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DIFFUSION OF ICT RELATED PROBLEMS AMONG STUDENTS: THE TEACHERS' EXPERIENCE

La difusión de problemas relacionados con las TIC entre los estudiantes: la experiencia del cuerpo docente

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INTRODUCTION. The dissemination of ICT among youth is leading to the rise of new sets of problems in the classrooms in all levels of schools. More and more teachers are faced with new challenges related to the misuses of the powerful technologies that their students bring into the classroom. The present research studies the experiences that school teachers have with ICT-related problems among their pupils. **METHOD**. An anonymous questionnaire was created and submitted online to an Italian national sample of 1,034 primary, middle and secondary school teachers. The participation was anonymous and voluntary. **RESULTS**. Half of the respondents affirmed having witnessed some problems related to ICTs among students, ranging from cyber-bullying to excessive use to sexting or dangerous behaviours, such as real life meetings with unknown adults met previously online. In most cases the school was directly involved in the solution to the problems, while only a few situations required the intervention of the police. The interviewees strongly supported the idea that schools could and should play a critical role in the ICT education of students. **DISCUSSION**. This data strongly suggests that teachers of all levels of school, both from metropolitan and rural areas, are already handling a wide range of issues related to the dissemination of ICTs. The problems start early in primary school, but seem to boom in middle school. This leads to important conclusions, most of all that educational and prevention programs should start in the first years of school. The teaching staff, provided with the required and requested support and training, show a positive attitude towards the idea of taking on a more active role in the education of their students in safe and correct ICT use.

Keywords: *Teachers, Students, Primary education, Secondary education, Internet.*

Introduction

On an institutional level, the ICTs are being introduced in schools all over Europe, although the latest data suggest that relevant gaps are still to be found between regions or between primary and secondary schools among European countries (Wastiau et al., 2013). The *Survey of Schools: ICT in education* (European Union [EU], 2013) found that at the EU level on average, between 25% and 35% of students in grades 4 and 8, and around 50% of students in grade 11 are in highly equipped schools, provided with high-speed broadband (10 mbps or more) and high connectedness. However, in about half of the countries surveyed (Bulgaria, Croatia, Greece, Hungary, Italy, Slovakia, Slovenia, Poland, Romania and Turkey); less than 20% of students in grade 4 and less than 10% in grade 8 are in such schools, while the situation generally improves in grade 11, especially in Croatia and Slovenia (80%).

The latest survey (Istituto Nazionale di Statistica [ISTAT], 2014) on the Italian situation confirms the slow spread of ICT in the country, when compared with the European panorama. The percentage of Italian adults (between 16 and 73) who use the Internet is 53%, when the average in Europe for the same age span is 70%. Moreover, the data highlight a higher level of infrastructure development and a greater number of users in the northern regions, and a lower use in the southern regions (from 65% of users in the north to 44% in the south).

The use of ICT is growing especially in the younger part of the Italian population: The number of children who use a PC at an age as early as 3-5 years has grown from 17% to 23% between 2012 and 2013. The most prominent users of ICT and Internet are teens of 15-19 years of age (respectively over 88% and over 89%), while in the older portion of the population the share of users decreases in a way that is directly proportional to the increase of the age. In the age group that ranges from 35 to 45,

the PC and Internet are used by 72% and 73% of the population, and the values drop below 50% for those over 54 (ISTAT, 2013).

The development of a generational gap between the technological experiences of the young people and of the adults of reference (Pieri & Diamantini, 2010) entails a number of serious risks. Surely for the youngsters it means entering a new, difficult world without all the support and guidance that would be necessary, for which the adults are not in the position to provide (Helsper, 2008).

The body of research investigating the diffusion of Internet and ICT misuses is rapidly growing both at the international level (Cassidy, Faucher, & Jackson, 2013) and at the national one (Diamantini & Mura, 2013; Eurispes & Telefono Azzurro, 2013), and the researchers appear to have focused their attention on teenagers (Li, 2007; Patchin & Hinduja, 2013; Smith et al., 2008). Very little is known, however, of the experiences, knowledge and perceptions of those who are in the position to help children develop a healthy relationship with the ICTs. This kind of information would provide valuable support to all the professionals involved in the "training of the trainers" because it would make it easier to identify the critical issues that teachers have to face when helping their students reach an optimal "digital citizenship" (Hollandsworth, Dowdy, & Donovan, 2011).

