

Chapter XXVIII

**INFORMATION AND DIGITAL COMPETENCIES OF
TEACHERS IN THE FUNCTION OF PREVENTING
ONLINE VIOLENCE**

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Abstract: Aggressive violent behavior today, especially peer and online violence, is a common phenomenon in educational institutions. Based on a review of the most relevant literature and research, information and digital literacy, phenomenon and occurrence of online violence as a specific form and type of violence are presented in this paper. The fundamental goal of this research was to provide outcomes on how to raise awareness and levels of knowledge and competencies of educators and children on how virtual reality can affect them and to which extent they can engage in the digital world, provided it is safe and without consequences. For this purpose, in educational institutions in Kosovo and Metohija research has been conducted in order to identify the impact of teachers' information and digital literacy in the function of preventing online violence. The results of this study will elaborate the following: information and digital literacy of teachers as well as the teachers' insight into the activities of students; teachers' control and the identification of the causes of online violence; and ultimately, to provide answers on how students can be protected from online violence.

Keywords: *the Internet, violence, teachers, students.*

Information and Digital Literacy

Information (digital, computer) literacy today is a prerequisite for employment, for retaining a job, and a requirement of continuous training and

learning. At present, technology has reached such applicability in our lives that every aspect of human life and functioning relies on it. High-speed Internet allows faster access to “online” contents, animated graphics or videos, and thus more online time spent at home (Denić 2016). Famous researchers, Jolls and Thoman (2008), by comparing the former century skills with skills needed for the systematic development of people and society in the 21st century, highlight a set of similar skills including skills needed for lifelong learning, skills for developing abilities through problem solving consisting of task approach, analysis, assessment and problem solving; critical thinking skills and systematic analysis of multimedia information; skills for management of various modern multimedia devices, the use of technologies for communication with people around the world for joint problem solving and knowledge dissemination; project team work; demonstration of knowledge and skills using different multimedia tools and technologies and the use of current modern technologies, with the possibility of independent study and development of new skills required for active, correct and efficient handling of new technologies. This would improve performance, that is, productivity of companies’ operations or save time and money related to personal development of every person. According to the same authors (Jolls, Thoman 2008), all this generates the need for the development of different types of literacy or tools by which such information could be checked relatively quickly. Accordingly, awareness of the existence of needs for use of personal knowledge, experience, critical and analytical thinking for development of our personality and personal competencies for independent life, both at school and later in life at work, is developed. As Jolls and Thomas argue, the effective use of information in society and the need for lifelong learning and personal development is increasingly gaining in importance. Bawden (2008) claims that there is no single literacy, which would be appropriate for all people or for one person over all their lifetime without constantly updating concepts and competences in accordance with the changing circumstances of the information environment. According to some authors, the modern era has brought modern techniques, which in overall size were defined by Gordon Moore in 1960s. He stated that the power of computers would double approximately every 18 to 24 months. This definition more than a half a century ago follows and describes in detail computers and sophisticated information technologies.

Modern society has become tied to technology in all spheres of human life (Denić 2017). Today, for example, it is almost impossible for a doctor to perform any surgery without using a digital device. In addition, it is almost impossible that any industrial machine can operate without some information system or modern information-communication technology managed by computer. In such context, the necessity of information education of the population is emphasized. As pointed out by some authors, it is very important to start the education and information literacy of society in time (Nunally 1978). It is

particularly important to carry out the continuous information education of teachers (Denić 2008). However, although the mandatory professional education of teacher was introduced ten years ago, the results of research imply that the same has not yet been sufficiently and effectively achieved in the educational system of the Republic of Serbia (Denić 2009).

The teaching process based on information-communication technologies is more comprehensive, more interesting and of higher quality than the traditional model of the teaching process. This type of teaching process includes the active and practical participation of students, thus enabling them to attain the necessary teacher's attention. According to well-known researchers (Davis et al. 1989; Chau 1996), the quality of the design and development directly affects the quality of the teaching process and is one of the most important factors for the quality content of the teaching process. We are often witnesses that students of primary, secondary schools and grammar schools which have appropriate equipment, through high quality and content-based information and communication systems, achieve great success at republic and international competitions and knowledge Olympics. Comparatively speaking, the difference in the educational level is imperceptible (Babbie 1998).

