AN INFORMATION SYSTEM IN SCHOOL FOR A RISK MANAGEMENT OF THE INTERNET: PREVENTING CYBERBULLING WITHOUT PROHIBITIONS

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ABSTRACT

The aim of this study is preventing cyber-bullying with the risk management system. This paper examines the importance of the guardians role in preventing cyber bullying and considers how the schools can support guardians and students. School organizes Information System to support students and guardians. School supports them, without the means of class, to gain extensive knowledge on an information society from the view point of Web Science [1].

1 INTRODUCTION

There is no solid solution or countermeasure to stop and prevent cyber-bullying. There are two reasons why school can not stop cyber-bullying. The first reason is that technology is changing rapidly and knowledge does not last long. The second reason is that High School students do not like any kind of moral education. We have been practicing Information Education in interdisciplinary approach since 2002 [2]. We have used two methods. One is using leaflets which mainly deal with case studies of computer science and social science. The other is organizing Information System of school to support students and guardians.

In 2006, Tim Berners-Lee and Wendy Hall, Nigel Shadbolt, Daniel J. Weitzner have advocated Web Science and founded Web Science Research Initiative (WSRI). Web Science focuses on understanding, designing, and applications that make up the World Wide Web (WSRI) [3]. The method of this paper and Web Science method have similar aims. This paper shows that Web Science method is useful not only for High School education but also for guardian's education.

2 BACKGROUND

On January 31, 2009, Ministry of Education, Culture, Sports, Science and Technology (MEXT) notified all Prefectural Boards of Education in Japan that mobile phones are now banned in principle in Elementary and Junior High Schools, and no use of mobile phones allowed in High Schools [4]. High school students most often use a Profile home page service, which is a free home page service for an individual person on the mobile phone internet (Figure 1).

Fig. 1: Profile homepage
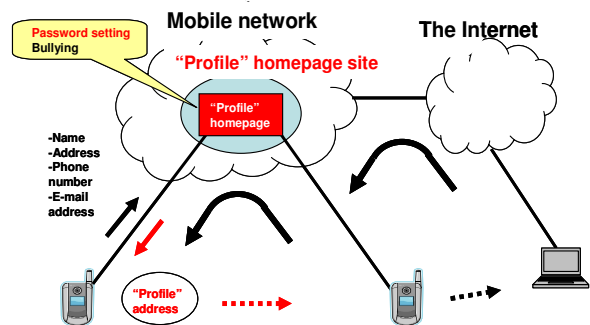
Bullying using "Profile" homepage password

Profile home pages are a breeding ground for cyber-bullying now. They often use a social networking service (SNS) too. "MOBAGE Town" is a free game site on the mobile phone internet. 50 percent of Junior High and High School students use it (April 2008). It has the same function as a dating site. Most of Junior High and High School bullying are related to profile home pages and SNS. They provide the students with opportunities for contact with harmful information and adults with inappropriate intentions.

3. PROBLEMS OF MOBILE PHONES

3.1 The crux of the problems with mobile phones

The most remarkable characteristics of mobile phones are their mobility and high performance. Children can use mobile phones privately and are able to accomplish many extraordinary things without adults knowing.

The biggest reason that cyber-bullying and illegal acts are continuing is the misunderstanding that the net is anonymous. Students do not understand what strong weapons mobile phones and the Internet are. They can not realize how many people read their messages and pictures.

Once the message has been sent on the mobile phone internet and the Internet, it is hard to delete them because of the constitution, "secret of communication", "freedom of expression", "freedom of speech" and the provider law. Even though the sender is detected and the original information or data defaming others is deleted, a defaming message, or illegal personal information or pictures, which seriously invade people's human rights, have been already copied repeatedly through the bulletin board system and peer-to-peer file exchanging software. Actually it is impossible to delete them all.

3.2 The limits of school guidance

It is essential for guardians to instruct their children in use of mobile phones and the Internet to prevent cyber-bullying. Schools do not even have the authority to ask providers and administrators of the sites to delete the illegal defamations on the net, because of the laws and regulations (Figure 2).

