two groups, one went out and the other stayed in the classroom, in turn. So I was wondering what the pupils in the classroom could do, because the pupils in the second turn could work on the photos that they had done, but what about the first group? Then N. And R. proposed to share the photos to their class mates so they could begin working on them. And so we did that. Honestly, I didn't think about it!*

### **Difficulty**

In the period between the beginning of the school year and the interviews the teachers had some difficulties, mainly technical, when using the iPad in their activities. As noted by E:

*It's true that managing many tablets at the same time is not always easy... For example you have to set the WiFi connection for everyone... and when sometimes you lose the connection this is a problem. If all six of them lose it while working... you are stuck and you need to think about a plan B! [...] I'm saying an obvious thing, but when you work a lot with the iPad after a while you need to recharge it, but desks don't have plugs... Providing that they remember to bring their charger, but that is a problem that can be solved quite quickly. Then the more apps, the more upgrades, but fortunately they learned to manage them a bit on their own.*

Another teacher emphasized instead that there are some shortcomings especially linked to using the apps for teaching. S noted as follows:

*At the beginning I was afraid that it was a fragile device... The rooms are small, and it's difficult to move around, so in the classroom there's always something falling down... I thought we'd break one every day. And actually, luckily, I have to say that we haven't had those kinds of problems, so far. As far as apps are concerned instead... it's not always easy to find one that is suitable for the activity you have in mind. Maybe you find it, but it's not free, or it's in English, or simply it's not suitable for young children. You certainly have to spend a lot of time to find them, understand how they work, try them... So yeah, it takes a lot of time and not always you find what you're looking for.*

### **Interference**

The issue of the 'appropriate' uses of the iPad was discussed more than once during the interviews. As a matter of fact some teachers, besides the possibilities offered by this new tool, also feared that it would interfere with the development of normal activities. As noted by G:

*We discussed a lot about that... Because somebody said that the tablet is a huge source of distraction for the pupils, that have been used since an early age to handling these devices or mobile phones... and that we therefore needed to avoid further encouraging this kind of... dispersive use, let's say. Also because it's true that the possibility of controlling what the pupils are actually doing while using the iPad is quite limited... I'd say that in a class of twenty pupil it's basically impossible. It's true that there are these blocks that you can set... but I don't know to which extent they work.*

However other teachers, although they acknowledged the possibility that the iPad could become a source of distraction for the pupils, tended to present this as a minor risk in light of their practical experience. As noted by ML:

*In theory, yes... I'd say that the parents were the ones who pressured us about this aspect, more than our colleagues... There were several fears discussed in the first presentation meeting: that the iPad could distract the children all the time due to the temptation of the games and whatnot... or that they could surf non-appropriate websites... We had to spend a lot of time reassuring the parents about it, as you can imagine. That being said... in my opinion distraction is not the iPad's fault... my experience is that if you organise your lesson in an engaging way they don't even think about doing anything else... the most important thing is to organise activities that engage them, interest them... Then if during the break they want to play, I don't see it as a problem.*

### **Preparation**

An aspect that according to some teachers is particularly critical is their training for using the iPad in class. For some of them the preparation received was not sufficient for the kind of job that they have ended up doing. M noted:

*We had a quick course in September... so they explained to us the fundamental bases for using the tablet. The problem is that one thing is to try seeing how it works for two days, another thing is to organise an activity in a first-grade class of twenty pupils in which you should be able to guide them in a... confident way. There, it's this confidence that's lacking, and therefore I think that there needs to be more training before starting the activities in class.*

However other teachers, while agreeing that the initial preparation was not sufficient, are more optimistic about the possibility of improving their skills in using the iPad through a learning-by-doing approach developed on-site, supported by the pupils themselves. E noted:

*We were not really prepared, because even now there are often situations in which you don't really know what to do and which instructions to give to the kids. But the important thing is that you can ask your colleagues for help... there's almost always someone that found herself in the same situation and she can advise you as how to solve it. This kind of help, that is supporting each other, is working quite well after all, and has opened to other kinds of exchanges.*

### **DISCUSSION AND CONCLUSIONS**

From the analysis of the interviews carried out we can see that the attitude of the teachers involved in the experimentation with the iPad during the educational activities of their elementary school classes is on the whole positive. The main attitudes are either a strong engagement or a cautious openness, even among the less enthusiastic teachers. Thanks to its user-friendliness, the iPad is seen by all of them as an interesting opportunity for widening their teaching strategies. However only some teachers are willing to use it to promote innovative teaching experiences, while others tend to simply consider it an additional support of the teaching practice in use. Moreover, the iPad seems to be a tool that promotes multilayer cooperation, among pupils, between pupils and teachers, and among teachers themselves. Nevertheless, there are some critical issues that the teachers point out in their experience with the tablet, namely, some technical aspects (connections, data transfer, availability of educational apps) and the level of preparation initially received. The concern about potential 'inappropriate' uses of the iPad in class was also noted.

However, our study has some shortcomings. These are on one hand the limited number of the classes and their level (first-grade). On the other hand the timeframe of the study, which focused on the initial period of the use of the iPad in class may have been too soon for the observations to be carried out. Further study is therefore welcomed in order to verify the teachers' attitudes in the long run and in more classes and levels, in order to compare them in the future with the attitudes of the pupils involved in the experimentation with the tablet.

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