State of the Art on Serious Gaming & Internet Safety Skills

T.R.I. Technologos Research and Innovation Services ltd

Contents

1. Introduction

[*2-3 paragraphs - a) introduction to the topic, b) importance of the topic, c) summary of the report*]

The internet has been identified as a (potentially) very valuable avenue for comprehensive, interactive and youth-friendly education (Simon L, 2013), with online sites offering a wide range of innovative, youth-friendly ways to engage young people in education. For example, young people worldwide are using the internet to access information on sexual and reproductive health and rights (Simon L, 2013). New social media platforms have emerged that facilitate online digital interactions with young people, which fill a much-needed gap.

This report performs desk research on all the disciplines related to influencing attitudes to internet safety skills. These disciplines are: Serious Games and Digital solutions for internet safety.

Concerning digital solutions, a brief analysis of serious games is presented, with several examples from the literaturę. The advantages of serious games compared to the traditional school system are outlined, as well as studies that argue that the interactivity and confidentiality of video games can prove to be very effective when using them for the purpose of education. In addition, the term "edutainment" and its overarching effects in today's world of the Internet are investigated, as forums, YouTube channels, and TV shows have become safe havens that offer education information in an inclusive and entertaining manner, especially for adolescents.

Finally, in order to give children the digital skills and tools they need to fully and safely benefit from being online, T.R.I. Technologos Research and Innovation Services, conducted a research on topics in order to gather all the potential dangers that someone, can encounter while browsing for topics of interest.

2. Application of serious games to enhance Internet Safety Skills

[1-2 pages - empirical studies that have been conducted in your country or existing resources, projects or platforms related to Internet Safety Skills]

Nowadays, unlike a few decades ago, games come in many different forms (single-player/multiplayer, story-based/no story, score/no score, short/long/very long, challenging the body/mind/both) and platforms (personal computer, console, tablet, mobile phone) (McGonigal, 2011). And yet, even with all these varieties, when we're playing a game, we just know it's a game. Therefore, what are the defining traits of a game? McGonigal (McGonigal, 2011) suggested four defining features of games; a goal/purpose - the specific outcome that players will work to achieve, rules/limitations and feedback system - how close am I in achieving the goal, and voluntary participation - users of the game knowingly and willingly accept the goal, the rules, and the feedback.

Figure 1 The defining traits of a game

A serious game (sometimes termed e-learning or game-based learning) is a game developed for a primary purpose other than pure entertainment (Djaouti, 2011). Although the words serious and game sound contradictory, the first refers to its educational purpose and not to its content. This kind of game is used by industries like defence, education (Barber N, 2015), scientific exploration (Koepnick B, 2019), engineering, health care (Andrade K, 2014), management, city planning and politics. In contrast with regular computer games, serious games do not only have a story, graphics, and clever software; they also introduce the concept of pedagogy through entertainment (making

learning fun); they are training and teaching vehicles. Hence, they could provide significant benefit for Internet safety skills education in teenagers.

In particular, Stapleton (Stapleton, 2004) argued that education through games is more efficient and pleasant than classroom teaching for many reasons. Firstly, it is predominantly the player who directs activity in games, while primarily the teacher who leads activity in school. This is why serious games suggest a learner-centred approach to learning, in which learners are involved in the learning process (learning through doing), in contrast with traditional education which suggests a teacher-centred approach where learners are relatively passive. Children and teenagers often find it difficult to properly engage with school exercises (Korteling, 2013) in which the challenge level is not very well adjusted to their skills. In one class there are many students with different skills and it is challenging for the teacher to manage to engage all students in the class equally. On the other hand, video games engage players naturally, by adjusting the difficulty level gradually as the player progresses in the game (Dondlinger, 2007). Game developers know well that players of varying abilities need to feel a sense of reward for a successful game, often enough to retain engagement.

Additionally, students are sometimes discouraged by the school system as they get penalized for their mistakes (i.e. they get bad grades). However, players in games are expected to make some wrong decisions and consequently encouraged to try again. They then modify their strategy to do better, re-evaluate the information they have and act more methodically without being discouraged (ideally - unless the game is poorly designed). Another important characteristic of educational games is the constant real-time feedback to the user. Gamers know almost instantly how well a particular move or strategy worked towards the goal of the game. It can take the form of points, lives, levels, score, rank or progress bar. Real-time feedback ensures that the users are motivated throughout the game by promising that the goal is achievable.