It is important to define what is meant by an information literate person, that is, it is necessary to determine the fundamental information knowledge and skills that an "information literate" person should have. According to Filipović (2017), this includes:

- Knowledge of the computer configuration and fundamentals of the use of operational systems;
- Use of text processing programs;
- Use of spreadsheet programs;
- Use of programs for creating presentations with the computer's assistance;
- Knowledge of programming fundamentals;
- Knowledge of the Internet and its services, especially communication using electronic mail and web;
- Web search using search engines and thematic catalogues;
- Content editing using HTML presentations (Filipović 2017).

Regarding digital literacy, it is important to note that the concept of digital literacy to certain extent overlaps with the concept of information literacy, but information literacy is a much wider concept that, apart from information in electronic form, includes all information available in different forms (Demunter 2006).

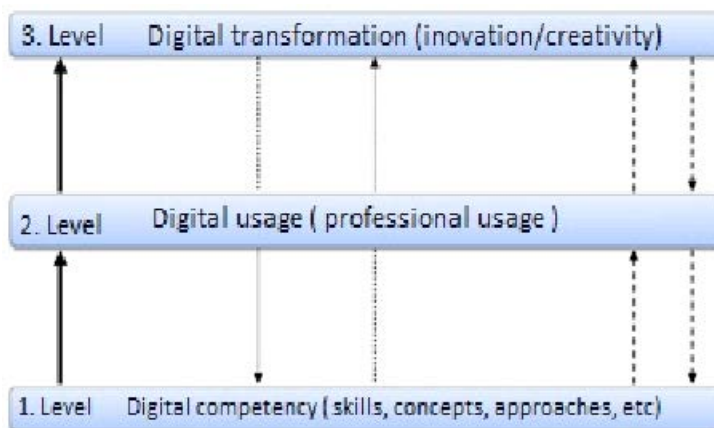


Figure 1: Levels of digital literacy

In this regard, one of the first definitions and concepts of digital literacy was given by Gilster (1997), as cited in Koltay (2001). He described it as an ability to understand and use information from the different digital sources regardless of the different “lists of competencies” that a person should have in order to be digitally literate, which has been often criticized due to limitations. A couple of years later a similar opinion, was expressed by Martin (2006), also cited in Koltay (2011). He saw digital literacy as “the awareness, attitude and ability of individuals to appropriately use digital tools and facilities to identify, access, manage, integrate, evaluate, analyze and synthesize digital resources, construct new knowledge, create media expressions, and communicate with others, in the context of specific life situations, in order to enable constructive social action; and to reflect upon this process”. There is a common opinion in practice that student-centered teaching is the best teaching practice. Student-centered teaching includes a teaching process where student and teacher, as subjects of the teaching process, are active equally or the student is more active than the teacher (Matijević, Radovanović 2011). Authors like Demunter (2006) argue that digital literacy includes background and critical use of ICT at work, in free time and in communication, and the use of new information and communication tools. There are several more definitions of digital literacy present in the literature. Thus Rosen (2014), as stated in Frank and Castek (2017), claims that digital literacy creates future citizens of the new society who will be able not only to actively use digital tools, but will also be able to solve problems in this area; problems like electronic business, search, and to apply for jobs on the Internet in order to make progress in everyday life, etc.

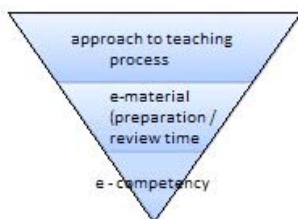


Figure 2: Hierarchical scale of internal factors

Information literacy is defined as the ability to use computers and computer programs (Denić 2010). Specifically, O’Sullivan (2002) states that it is possible to identify the concepts of information literacy in the context of knowledge management, that is, more precisely, in the context of time management related to the identification of needs for the information, determination of its scope, estimation of time required for problem solving. This also implies the time saving through faster decision-making and management of information that indicates the efficient approach to information, classification and storage, data-mining and data analysis.

