

Pre-Service ICT Teachers' Recommendations for School Internet Safety

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Abstract

Students should use the internet responsibly. Teachers, and school IT specialists have roles in keeping students safe. This study aims to determine the readiness levels of preservice ICT teachers about online treats. A unique realistic problem was provided to pre-service ICT teachers; and asked for solution strategies. Preservice ICT teachers' solution strategies and suggested activities were analyzed using content analysis method. Eight categories, which were education, technical solutions, guidance, parents, problem definitions, obstacles, activities, and cooperation emerged from the analysis. Results showed that most of the pre-service teachers were not as ready as desired. Although they knew the importance of education and training for internet safety and security they couldn't emphasize the importance of integrating internet safety education into the curriculum. Also they did not seem to be eager to take responsibility about students' internet safety.

Keywords: internet safety, pre-service ICT teachers, readiness levels of preservice ICT teachers

Introduction

The appropriate and safe use of internet requires safe keeping of personal information and not sharing them in public media. However, most people are not aware of this problem. A study conducted as a part of the EU Kids Online project revealed that 42% of the children and teenagers in Turkey have public profiles on social media open to everyone and only third of the children and teenagers share their profile with their friends (Karakus, Çagiltay, Kasikci, Kursun, & Ogan, 2014). According to researchers people who share private information on internet risk of privacy violations or coercive or hostile interactions more than people who do not (Elisabeth, S., & Livingstone, S. 2016; Staksrud, Ólafsson, & Livingstone, 2013). Experts suggested that students should not share their passwords, photos, personal information and identification information on social media and control their privacy settings often. According to Staksrud et al. (2013) children who use social networking sites (SNS) are more likely to have received sexual messages, seen sexual images on websites, encountered negative user generated content, been bullied on the

internet and met people offline that they had only met online before. And these are not the only dangers children can experience online.

Some of the dangers of sharing personal information on the internet are: internet fraud, threat, harassment, financial loss, physical, social, and psychological injuries. The report by the International Telecommunication Union (2013), listed the major dangers experienced by the children online as, pornography, violence, online gaming addiction, cyber fraud, cyberbullying, and racism. Children can be exposed to illegal content, or legal but age inappropriate content. They can be contacted by sexual predators, or participate to harmful online communities such as sites which encourage anorexia, self-harm or suicide. They can engage in risky sexual interactions such as sexting or place information about themselves in the public domain, or post pictures or videos or text which might compromise their personal safety or jeopardize a number of career options for them in the future. Children can be exposed to bullying and to find themselves in an environment that allow or promote bullying others. Children can access or acquire age inappropriate goods and services. Children and young people can be target to scams, identity theft, fraud and similar threats which are economic in nature or are rooted in inadequate data protection or privacy laws. With some children and young people, forms of obsessive behavior or excessive use can be a big problem. Internet addiction, game addiction and similar problems can occur.

Children's exposure to these dangers can turn into personal and social problems. Fear, sadness, hate, disappointment, shame, worry, turning to violence, self-mutilation, sleep and eating disorders, failing at school and social relations, problematic behavior towards family members and friends are some of these problems.

Students should use the internet responsibly, they should only share safe content, and request help from an adult they trust when they experience any issue. Also, parents, teachers, school administrators have roles such as, informing student safe use of internet, taking precautions towards ill-treatment students can experience online, and intervening with proper methods when students experience a problem. However students engage in dangerous online activities such as trusting strangers and chatting with them online, and disseminating personal information online from early age (Kavuk, Keser, & Teker, 2011).

Also, children and teenagers are using internet more and more. According Turkish Adolescent Profile Report (2014), computers, tablets and smart phones are being used by children and teenagers between the ages of 12 and 15 at an overwhelming rate. 65 % of Turkish adolescents have computers at their homes and 48 % have mobile phones and half of these are smart phones. 82 % of the homes with computers have also internet access. Socioeconomic (SES) status and computer and smart phone ownership correlate positively. At high SES computer ownership rate increases to 96 %. 47 % of these adolescents with access to internet do it without any restrictions. Half (48 %) of the adolescents with internet access have online friends that they communicate regularly. 29 % of the adolescents moved their friendships to face to face settings after meeting them online. Adolescents use the social networking sites at an awe-inspiring rate of 76.5 %. Access to internet and smartphones without any oversight and guidance can put children at risk. Similarly access to and use of internet via mobile devices by children and teenagers are increasing and will likely be an issue in the future all over the world (Stald, Green, Barbovski, Haddon, Mascheroni, Ságvári, Tsaliki, 2014).

Previous studies show that, both teachers and students see teachers capable of recognizing, taking precautions and intervening to internet related safety dangers (Kavuk, 2016). Teachers see themselves and students see their teachers capable of recognizing, preventing and intervening cyberbullying related cases. Although teachers see themselves capable they rarely intervene to online problems their students face. Experts suggested that teachers were afraid of overstepping the legal boundaries (Kavuk, 2016).