Another advantage of serious games as a means of learning is that they allow users to train for decision-making situations where the wrong choice may be inherently dangerous or involve some risk, such as in a grooming scenario, that might be life-threating for the victim.

3. Training approaches

T.R.I. Technologos Research and Innovation Services, designed a questionnaire, which was used by IX Liceum Ogolnoksztalcace im. Kazimierza Jagiellonczyka w Toruniu students, to find out about their gaming interests, in order to use this knowledge to develop an enticing game concept and game environment.

The data collection for the survey took place between the 7th of December and 20th of December 2021 Forty (40) participants between the ages of 14-18 years old completed the questionnaire. All of the participants gave informed consent to take part in the study. We used a systematic approach to conduct a rapid review of the effects of video-game based interventions on students.
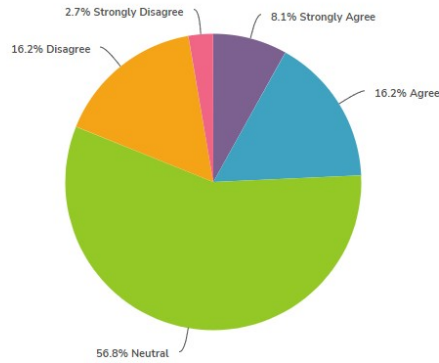
4. Do you play video games?

25.0% No

75.0% Yes
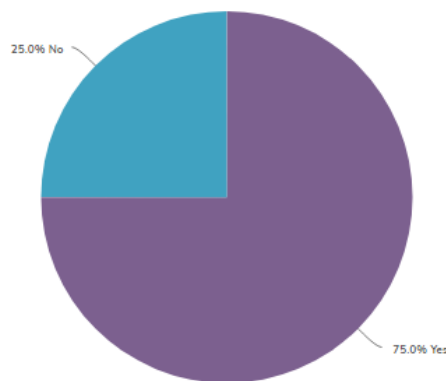
Value		Percent	Responses
Yes		75.0%	30
No		25.0%	10
			Totals: 40

Figure 2

17. I would be interested in trying out a serious game on internet safety.

Value		Percent	Responses
Strongly Agree		8.1%	3
Agree		16.2%	6
Neutral		56.8%	21
Disagree		16.2%	6
Strongly Disagree		2.7%	1
			Totals: 37

Figure 3

19. Please select any specific requirements/preferences you would have from a serious game on internet safety.
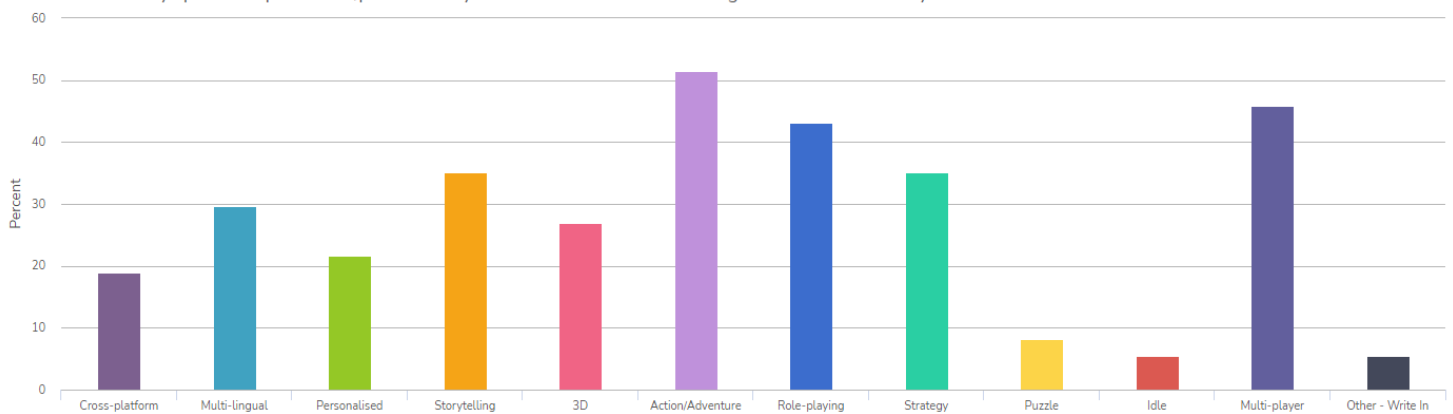

Figure 4

Based on the results of this survey, the organisation has started developing interactive training material (such as video and inforgraphics) on the topic of internet safety. Please have a look at the examples below:

ONLINE SEXUAL HARASSMENT

Online sexual harassment is any unwanted sexual behaviour online. It can make a person feel threatened, exploited, coerced, humiliated, upset, sexualised or discriminated against.