To investigate the knowledge and attitudes of teachers towards the uses and misuses of ICTs among students Yilmaz (2010) analysed the knowledge of a sample of Turkish pre-service teachers in the conclusive phase of their training on issues such as cyberbullying and its prevention. The results showed that, while cyberbullying as an issue was something respondents were well aware of, the request for further training on the subject and the concern about people's ability to personally deal with the problem were very high. The sample recognized the very relevant role that school and

education can and should play in the prevention of the phenomenon of aggression and prevarication on the Internet.

This study is the replica of a previous survey (Li, 2008) that interviewed a sample of Canadians, but the results of the two investigations are very different. In the original study, even if the interviewed pre-service teachers expressed a certain level of concern about the cyberbullying issue and its impact on the life of their students, they did not share the idea that education in this field should be a school concern or responsibility.

A recent survey (Eden, Heiman, & Olenik-Shemesh, 2013) interviewed a sample of English teachers from different types of schools and professional foci on their perceptions, beliefs and concerns about cyberbullying. Teachers reported that cyberbullying is a problem in their schools, and suggested that urgent attention should be paid to three aspects: policy making, enhancing awareness of the school team and coping strategies for parents. A higher level of concern was expressed by the teachers of younger children.

These results exemplify how far we still are from a clear picture of what the attitude of teachers is on the impact of ICT on the students and their work.

A diffused opinion depicts educators as generally "resisting" the integration of ICTs in schools, but research so far has allowed to obtain a more complex picture of the situation. Surely the introduction of ICTs in the classroom brings along difficulties, but teachers' attitude is influenced by a number of variables. For instance, Bingimlas (2009) found that science teachers had a strong desire to integrate ICTs into education, but indicated the lack of confidence, competence and access to resources as main barriers. Similar results were obtained by Demetriadis et al. (2003) in their study, where teachers were described as very interested in learning how to use technology, but also required extensive training in order to consider themselves able to integrate it into their instructional practice. On the other hand, commenting on the results of the third Istituto IARD investigation in Italy, Farinelli (2010) observed that the teachers mainly use ICTs as a back-up for the preparation of their lessons, maintaining a role of filter between the students and the access to information. In the words of the author they seem to be "afraid of improper uses or other negative and out of control effects that would arise if students were allowed a direct and unfiltered access to the technologies"(p. 15). This last preoccupation could represent a real obstacle for the integration of ICTs in the didactics.

The present research intends to better understand this reality, exploring what educators are experiencing and what they think their role should be when ICTs are involved. The majority of data collected on samples of educators have so far focused on the didactic use of ICT, while the data on the misuses of the technologies are usually collected interviewing the students. We address the theme of ICT misuses as perceived by the educators and their point of view in order to help them deal with the changes that ICTs are bringing into schools. The results obtained will help to increase the understanding of the actual needs of the educators in terms of training and support on these issuses.

Objective of the research

The overall aim of the research was to draw a picture of the relationship between educators, students and new technologies in Italy school system today. The data are collected with the intent of creating a toolbox to be released and made freely available to all the professionals interested in the prevention of ICT related problems among young people.

The paper focuses on the perceptions that teachers have of ICT-related problems among

their students: What kind of issues are the teachers facing? How often do they recognize them, and what do they do when confronted with them? What do they think their role should be?

Therefore, along with a general interest on a description of:

- the perception of ICT use among the students;
- the opinions on the students' need for training in the use of ICT;
- the diffusion of ICT-related problems.

The analysis was guided by the following hypotheses:

- H1: Educators generally have a positive attitude towards the idea of having an active role in the education of their students when ICTs are concerned.
- H2: The level of school (primary, middle or secondary) where the teacher is employed impacts all of the ICT related variables (perception of ICT use among students; attitude towards the education of young people on the use of ICT; perception of the diffusion of problematic situations connected with ICT misuses among the students).
- H3: The geographical area of the school where the respondent is employed impacts all of the ICT related variables.

Method

Participants

The sample, composed of educators working in public schools, was stratified on the basis of regional location and level of school (primary, middle, secondary). All of the 20 regions of Italy are represented, for a total of 148 urban centres. The final number of teachers involved was 1,332, equal to the number of questionnaires collected. Of these, 1,034 were included

in the analysis, while all the questionnaire that did not provide data on the geographical location and the level of school of the respondent were discarded.