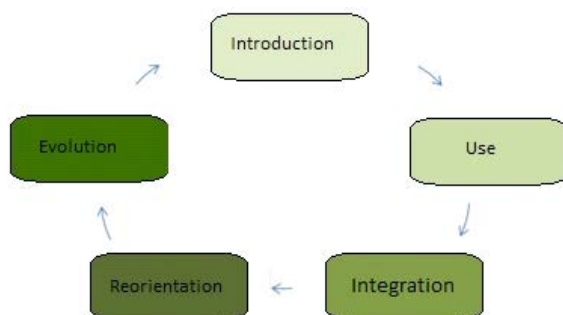


Figure 3: Developmental phases of teachers' e-competencies

Teaching theories can be organized into four categories based on two main parameters: a teacher-centered approach versus a student-centered approach, and the high-tech material use versus low-tech material use.

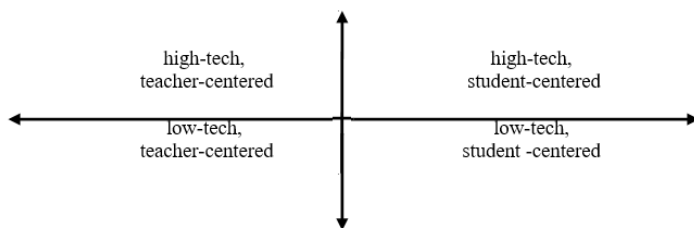


Figure 4: Four categories of teaching theories

Resource: <https://teach.com/what/teachers-know/teaching-methods/>

Thoman and Jolls (2003) define media literacy as “the framework for approach, analysis, estimation and creation of messages in different forms – from the newspapers, videos to the Internet”. By developing teaching styles and integrating them into more efficient management skills, the teachers will learn what is the most suitable for their curriculum (Gill 2013).

Theoretical considerations of violence

Violence and abuse involves any form of once committed, or repeated verbal or non-verbal behavior that results in a real or potential threat to the health, development and dignity of child’s, student’s, and employee’s personality. The research in the domain of peer violence in educational institutions had been conducted earlier; however, a more intense interest in a studious research of this topic was begun about thirty years ago (Denić 2010). The first records date back to the 1990s. The first researcher to become more seriously involved in this matter was Dan Olweus (1995). With the development of society, a new phenomenon known as online violence emerged as a result of the development of new information and communication technology and the Internet (Denić 2011). Violence and abuse can be committed by: an employee against a child, student or other employee; a parent or caretaker; or any other person who is taking care of the child and student; a child or a student against other child or student or employee; parent against his/her own child, or student, and employee. Literature offers various definitions of violence. Kurk and Haller (2001), based on their research, argue that the violence is not a product of society. Others like Fromm (2013), however, give their own concept of violence and confirm that the animals are more aggressive if their lives are in danger, but are not as destructive as man can be.

Violence in society according to Olweus (1995) is caused by aggressive behavior, and can occur due to lack of love, too much independence in childhood, educational methods, and the character of a child. When defining school violence, Ortega-Ruiz and Nunez (2012) in their research indicated that, the school is the environment where interpersonal relationships develop, different from the family environment, and hence has become one of the main institutions for the psycho-educational research. Sullivan (2011) defines peer violence as conscious, deliberate act of aggression or manipulation and/or marginalization of one or more persons by another person or a group of people. Olweus (1995) argues that the peer violence refers to a situation when the student is exposed to aggressive behavior of his/her companions or a group of students for a long period of time.

The definition of the online violence

The occurrence of modern information and communication technology and the Internet has produced new forms of aggressive and inappropriate behavior (Denić 2010). Electronic violence and abuse is the misuse of information technologies that can result in harm to another person and violation of his/her dignity and it is committed by sending electronic mails, SMS, MMS, via website, chatting, joining forums, social networks, etc. Some researchers believe that the Internet, by nature, promotes cyber persecution, reflects the false sense of closeness, and opens up possibilities for misunderstandings regarding the intentions of participants in communication (Finn 2004: 470).

One of the definitions of online violence is that it is a phenomenon emerged as a detriment in the use of mobile phones, computers and other electronic devices. It is the aggressive act of a group or individual to the detriment of a person, who cannot defend himself/herself (Stefgen, Konik 2011). Authors Siegle (2010), Willard (2007), Pšunder (2012) define online violence as cruelty to others, sending or publishing harmful material, including aggression via the Internet or other digital technologies. Ortega-Ruiz and Nunez (2012) emphasize that we should not talk about online violence but about aggression, because this phenomenon occurs as a result of poor interpersonal relationships and abuse.