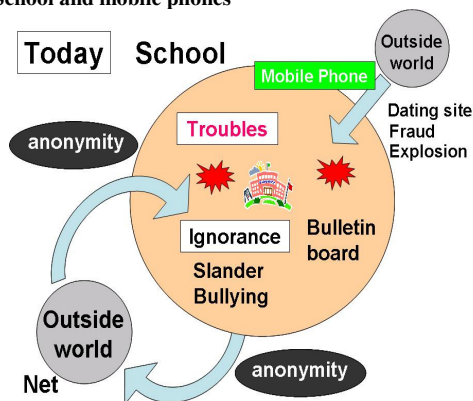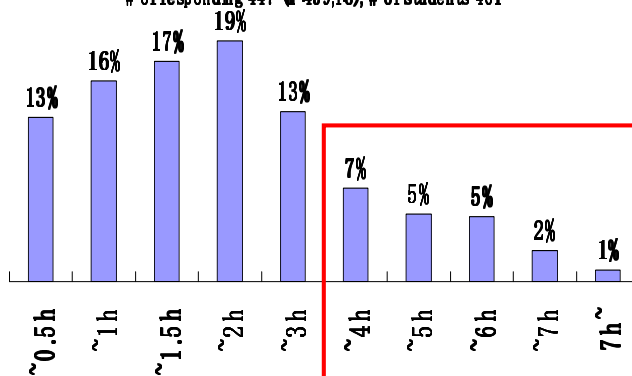**Fig. 2: School and mobile phones**

Fig. 3 :

Students:How many hours do you use your mobile phone?
Questionnaire:Shinonoseki Technical High School, June 2008
# of responding 447 (m:439,f:8), # of students 461

3.3 The biggest reason guardians can not instruct

Guardians have the lack of knowledge on technology and Information Society. It is the biggest reason that they can not instruct on the safe use of mobile phones. Guardians do not understand the increased importance of mobile phones in a student's life. They can hardly keep up with teenagers' use of mobile phone. 20 percent of students use mobile phones for more than 3 hours a day (Figure 3).

Guardians do not understand how students use the mobile phones and the Internet. Only 47 percent of guardians know the actual use by students [5].

A fixed sum system of paying for mobile phones makes it difficult for guardians to know the exact use by students. They are confused about the student's way of thinking about mobile phones and the anxiety over the threat of troubles caused by it.

Guardians should have responsibility of minors' use of mobile phones and the Internet. School have to make their position clear, inside and out-side of school, that guardians should make themselves responsible for the use of mobile phones and the Internet by students.

4. PURPOSE OF THE STUDY

School help students to learn information morality through case studies and understand how our information society will be changing.

Students learn how information technology influences people, their daily life, the market and the law. They learn to recognize the information society as a system composed of many social factors. Then they will be able to adapt themselves to deal with unknown situations more effectively in the future.

School help students to understand the intention of the information sender on the Internet by asking them why these cases or events have happened. We can prevent students from getting involved in troubles as a victim or a perpetrator, resulting from a lack of knowledge of the Internet and information technology.

School help students and parents to obtain the ability to adapt themselves to the information society, which is rapidly changing. School help students to obtain the ability and aptitude to make judgments using their own initiative without being confused by transient incidents or social trends.

4.1 Merits of a Web Science approach in school: Moving from a ban to understanding information society

Students neglect school instructions to keep safe on the Net. They do not like any kind of moral education and never listen to serious instructions of principles. A merit of a Web Science approach is that it does not depend on compulsion of morality or prohibition. Learning the events or cases, students understand why they happened, or think how technology related to them. Then they come to recognize

the changes of society as a process of social development, they gain an insight into information society, and adapt themselves to the changes of a society.

An insight into a technological society is useful to decide their courses in the future. It helps students to choose an occupation that they will not loose in 10 or 20 years hence.

5. TARGET AND DEVELOPMENT OF A WEB SCIENCE METHOD

The followings are the aims of this method.
(1) To put an emphasis on timely instruction. (2) To reduce the frequency of moral education. (3) To keep a way to always provide information to guardians. (4) To utilize and maximize the instructions of guardians. (5) Guidance to be short. (6) To require no prior knowledge on Web Science. (7) To be used repeatedly. (8) To be a Web Science approach.

6. METHOD

6.1 Information System

School provides Information System for complete prevention and understanding of information society (Fi-gure 4). Information and warning of the Net are given to students and guardians with leaflets at every opportunity, morning homeroom class, classes, long homeroom class, school meetings, PTA committee, PTA general meetings.