The respondents are 81.8% females and 18.2% males, from 23-79 years old, with a mean age of 50. These data are in line with the overall sex and age distribution of primary and secondary school teachers in Italy (Eurydice, 2012), as well as with the number of schools per region (data were retrieved from the website of the Ministry of Public Education).

The sample includes 37% primary school teachers, 37.8% middle school teachers and 25.2% secondary school teachers. The participants teach social sciences (38%), mathematics and science (26.5%), foreign languages (9.6%), technology related subjects (7.1%), art and music (4.1%), others (9.2%); 5.5% are assistant teachers.

Instrument

To collect the information an online questionnaire was created on the survey platform of the university, using the Lime survey application. The questions that contributed to the present analysis covered the following themes:

- the perception of the use of ICT among the students. Respondents had to evaluate the frequency with which, in their opinion, students engage in 8 different online activities (games; research for personal interests; research for school; SNS and IM; music and videos; pornography; websites unsuitable for their age), on a Likert scale going from 1= never to 4= always;
- the attitude towards the role that school should play in ICT education. Participants were asked to rate their agreement on a Likert scale ranging from 1= strongly disagree to 10= strongly agree with the statements: "Students should receive specific training on Internet use: Social

Networks, Instant Messaging, security and privacy"; "Children should surf the Internet under adult's guidance"; "Educating students on Internet use is the responsibility of the family and the" and "The school, in collaboration with the territory, should train teachers and educate students on the subject of cyberbullying";

- the typology and frequency of ICT related problems reported by the teachers. The participants were asked to rate on a Likert scale going from 1 to 4 (1 = never, 4 = over 10 times) the frequency of the following behaviours among their students: problematic Internet use, aggression on SNS; sexting; at risk meetings; identity theft; health damaging behaviours, personal data diffusion; vision of violent/pornographic content; plagiarism;
- more detailed report of specific episodes. Teachers could indicate, from a given list, the type of episode, who was involved; who managed it and how it ended. An open question allowed to add more information or personal thoughts;
- personal and school data.

Data was analysed using the SPSS package. The analysis included the distribution of frequency and non-parametric measures of correlation (Kendall's tau b and Cramer's V).

Design

The study uses a descriptive, cross-sectional design. The data were collected during the months of November and December 2013.

Procedure

The first contact was a telephone call with the school administration during which the aim of the research and the modality of participation were explained. Then an email including an explanation of the research aim and procedure, and the link to the questionnaire was sent to the email of the school. The school administrators informed the staff. In most cases, the teachers were able to access the questionnaire from the computers available at school. The online survey platform selected guaranteed anonymity and confidentiality of the information given.

Special care was put in the construction of a three-stage probabilistic sample, stratified in the first and second stage. The first stratification focused on the territorial division of Italy. For each region five cities have been identified: the region state capital, a provincial state capital, a medium-sized city (from 20,000 to 200,000 inhabitants) and two small cities (under 20,000 inhabitants). For each city a specific number of schools was identified: in the region state capital two secondary schools, two middle schools and two primary schools, in the provincial state capital one secondary school, one middle school and one primary school; in the cities of medium and small size one middle school and one primary school. We considered the spatial national distribution of schools in order to maintain the proportions within the sample. Special care was taken to include a large proportion of primary and middle school teachers. The collection of information from these levels of school was considered crucial for the study, because data on these populations are scarce (Ólafsson, Livingstone, & Haddon, 2013). The middle school group is over-represented when confronted with the Italian distribution: primary school 37.5%, middle school 26.3%, secondary school 36.0% (Ministero dell'Istruzione, dell'Università e della Ricerca [MIUR], 2013). However previous research (Mura, Bonsignore, & Diamantini, 2010) highlighted the relevance of this group of students for the phenomena investigated. Moreover, in order to plan the prevention programs, it is necessary to collect more information about when these problems first appear, and not only on when they most frequently occur.

The sample was selected from public schools only because in Italy the private institutions represent a small part, in quantitative terms, of all the Italian schools. They accommodate approximately 10% of the total school population but are mainly preschools (41%), and differ from public institutions on many relevant variables (class dimension, ICT availability, teacher training programs...) (MIUR, 2010).