Types and forms of online violence

Of all types of violence, the one most represented is violence on the Internet. The age of the victim has an important role. Namely, the older the victim, is the sooner he/she will notice the offence and will respond to it faster, thus reducing the chance of becoming a victim of violence (Pšunder 2011). It is well known that online violence can occur in different forms. Authors Siegle (2010), Willard (2007), Pšunder (2012) classify online violence into the eight categories:

1. Brief violent exchange of opinions or insults on the Internet;
2. Harassment, maltreatment (constant sending of malicious and offensive messages) using applications for sending messages;
3. Disrespect of others on the Internet, sending or publishing rumors about a person, jeopardizing a person's reputation or causing damage to others;
4. Taking over the identity of another person, sending or publishing material on his/her behalf, and thus putting that person in danger or damaging his/her reputation. The result of such acts can be exclusion of a victim from society or friends (Pšunder 2012);
5. Publishing of personal data of others (publishing of inappropriate photos, videos or status);

6. Fraud (deceiving people to reveal secrets and personal data that can be used against them) (Pšunder 2012);
7. Exclusion (purposely and constant exclusion from the online group; obvious ignorance, conflict messages, etc., and thus having a negative influence on the person who meets his/her peers on the Internet) (Pšunder 2012);
8. Threats over the Internet (persistent and constant harassment, sending threats to a person and instilling fear).

The specifics of online violence

Online violence has distinctive characteristics compared to traditional violence (Gimenez, Hunter, Durkin, Arnaiz 2004):

1. Anonymity of the attacker;
2. Accessibility;
3. Duration,
4. The responses of the victim are invisible;

Violence framework includes different roles. One of the roles is that of a bully or persecutor. In online violence, the bully does not have to be physically strong; all that he/she needs to possess is an available mobile phone or computer (Simmons, Bynum 2014). In practice, it has been confirmed that victims or bullies often can use online violence as the means for achieving justice or revenge. According to some authors, the need for fitting in is one of the most common reasons of committing online violence (Salus 2012). Given the distribution and the use of the Internet, every person today can be a victim, every child and especially curious children who seem frightened, distant, physically weak, etc. (Van Acker, Gable, 2011; Olweus 2012).

The next role in the process of violence is the role of the observers, whose role is also important. In the literature, there are generally two types of the observers:

- Those who support the bully and motivate him/her, and on the other hand do not defend and protect the victim.
- The second group of the observers is the one who tries to help and protect the victim, to oppose the bully, support the victim and inform adults about it (Willard 2007).

Relevant research show that the victims of violence face different problems. Those may be pulling out from school activities, absence from school, poor physical form and failure in school, bad nutrition, the use of illegal substances, low self-esteem, anxiety, headaches, nausea, depression that may end with suicide or other forms of self-destructive behavior (Notar, Padgett, Roden 2013). In this sense, it is very important that parents have good communication

with their children so that the children could have them first to turn to if they become victims of violence (Donegan 2012). Due to the current economic crisis and constant struggle for survival, parents are forced to work extra hours in order to provide their children with decent living conditions and education. Unfortunately, this leads to the situation where parents spend less time with their children and talk to them less. Parents often try to compensate for the lack of such closeness by buying expensive gifts. However, even though parents believe that mobile devices serve the children's safety, the children can misuse them later in many ways.

It is true that schools cannot assist in online violence if the same occurred outside the school premises, but the school, as an institution, can take certain preventive measures and try to raise awareness among children about the negative impact of violence (Notar, Padgett, Roden 2013).

Simons and Bynum (2014) suggest some concrete activates in this regard:

1. School services can organize training for students and parents;
2. School services can form a group for the development and implementation of programs against online violence with the goal of increasing safety and protecting students;
3. The management of the school can cooperate with local police, and police officers could conduct a lecture or a training for parents and students;
4. School services should create an atmosphere where children would be unrestricted and free and feel confident enough to report online violence.
5. In the case of school authorities noticing the online violence, they are obliged to collect all necessary material evidence, so the case could be legally processed.