Emergency staff prevents repeated surffering and secondary victims. Emergency staff solves cyber crime at the early stage, keeping victim's privacy.
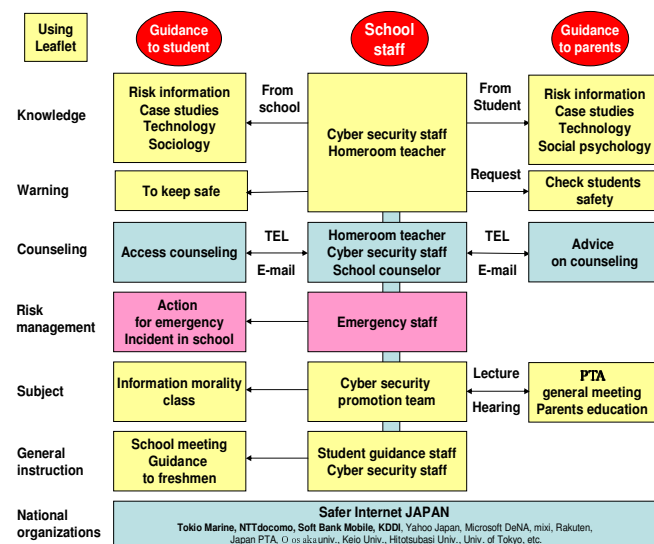

Fig. 4 Information System

6.2 Guidance with leaflets in morning home room class

We have published and produced a regular series of leaflets, " The SEKIKO Good Net News for Family "[6].

Every homeroom teacher hands out leaflets to students during their morning homeroom sessions, and comments on a story just for one minute. Sometimes, the teacher will caution the students not to bully with mobile phones or the Internet. After students read each leaflet, they hand it over to their parents. We help parents to understand new technologies and what students are doing at school or in their daily lives. Every year, we edit all of the distributed leaflets for that year and write an Annual Textbook of Information-related Education.

6.3 Guidance given to new freshmen and guardians prior to starting school

The Annual Textbook will be given to all new freshmen and their parents of next year when they attend a briefing. They are promoted to understand the danger of the Net with the Textbook and to talk about that before entering High School. Freshmen have less knowledge on mobile phones and the Internet. They are a high-risk group, who can easily become involved in trouble. This intensive instruction targets the high-risk group.

6.4 An immediate and intensive instruction

An immediate and intensive program of guidance is given to freshmen in their first three months. Freshmen are taught a program about characteristics and dangers of the Net again and again. The program prevents freshmen becoming either a victim or perpetrator.

6.5 Contents of leaflet

At least one quiz is made to present a problem, and let students think why the event happened and what the point of the problem is. We have issued 220 leaflets science 2002. Contents cover the following;
(1) Events in school (2) Risk information (3) About cyber-bullying (4) Request of guardians' instruction (5) Explanation on information technology (6) Impact given to industry by information technology (7) Information-oriented society (8) The future built by technology

7. RESULTS AND CONCLUSION

The methods using leaflets are very effective. School has practiced these methods for three years, and could get rid of all trouble caused by mobile phones and the Internet in school. Leaflets are so flexible that the school can use it for any purpose, in combination with various methods. This practice proved that these combinations have been very effective. We can make a leaflet quickly, take it anywhere and teach immediately. The merits of flexibility, which class lessons do not have, have extended the target from students to guardians, and increased the chances of timely intervention.

All results show that there is no difference between the basic concept of prevention against cyber-bullying and that of traditional bullying. The different point is that significant knowledge of the power of technology is necessary to prevent cyber-bullying.

7.1 Effect of timely publishing

As soon as a serious event or a dangerous case takes place, school stopped students having to face the same risks as these cases **(Pic. 1)**. Repeated warning to the freshmen year and reduced exposure of personal information on the Net, which is often sent with mobile phone cameras from school.


Pic. 1: A lecture to students   **Pic. 2: A lecture to parents**

With a leaflet school give information to guardians at anytime (Pic. 2). As soon as a profile homepage caused a suicide, school informed both guardians and students details of an event, and gave instruction and guidance to check the students' use of mobile phones is safe (Figure 5).