Results

Perception of ICT Use among the Students

Almost all of the students are believed to use Internet for school research at least sometimes, and a little more often for research on personal interests. However, the most frequent activities that the teachers see are others: the use of SNS and IM, music and games (Table 1).

A correlation between level of school (primary, middle or secondary) and frequency of behaviour is found for almost all the listed variables, with the exception of school research, equally mentioned by all teachers. The correlations are all in the same direction, the higher the school level, the higher the frequency of use. The correlation is too weak to be considered relevant for gaming (Kendall's tau b = .068; p > .001); and for research for personal interests, (Kendall's tau b = .152; p > .001). Strong and moderate correlations are found for the use of SNS and IM (Kendall's tau b = .388; p > .001) and music and video (Kendall's tau b = .251; p > .001). A moderate correlation is found also for the viewing of websites unsuitable for the age (Kendall's tau b = .248; p > .001) and a very strong one for the use of online pornography (Kendall's tau b = .453; p > .001). The rate of missing data on these two items is very high, but none of the other variables considered in the study are able to explain who the non-respondents are.

The geographical area does not have an impact on these variables.

ICT and School: the Teachers' Perspective

When asked to rate their agreement (0 = completely disagree; 10 = completely agree) with a set of items evaluating their opinions on ICTs and young people, the respondents mostly supported the ideas that children should receive specific training on the use of Internet, SNS and IM, online safety and privacy (M = 8.8);

TABLE 1. Students' online activities ("In your opinion when children are online what do they do?")

	Frequency (%)				
	Never	Rarely	Often	Always	% of missing answers
Games	0.2	4.0	65.6	30.2	5.6%
Research for personal interests	1.7	36.0	54.4	7.9	10.3%
Research for school	2.9	51.7	41.3	4.2	5.1%
SNS and IM	4.8	7.8	36.7	50.8	10.4%
Music, videos	1.5	8.2	57.4	33.0	8.8%
Pornography	39.5	35.6	22.8	2.1	49.5%
Websites unsuitable for their age	13.2	37.9	45.0	3.9	39.8%

and should surf the Internet under adult's guidance (M = 7.9). On the contrary, the idea that educating the children on the use of ICT should be a responsibility of the families and not of the school is mostly disregarded (M = 4.7). In fact, 95% of the sample agree that schools, in collaboration with other institutions, should train both teachers and students on cyberbullying and related issues.

When checking for school level and location, the only relevant correlation is found between the need of adult supervision when surfing the Web and school level (Cramer's V = .315; p > .001), as the opinion is more strongly supported by the teachers of younger students.

ICT-Related Issues

More than 40% of the interviewed declare to have witnessed at least one case of problematic Internet use among their students (Table 2). Problematic Internet use was defined as "an excessive use of the Internet, which creates problems in the daily life of the student, significantly modifying his/her habits and usual behaviours, (for example interfering with study and night time sleep)".

The correlation with school level is once again significant but very weak (Kendall's tau c = .137; p < .001); with a slight prevalence of cases in high school, but an interesting number of cases

was also noted by primary and middle school teachers: at least one case is noted by 32% of primary school teachers, 43% of middle school teachers and 52% of secondary school teachers.

Other kinds of problematic situations were reported by 50.3% of the teachers. In these cases it is possible to see a strong correlation with the school level: (Kendall's tau b = -.360; p < .001), as 29.3% of primary school teachers, 74.7% of middle school teachers and 73.7% of secondary school teachers answer positively to the question. No difference is found from northern, central and southern Italy respondents.

The frequency of the behaviours listed in the questionnaire (Figure 1) is generally higher for the less dangerous ones, such as the aggression of SNS and the use of Internet to copy and plagiarize schoolwork, and decreases as the gravity grows, with the least frequent behaviours being the adoption of health damaging behaviours inspired by something seen on the Internet.

In a few cases the differences on the basis of the geographical area appear significant, but the correlations are too weak to be considered relevant (Table 3). The school level, however, correlates with some of the variables: aggression on SNS, identity theft and personal data diffusion appear to be significantly more frequent in middle and secondary school, and plagiarism in secondary school (table 4).