Teachers, administrators, parents, school IT specialists and students together create an action plan to prevent and intervene online threats students can experience. Information and Computer Technology (ICT) Teachers are the specialist in Turkish schools. ICT teachers would be expected to fulfill this role in addition to regular teachers' role. There were not any studies about ICT teachers' readiness towards fulfilling this role as a whole. There were studies on identifying preservice teachers' perceived awareness of and preparedness for cyberbullying cases (Li, 2008; Ryan & Kariuki, 2011; Yilmaz, 2010). In Canada, Li found that preservice educators did not feel qualified (prepared) in the identification or management of cyberbullying. Similarly Ryan and Kariuki (2011) found that half of the preservice teachers see themselves as not ready to handle cyberbullying cases. Yilmaz (2010) conducted the same study in Turkey and found slightly higher perception levels however still half of the students were not confident about their perceived abilities to handle cyberbullying cases. Since cyberbullying is not the only problem preservice teachers should be able to handle diverse sets of online threats and cyberbullying research clearly shows there needs to be more direct approach to measure preservice teachers readiness levels. This study aims to determine the readiness levels of preservice ICT teachers towards determining, preventing, and intervening online treats towards students.

Methodology

This case study was conducted with 38 preservice ICT teachers who were senior students at a public University in Turkey. Students' age ranged between 21 and 28. Qualitative data was collected to assess their readiness levels. A unique realistic problem was provided to ICT preservice teachers:

Students at the local public middle school registered to a fishy Illuminati-themed web site using their personal information. The students started to think that they were being followed by this so-called Illuminati organization and were in danger because of the rumors they started themselves and these turned into urban legends at the school. The situation became widespread among the students who registered to the website and started to cause behavioral and psychological problems. How would you solve this problem if you were the ICT teachers at this school?

Participants were asked for solution strategies and activities to assess whether they have necessary skills to cope with these kinds of problems in real life. The problem was a mass hysteria-like problem in a middle school setting about a real web site masquerading as an official historical organization named Illuminati; and they wrote down their solutions for this problem. Content analysis method was used to analyze this qualitative data.

Findings

Eight categories were proposed based on the solutions participants offered. These categories were education, technical solutions, guidance, parents, problem definitions, obstacles, activities, and cooperation. Strategies including training and information for students were categorized into education category. Strategies such as technical access control and blocking were categorized into technical solutions category. Strategies including use of guidance services and psychological support systems were categorized as guidance. Training and education of parents were categorized as parents. Suggestions about the nature of the problem were categorized under the definition of the problem label. Suggestions regarding unavoidable nature of the problem and real life challenges were categorized under obstacles. Strategies trying to take advantage of indirect social, sportive and cultural activities categorized under activities label. Strategies that suggested cooperation between stakeholder such as parents, teachers, and administrators were categorized under cooperation label.

For education category some of the participants' suggestions were:

"Educate students about the faultiness of disseminating the wrong information and conduct awareness activities about information online".

"Digital literacy training should be given."

"Seminars related to the subject can be given."

"Courses by experts should be provided."

"Banners and posters can be used."

"Conference for the parents."

These suggestions and activities were all educational or informative activities. For technical solutions category some of the participants' suggestions were:

"Access restriction."

"Ban the sites."

"ICT ban."

"Internet filter (restriction) in school."

"Internet access should be restricted both at school and at home."

All of these suggestions were basically same and involved blocking access to the problem site. For guidance category some of the participants' suggestions were:

"Individuals directed to the guidance center"

"Student monitoring"

"Guidance services should be used."

"Developmental needs to be addressed."

"Using group guidance services."

Guidance category suggestions mainly about utilizing the school guidance counselor services. For parents category some of the participants' suggestions were:

"Parents must supervise their children"

"Parents should be informed about the problem."

Parent category suggestions were about involvement. For problem definitions category some of the participants' suggestions were:

"Illuminati site is a fraud site"

"First the situation should be analyzed."

"Students internet activities should be observed."

"A scientific study should be conducted about the problem."

"To understand the problem data should be collected."

Problem definitions category comments were about determining and describing the problem to initiate further activities. For obstacles category some of the participants' suggestions were:

"Simple ban or blocking would not solve the problem."

"The students are in a critical age and the consequence can be severe."

"Students tend to trust the information on the internet."

"The teacher should be informed about the problem."

"There is not a simple solution"

Obstacles category comments were about complexities and difficulties of the problem. For activities category some of the participants' suggestions were:

"Students should be directed to extracurricular activities."

"Extracurricular activities should be conducted."

Activities category comments were about students partaking in extracurricular activities. For cooperation category some of the participants' suggestions were:

"Parents should be informed."

"Teachers should work with school administrators and parents."

"Students should be monitored not only at schools but also at home."

Cooperation category suggestions were about stakeholders working together to solve the problem.

Results and Recommendations

Results showed that most of the pre-service teachers were not as ready as desired. Although they knew the importance of education and training for internet safety and security they couldn't emphasize the importance of integrating internet safety education into the curriculum. Their suggestions were mostly superficial suggesting about referring subjects to counselor or providing educational activities. Since the unique problem was mass hysteria type of problem, students could come up with more complex solutions. Although some of them were aware that simply banning the website wouldn't solve the problem, their concern was more about students would still be able to access to the web site by other means. This problem might require teachers actually talking to students and understanding their concerns and provide support to them with all the stakeholders. Although few students suggested cooperation the debt of the answers were not at the level we need at our schools. Also, as information technology teachers, they should have felt responsible more; and not refer everything to counselors and administrators. There is definitely a room for academic improvement.

There is a need for addition of internet safety related courses to teacher education curriculum and students should be provided real life cases to prepare them for school practice.

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