Fig. 5

Rate of guardian who guideedd children according to warning of school
Questionnaire:
Shimonoseki Technical High School, Dec. 2008
# of responding 367, # of guardians 434

69%   60%   49%

the 1st grade   the 2nd grade   the 3rdst grade
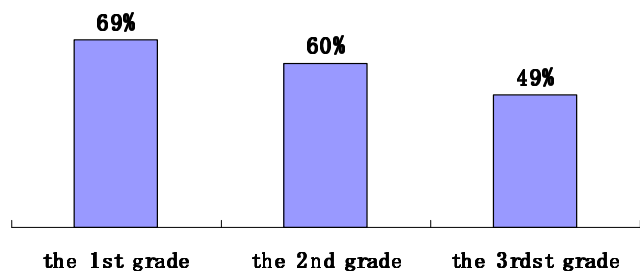
7.2 Campaign for communication with guardians

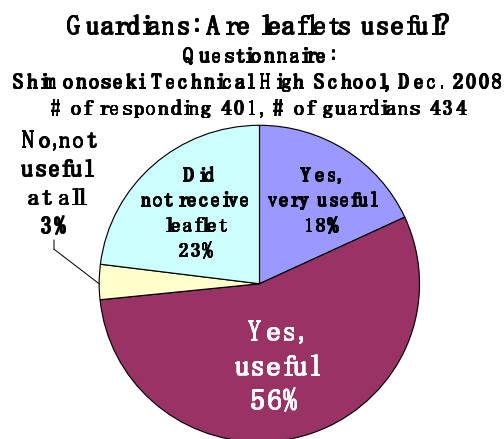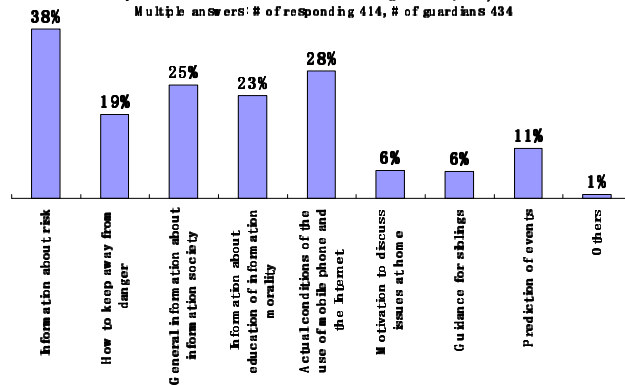73 percent of guardians think that school guidance with leaflets is useful (Figure 6, Figure 7)**.**

Fig. 6:

Guardians: Are leaflets useful?
Questionnaire:
Shimonoseki Technical High School, Dec. 2008
# of responding 401, # of guardians 434

No,not useful at all 3%
Did not receive leaflet 23%
Yes, very useful 18%
Yes, useful 56%

Fig. 7:

Guardians: What content of leaflets is useful?
Questionnaire: Shimonoseki Technical High School, Dec, 2008
Multiple answers: # of responding 414, # of guardians 434

38%   19%   25%   23%   28%   6%   6%   11%   1%

Information about risk
How to keep away from danger
General information about information society
Information about education of information morality
Actual conditions of the use of mobile phone and the Internet
Motivation to discuss issues at home
Guidance for siblings
Prediction of events
Others

As a result, leaflets give an opportunity to talk about the use of mobile phones and the Internet at home. In response to the schools request for safety checks, more guardians discussed safety and use of mobile phones with students.

7.3 Monitoring the effect of our guidance

According to the survey, 41 percent of students don't keep to the school regulations about using their mobile phone in school [7]. Also, only 45 percent of parents agreed to students using mobile phones at school [8]. Therefore, mobile phones remain banned at school.

8. ISSUES AND SOLUTIONS

Actually, there is the possibility that cyber-bullying goes underground, continues secretly and is becoming more serious. School keeps sufficient communication with guardians. School has established a system that guardians inform the school if they suspect any symptoms of cyber-bullying at home. 25 percent of students do not read the

leaflet [9]. We take a countermeasure that the homeroom teacher urges students to read leaflet and give short comment.

A leaflet can not substitute a class. It is important that essential instruction should be done in a class and a whole school meeting too, especially a whole school meeting has been very effective. A whole school meeting can make students understand the matter is a serious problem.

25 percent of guardians do not receive the leaflet at all. Students do not pass them on to parents [10]. Students don't want to pass the warning information to ban the use of mobile phones and the Internet. We take a countermeasure that school send a leaflet to guardians through their e-mail.

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