TABLE 2. Frequency of Internet excessive use in primary, middle and secondary school

	Did any of your students ever complain or exhibit problematic Internet use?			
	Never	1 time	2/3 times	4 or more times
Primary	229 (68.0%)	52 (16.9%)	42 (12.5%	9 (2.7%)
Middle	203 (56.2%)	54 (15.0%)	71 (19.7%)	33 (9.1%)
Secondary	118 (48.6%)	40 (16.5%)	57 (23.5%)	28 (11.5%)
Total	550 (58.4%)	151 (16%)	170 (18.1%)	70 (7.4%)

FIGURE 1. **Frequency of problematic behaviours ("In your institution have problematic situation ever been related to the use of new technologies? What type?")**
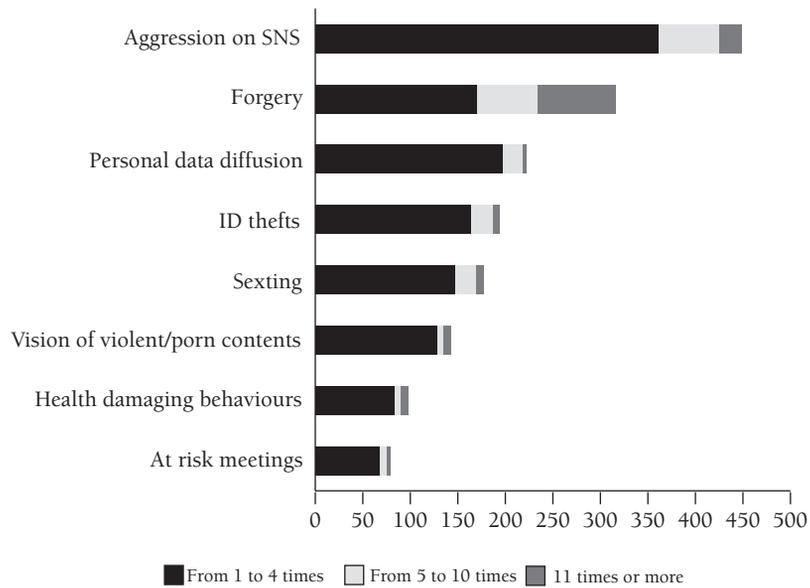
TABLE 3. **Correlation between reported problematic behaviours and level of school (primary, middle, secondary); school area (North, Centre, South Italy)**

	School level	Area
	Cramer's V	Cramer's V
Aggression on SNS	.308; p > .001	not sig.
Sexting	.185; p > .001	.132; p > .001
At risk meetings	not sig.	,128; p > ,01
Identity theft	.203; p > .001	not sig.
Health damaging behaviours	not sig.	.125; p > .01
Personal data diffusion	.222; p > .001	not sig.
Vision of violent/pornographic content	not sig.	not sig.
Plagiarism	.391; p > .001	not sig.

TABLE 4. Frequency of problematic behaviours in primary, middle and secondary school

		Never	1 to 4 times	5 to 10 times	More than 10 times	TOT
Aggression on SNS	Primary	68.4%	25.2%	4.9%	1.5%	100%
	Middle	25.3%	59.6%	12.5%	2.6%	100%
	Secondary	21.3%	65.0%	7.7%	6.0%	100%
Sexting	Primary	82.8%	15.3%	1.4%	0.5%	100%
	Middle	60.3%	34.7%	3.6%	1.4%	100%
	Secondary	80.1%	13.0%	5.5%	1.4%	100%
At risk meetings	Primary	92.9%	6.1%	0.5%	0.5%	100%
	Middle	83.5%	14.8%	1.3%	0.4%	100%
	Secondary	80.2%	15.7%	2.5%	1.7%	100%
Identity theft	Primary	85.8%	11.2%	1.5%	1.5%	100%
	Middle	58.8%	35.8%	4.7%	0.8%	100%
	Secondary	57.6%	34.8%	6.1%	1.5%	100%
Health damaging behaviours	Primary	89.0%	9.0%	0.5%	1.4%	100%
	Middle	81.6%	16.5%	1.1%	0.7%	100%
	Secondary	82.4%	13.7%	1.5%	2.3%	100%
Personal data diffusion	Primary	85.0%	13.0%	1.0%	1.0%	100%
	Middle	54.8%	40.4%	4.4%	0.4%	100%
	Secondary	52.6%	42.2%	4.4%	0.7%	100%
Vision of violent/porno content	Primary	75.4%	22.2%	1.0%	1.4%	100%
	Middle	72.3%	25.6%	1.2%	0.8%	100%
	Secondary	79.5%	16.2%	1.7%	2.6%	100%
Plagiarism	Primary	77.7%	15.3%	4.0%	3.0%	100%
	Middle	58.3%	25.5%	9.3%	6.9%	100%
	Secondary	11.7%	40.0%	16.7%	31.7%	100%