Educational institutions in line with rulebooks have special teams for protection against the violence, abuse and negligence. Protection team tasks are to:

1. prepare protection programs
2. activities and the possibility of seeking support and assistance from the protection team;
3. participate in trainings and projects for the development of competencies required for the prevention of violence, abuse, and negligence;
4. propose measures for prevention and protection, organize consultations, and participate in risk assessment and decision making on procedures in the case of suspicion or occurrence of violence, abuse, and negligence;
5. involve parents in the preventive and intervention measures and activities;
6. monitor and assess the effects of measures taken for the protection of children, students and make appropriate proposals to a director;
7. cooperate with experts from other competent authorities, organizations,

services and media to ensure full protection of children and students from the violence, abuse and negligence;

8. keep and maintain records;

9. report to expert and managerial bodies.

The results of studious reviews of representative literature show that it is of great importance that professional services in school organize an online strategy on violence prevention, to educate students and parents how to protect themselves. It is also necessary to organize as many educational programs as possible in educational institutions aimed towards teachers who are dealing with the prevention of online violence. These programs would assist them to better understand and react in the cases of online violence. The results of multiannual implementation of a professional development program created by the author of this paper, on behalf of the Institute for the Improvement of Education of the Republic of Serbia, show that educators/teachers have recognized the importance of this negative phenomena, and despite the enormous problems they encounter in their everyday work, they want to improve their competencies in the field of safe use of the Internet. Eminent authors also confirm that education about online violence should be a part of social skills education, because the understanding of online conversations is very important (Willard 2007). In this sense, Olweus (2012) states that it is necessary to introduce parents, students, and teachers to online safety, ICT, operation of technical devices and different forms of online behavior.

Results of teachers' survey

Recognizing the aforementioned theoretic considerations, the authors have designed and accredited the following programs for the professional development of teachers, which have been implemented in educational institutions in the Republic of Serbia: "The safety of children when using the Internet" – Institute for the improvement of education (IFIE), Republic of Serbia, 2008; "Information and communication technologies and the Internet in the function of the safety of children" – IFIE of the Republic of Serbia, 2009; "The role of teachers in protecting children on the Internet" – Republic of Serbia, 2010; and "Managing the protection and safety of children on the Internet and when using ICT", 2001, Belgrade. Based on the evaluation of the results and obvious needs to confirm the necessity of teachers' education, appropriate research was conducted. The survey covered 200 teachers, divided into equal groups: fifty educators, one hundred elementary school teachers (fifty teacher who teach from first to fourth grade and fifty teachers who teach from fifth to eight grade), and fifty teachers employed in secondary schools. Groups are gender-balanced (Denić 2008). The questionnaire was composed of 11 questions.

The survey was conducted in the Institution for preschool education in Lip-ljan; in elementary schools “Kralj Milutin” in Gračanica, „Knez Lazar“ in Donja Gušterica, “Miladin Mitić” in Laplje selo. The Secondary Medical School in Gračanica, Economics-trading secondary school, and Grammar school in Laplje selo were also included in the survey. These institutions were selected based on the representative research sample since the largest number of students from the territory of Central Kosovo attend these schools (Denić 2009).

Data collection and processing techniques

The questionnaires used in the research were specially designed for the purpose of this study. Respondents answered anonymously. Data processing included techniques of descriptive statistics, applied to questionnaire designed for the needs of this study (Denić 2010). Since no standardized tests were performed, it was not possible to apply univariate analysis. All significant results are shown on the charts obtained from descriptive analysis, for better transparency, while other data is presented in the tables.

Table I. 1: Level of education

Secondary school	College	Specialist / Master
0.5%	90%	9.5%

The majority of respondents had higher education level (90%); Specialist or Master diploma 9.5% of respondents, while only 0.5% of the respondents had completed only secondary school (two elementary school teachers teaching from first to fourth grade)

Table I. 2: Working experience

Up to 5 years	5-10	10-20	More than 20
5%	45%	38%	12%

When it comes to working experience, the majority of respondents had between 5 and 10 (45%) or 10 and 20 (38%) years of working experience. Only 5% of respondents had less than 5 years of working experience.