WHERE

Anywhere online (social media, games, messaging apps).

Publicly, privately, or both at the same time.

HOW

Uses images, videos, posts, messages, memes, emojis

Includes a variety of different behaviours.

Can overlap with offline experiences of sexual harassment or discrimination.

EXAMPLES

Bullying someone for online behaviour outside common gender stereotypes.

Body shaming by embarrassing someone for the way their body looks (e.g. mean comments).

'Sexting' someone by sending them an unsolicited nude or nearly nude image, or sending real or fake photos of the victim to others.

Sharing **online pornography**, whether as a link or image, because it was seen by the sender as 'funny'.

Using **offensive language** against someone based on their gender identity or sexual orientation.

HOW TO STOP IT

Do not forward messages, photos or videos that might hurt other people.

Do not send messages when you **don't agree** with the content.

If a person or incident on the internet doesn't seem right or makes you **feel uncomfortable** inform an adult that you trust.

If you suspect that a friend or classmate is an online sexual harassment victim then you should **inform an adult that you trust**.

Do not respond to online harassment or cyberbullying because that might make it worse.

Don't be ashamed if you fall victim to online harassment. **It is not your fault!**

HELP

You can address any online sexual harassment or cyberbullying

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ONLINE
GROOMING
Understand what it is and how to avoid it

Online grooming is when an adult uses the internet to trick, force or pressure a young person into doing something sexual.

ANYONE CAN BE A 'GROOMER'

A 'groomer' is someone who uses the anonymity of the internet in a malicious way to make an emotional connection with an underage person.
Their aim is to seduce you and meet in the real world.

**They can be old, or young, and they can be of any gender.**
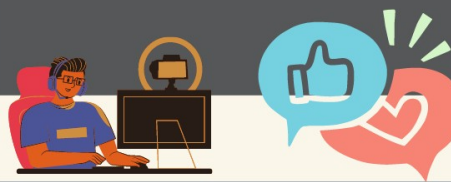
WHERE

- Online Games
- Social media (facebook, instagram, tik tok)
- Chat rooms

HOW

- Collect personal data about user through social media
- Create a fake ID
- Approach victim and make them trust them
- Convince victim for a meeting

METHOD

- We are the same age
- We have a lot in common
- We love the same activities
- We can discuss everything together
- We have the same problems at school/home
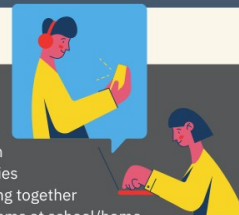
THINGS THEY MAY TRY

- Have sexual conversations online or by text messages
- Send naked images or videos of themselves, or ask for yours (sexting)
- Make you do something sexual live on webcam
- Ask to meet up in person
- Use your images to blackmail you

RED FLAGS

- They send you lots of messages
- They ask to keep your conversations secret
- They start sending you sexual messages
- They get you to share personal information

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4. Conclusions and recommendations

It is well known that social media can be a great way to connect with friends. But it also where we reveal lots of information about ourselves to people we might not know, including the companies who own the platforms and the applications, but also to potential cyber stalkers or online predators.

When our team competed the research outlined in this report, we decided to narrow down our material and analyse the topics below, by creating videos and infographics on internet safety topics such as :

-Grooming: When an adult approaches an underage online, with the aim to seduce them in real life.

-Fake news: Untrue and misleading information online that aim to benefit a company or organisation.

-Addiction: Spending long hours on internet activities, making them the only source of joy and satisfaction in life.

-Cyberbullying: Making fun online of someone and targeting them for their nationality, background, appearance, religion etc.

- Phishing: A type of scam where the scammers disguise as a trustworthy source in attempt to obtain private information such as passwords, and credit card information, etc. through the internet. These fake websites are often designed to look identical to their legitimate counterparts to avoid suspicion from the user.

Hence, for the rest of the time of the project, the team will Focus on the development of the aformentioned training material.

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