The Situations in Detail

A smaller percentage of teachers (11.9%) made a more accurate account of specific episodes witnessed in their schools. A total of 159 episodes are reported: 42.1% are illicit or aggressive behaviours on social networks, 14.5% plagiarism, 12.6% sexting, 10.1% identity theft, 8.2% publication of private, personal data, 5.7% meeting someone known online, 4.4% problems following the vision of violent or pornographic material, 2.4% adoption of health damaging behaviours based on information found on the Internet.

In the vast majority of the cases the persons involved in the episodes reported were students

(75.3%), but there are also cases of involvement of teachers (14.8%), of other, external adults (4.5%), of other, external children (3.1%) and of parents (2.2%).

The situations have been managed by: other teachers (23.0%), the class council/board of governors/headmaster (21.6%), the parents (20.1%), the respondent himself (19.7%), the persons involved (10.3%) and the police (3.6%). In 5 cases a psychologist was involved, in 1 case a social worker and in one case the administrator of a game website. Mostly, when involved personally in the dealing of the situation, the respondents felt up to the task (77.0%), and the largest part of the episodes are reported to have found a positive solution (78.1%),

while a small part ended negatively (15.1%) and some were still ongoing (6.9%).

Discussion and Conclusion

According to the interviewed, when they use the ICT's, students are mainly interested in hanging out (Ito, 2010), that is in the entertaining aspects of ICTs, with higher levels of use of SNS and music and video content among middle and secondary school students. The use of Internet for didactic purposes is not indicated as widely adopted, and some restraint seems to arise when the questionnaires investigate more touchy subjects, such as viewing of online pornography or unsuitable websites. Among those that chose to respond, the frequency of visiting unsuitable pages is considered higher than that of viewing porn, an activity considered more frequent especially by secondary school teachers (confront Wolak, Mitchell, & Finkelhor, 2007).

Educators seem generally convinced that the school could provide the much needed guide that the youngsters need in approaching the digital world. The results are also consistent with previous research (Graves, 2013) in indicating that in order to provide this kind of support the teachers strongly request the implementation of training and assisting initiatives from schools and administrations.

The research confirms that all over Italy teachers are already facing a variety of issues connected with the ICTs (Società Italiana di Pediatria [SIP], 2012). In many cases the school (either in the person of the respondent, other teachers or the school board) is reported as actively involved in dealing with these episodes. Although differences in the frequency and the type of episodes is found between primary, middle and secondary school, not only middle school students are already described as fully involved in digital issues, but primary school teachers are no longer completely extraneous to

them. Taking into account previous suggestions (Willard, 2007), it seems necessary to consider primary school as the place where training should begin, in order to tackle the problems before their diffusion.

In the only open question of the questionnaire the respondents: 1) provided details on an episode; 2) expressed personal opinions on the impact of ICTs on the students, 3) noted that, as teachers of primary school, they did not consider the questionnaire relevant for them, since "*at this stage the kids only use ICTs for academic purposes or to play games*" and "*these kinds of problems are not present at such an early stage*". The present study and the literature (Holloway, Green, & Livingstone, 2013) show otherwise, but the opinion expressed highlights the risk of a lack of awareness of the experiences of the younger students.

Overall the comments offered by the teachers support and expand the information provided by the previous analysis. To start with, the data highlights that the use of Internet and smartphones is widely diffused: "Technology is owned by everyone and is at everybody's reach". Therefore problematic situations arise in all contexts, starting with younger children:

"Especially little girls believe that posting sexy photos on Facebook is not only ok, but important to be "grown up" and popular", but sometimes involves even the parents, as part of the conflict: "Recently my colleagues and I received messages of insults from the young mother of a student", and clearly trespasses the virtual borders to invade daily life at school: "Online conflicts among students were followed by episodes of aggressions in the school" (confront Ybarra, Diener-West, & Leaf, 2007).