Table I. 3: The use of computers

Rarely and unwillingly	Only for the work requirements	Willingly and often
30%	25%	45%

Data from the table is predictable, given the fact that the majority of respondents had longer work experience. This leads to the assumption that they are more unwilling to accept innovations in the teaching process and the use of modern computer technologies, and that they are not hostile towards the use of ICT, the Internet and the application of computers in the teaching process (Denić 2011).

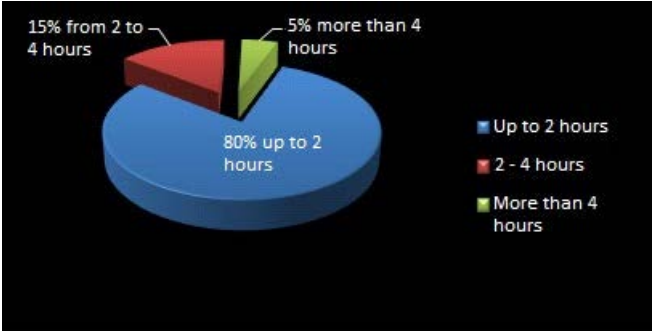


Figure I. 1: Time that teachers spend on the Internet during their free time

When it comes to teachers, 80% of them spend up to two hours on the Internet, 15% from 2 to 4 hours, and only 5% more than 4 hours.

Table I. 4: The use of the Internet in the free time

YES	NO
55%	45%

It is worth mentioning, that 55% of respondents in total use the Internet in their free time, only 110 respondents of the total sample.

Table I. 5: Account on a social network

YES	NO	Has multiple accounts
69%	21%	10%

Quite a large number of respondents have an account at least on one social network, while 10% have multiple accounts. Given that the large proportion of respondents have an account on social networks, it is necessary to explain the ways in which perpetrators can harass and persecute victims on the Internet. Namely, perpetrators can set up a site that can jeopardize the victim or can encourage others to contact, harass and otherwise hurt the victim. These sites

may provide real-time group chat (chat rooms), video or audio interactions, usually organized around specific topics related to politics, religion, entertainment or other. These sites can be public, available to all users or private, with limited access. Perpetrators may send a victim messages with disturbing content visible only to the users of the site or may reveal victim’s personal information to other participants, and thereby encourage others to harass others on the Internet, phone or similar (D’Ovidio, Doyle 2003: 16; Denić 2016).

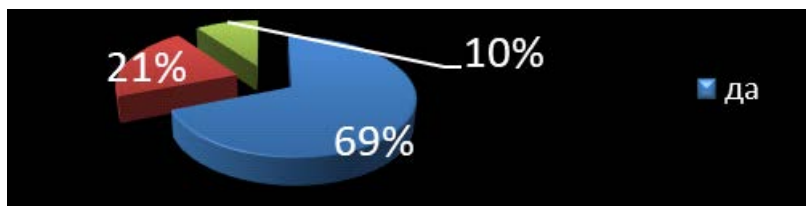


Figure I. 2: An account on some social network (teachers)

Research has shown that 69% of teachers have at least one account, while 10% have multiple accounts. Only those teachers who access the Internet in their free time (110, or 55% of the total sample) answered this question.

Table I. 6: Time spent on the Internet per day

Up to 2 hours	2–4 hours	More than 4 hours
80%	15%	5%

The majority of respondents spend up to two hours on the Internet during the day, while the number of those who spend 2 to 4 hours (15%), that is, more than 4 hours (5%) is considerably lower.

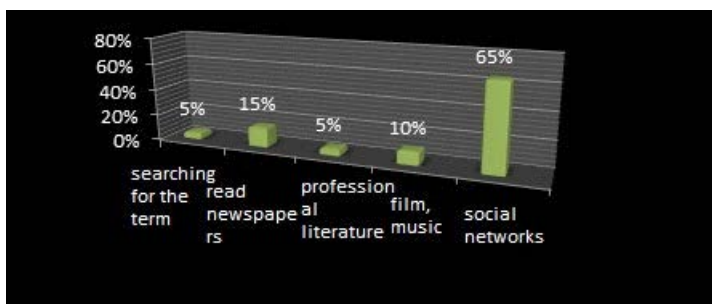


Figure I. 3: Reasons to use the Internet during the free time (teachers)

When it comes to the teachers, most of them use the Internet in their

free time (65%) for social networking. A negligible number read professional literature (5%), while 15% read newspapers and 10% watch movies or listen to music. The fact that the majority of respondents use the Internet in their free time for social networking is rather worrying. It is more than necessary to provide them with appropriate education on online violence, because they can also be unwillingly involved in such actions. Namely, having spent such amount of time on social networks, the perpetrators may steal their identity, act on their behalf and misuse their profile, and thus jeopardize them and other users of the Internet.