There is a lack of clear policies that teachers can refer to for what concerns the use of ICTs at school, and this may generate different sorts of issues, as pointed out by Hinduja and Patchin (2013). For example, there is the

problem of students plagiarizing or passing around test results, through the use of mobile technology. As one respondent points out, even when the teacher asks to be handed the students' mobile phones before a test, they often have some other device with them. Therefore new strategies need to be found (Howard & Davies, 2009).

Another aspect that will soon need to be addressed by school administrations is the regulation of online relationships between students and teachers (Foulger, Ewbank, Kay, Popp, & Carter, 2009), while at the moment it seems that the subject is left to the teacher's sensibility and attention: "An episode took place on my Facebook page, where, at the time, I accepted contacts from my students. [...] Since then I have avoided using my Facebook to communicate with the students".

Teachers' involvement on all the issues related with the use of ICTs varies (Graves, 2013). Sometimes he/she is not involved at all: "Most of the time we overhear these things; they are never openly reported to us". Sometimes the same students ask for help: "During the morning break the students informed me that some schoolmates had received insulting comments on the mobile phone...", other times it's the parents that ask for the teacher's help: "Parents allow their children to have profiles on social network sites and get involved and involve the teachers only when conflicts arise, either with their own children or other parents, and they are not able to settle them".

Various comments reinforce the concept that the children should not be left alone in front of technology and the Internet, but that they need an adult guide (Trolley & Hanel, 2010):"I strongly believe that support from experts working in the education system is fundamental"; "It is necessary to find in the school moments and spaces where the students can discuss and exchange opinions, so that they and their teachers will be able to face together

the complex phenomenon of an informed Internet use".

Therefore, training is seen as necessary and actually useful when implemented (as in Welker, 2010): "(The solution to the problem) was probably facilitated by the awareness stimulated during a project on Internet safety that our school promoted..." and should involve, of course, the students: "We, the teachers, can settle the problems arising from unseemly behaviours on social network sites simply by sensitizing the students.." but also the teachers, who sometimes are not seen as entirely able to deal with the situations they face, and the parents too: "Strong collaboration between school and families is required, for a correct use and constant update on the use of ICT".

Unfortunately, the responses that schools provide are not always optimal (Trolley, Hanel, & Shields, 2009), and among the problems mentioned by the teachers we found were late interventions: "The training is often late with respect to the technology development", adoption of less than optimal strategies of reaction: "The solution to the problem is limited to the punishing of the behaviour with some days of suspension. This creates a myth effect among the students", difficulties in the relationship with the families and, of course, lack of economic resources: "Not always the collaboration between schools and families was successful [...] The scarce economic resources prevent prompt interventions and the involvement of the needed experts".

In conclusion, the results of the present study help clarifying the image that educators have of their students' use of ICT, effectively contributing to lessening an existing gap in the research (Ólafsson et al., 2013). Left on their own, students are seen as widely connected, but not able to fully profit from the opportunities provided by ICTs and Internet (Purcell et al., 2012) and likely to underuse them or fall into wrong patterns of use.

In accordance with our first hypothesis and previously cited studies (Eden et al., 2013; Yilmaz, 2010), the educators show a positive attitude towards the idea of having an active role in the education of their students when ICTs are concerned.

Our second hypothesis was only partially confirmed: The school level of the respondents have a correlation with the kind of online behaviours adopted by their students, the opinion that children need adult supervision when surfing the web and the report of problematic behaviours. These results support previous research (Eden et al., 2013). Small or no correlations, however, were found with their opinion on the student's need for specific training on Internet use and the role that school should play in it and the reports of excessive Internet use.

Our third hypothesis was not confirmed, as no relevant differences were found between the North, Centre and South.

The results support recommendations to promote the training of educators and students of all school levels and geographical areas on the risks and good practice of ICTs.

The study is subject to the limitations connected with the adoption of a volunteer sample and an online data collection, but to reduce their impact teachers were offered the possibility to do this on the school premises, during their work hours, as well as telephonic support for the compilation of the questionnaire.

The estimation of the real number of ICT related problems occurring among Italian students is only the perception that the educators have of them. Further research should confront these data with data obtained by the students, to verify similarities and discrepancies in the reports. Another aspect that should be analysed is the existence of similarities or differences between the experiences of private school educators.

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Resumen

La difusión de problemas relacionados con las TIC entre los estudiantes: la experiencia del cuerpo docente

INTRODUCCIÓN. La difusión de las TIC entre la juventud conlleva la aparición de nuevas tipologías de problemas en las clases de todos los niveles de escuelas. Cada vez más los profesores tienen que enfrentarse a nuevos retos relacionados con el mal uso de las tecnologías que sus estudiantes llevan al aula. Esta investigación analiza las experiencias que los docentes han tenido con problemas relacionados a las TIC. **MÉTODO**. Se redactó y se suministró on-line un cuestionario anónimo a una muestra de 1.034 profesoras y profesores de escuelas primarias y segundarias. La participación fue anónima y voluntaria. **RESULTADOS**. La mitad de los encuestados afirma haber sido testigo de algún problema relacionado con las TICs entre los estudiantes: desde el ciberacoso a un uso excesivo, desde *sexting* a conductas peligrosas, como encuentros en persona con adultos conocidos por la red. En la mayoría de los casos la escuela estaba directamente involucrada en la solución de los problemas, solo en raras ocasiones fue necesaria la intervención de la policía. Los entrevistados apoyaban fuertemente la idea de que la escuela puede y debe desarrollar un papel crucial en la educación al uso de las TIC entre sus estudiantes. **DISCUSIÓN**. Estos datos sugieren claramente que los docentes de todos los niveles, tanto del entorno urbano como del rural, están ya afrontando una amplia gama de problemas relacionados con la difusión de las TIC en las aulas. Los problemas empiezan en la escuela primaria, y parecen estallar en la ESO. Las importantes conclusiones de estos datos son que los programas educativos y de prevención deberían empezar en los inicios de las etapas escolares. La enseñanza, con la necesaria y solicitada formación y apoyo, demuestra una actitud positiva para asumir un papel activo en la formación sobre un uso correcto y seguro de las TIC.

Palabras clave: *Profesores, Estudiantes, Educación primaria, Educación Secundaria, Internet.*

Résumé

La diffusion des problèmes liés aux TIC parmi les étudiants: l'expérience des enseignants

INTRODUCTION. La diffusion des TIC parmi les jeunes conduit à l'apparition de nouveaux types de problèmes à tous les niveaux scolaires. De plus en plus, les enseignants doivent faire face à de nouveaux défis liés à la mauvaise utilisation des technologies que les éléves portent à l'école. Cette recherche analyse les problématiques liées aux TIC vécues par les enseignants. **MÉTHODE**. Un questionnaire a été créé et soumis en ligne à un comprenant 1034 enseignants de primaire et de secondaire. L'y participation s'est effectuée d'une manière volontaire et anonyme. **RÉSULTATS**. La moitié des interrogées a été témoin d'un certain nombre de problèmes liés aux TIC parmi les élèves, ayant de la cyber intimidation à une utilisation excessive, en passant par le "sexting" et autres comportements dangereux, tels que les rendez-vous avec des adultes inconnus et récemment rencontrés en ligne. Dans la plupart des ces cas, l'école a été directement impliquée dans la résolution des problèmes, et seulement des rares situations requis l'intervention de la police. Les interrogées ont fortement appuyé l'idée que l'école peut mais aussi doit jouer un rôle essentiel dans lasensibilisation des étudiants aux dangers qui entrainnet les TIC. **DISCUSSION**. Ces données suggèrent que les enseignants à tous les niveaux scolaires, soit à l'environnement urbain soit à l'environnement rural, ils traitent un large éventail de questions liées à la diffusion des TIC. Les problèmes commencent

en effet au début du cycle de primaire, mais ils semblent prospérer pendant les premières années de l'éducation secondaire obligatoire. Cela conduit à d'importantes conclusions, notamment en ce qui concerne les programmes d'éducation et de prévention qui devraient commencer dès les premières années de la scolarité. L'école est en demande de soutien et d'appui, à la fois que se montre favorable à l'idée de jouer un rôle plus actif dans l'éducation des élèves concernant une utilisation plus correcte et plus secure des TIC.

Mots-clés: *Enseignants, Étudiants, Enseignement primaire, Enseignement secondaire, Internet.*

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