Table I.7: Attending computer training

Yes	No, and I don't want to	I didn't, but I would like to
53%	4%	43%

Most of the teachers have attended some computer training (53%). It is worth pointing out that 43% of respondents who never attended any training are willing to attend some of computer training. This shows that the organization of additional training and education in the field of computer literacy for teachers is more than necessary.

Table I.8: Additional information literacy trainings are needed

Yes	No
96%	4%

The given data is in accordance with data obtained on the previous item: 96% of respondents think that they need additional training in the field of information literacy, which indicates that at least the awareness of the need for education exists. However, there is a possibility that respondents replied in the desirable manner.

Table I.9: Informatics should be one of the obligatory subjects in elementary and secondary schools

Yes	No
96%	4%

What is encouraging is the information that even 96% of respondents believe that it is necessary to introduce Informatics as an obligatory subject/course, but there is a possibility that this is also a socially desirable answer.

Table I. 10: Uses modern IC technologies in the teaching process

Only for practical presentation	Occasionally	Often
45%	45%	10%

Only 10% of the respondents regularly use ICT in the teaching process, while others use it occasionally or just for practical presentation.

Conclusion

Information and digital competencies are becoming very important for teachers and others. Fundamental digital competencies, in the long term, are generated in the education system, and the level of digital competencies of the students depends, inter alia, on the level of digital competencies of the teachers. Therefore, teachers are expected to have the appropriate level of information, digital, and media literacy, and to be familiar with modern concepts, methods and tools that presuppose the meaningful use of ICT in the field they teach. Information and digital competency generally includes a set of knowledge, skills, attitudes, abilities and strategies needed for the appropriate use of information and communication technology and digital media, with the aim of thoughtful, flexible and safe improvement of the teaching process and learning and other activities related to the teaching profession in online and offline environments.

If we observe already-conducted research on peer violence, we can notice that the development of peer violence with an emphasis on online violence became more seriously investigated in 1995 with the research study by Olweus (1995). This study shows that every seventh student was a victim of online violence, meaning that over 15% of students reported experienced peer violence. A research conducted by Dekle et al. (1996), shows that 62% of students did not encounter peer violence, 20% occasionally, and 5% weekly. Theoretical considerations and conducted research of the author of this paper confirm the hypothesis that the low level of information literacy of teachers also has a negative impact on the activities of students using the Internet.

The research results of this paper conducted on the representative sample indicate that teachers access the Internet in their free time much less than their students. Approximately 5% access the Internet to read professional literature or to search terms, while as many as 65% prefer to use social networks. On the other hand, only a small percentage of them use ICT in the teaching process (only 10%), but many advocate the need for additional education in this area (96%). Many think that Informatics should be taught in elementary and secondary schools as an obligatory subject (96%). Of course, it is necessary to conduct additional research in this area in order to raise awareness of children and adults, especially teachers, and to influence their behavior.

However, specific conditions in which the participants of this research live imply that these issues, that is, addressing of such processes, require the engagement of institutions that have caused such existential situation of a population. Unfortunately, in the territory of Kosovo and Metohija, except for the authors of this paper who for more than 20 years have organized programs of professional education of teachers in the area of computer application in the teaching process and protection from online violence, there are no other forms of education in this area aimed to teachers. This type of education involves teachers as the holders of the education of children and parents as well. Programs of professional education include lectures, workshops, and professional discussions regarding the application of computers in the teaching process and the safe use of the Internet and are conducted from Dragaš and Štrpce in the south to Lešak in the north of Kosovo and Metohija.

Although there are certain positive and concrete results of this engagement, which definitely additionally motivate us to persist in this pioneering work in this territory, we are still well aware of the situation, facts and environment, and the fact that *una hirundo non facit ver!*

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