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Helping Kids and Teens Deal with Cyberbullying Through Informative Learning Capsules

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ABSTRACT

Nowadays, communication through technological devices has become widespread, and thanks to it, in these times of pandemic, it has been possible to face labor, educational, social and recreational challenges, among others. Due to confinement, children and adolescents carry out many activities on the computer or mobile devices, including socialization, learning, entertainment. This activity, in some cases, has also led to negative behaviors, including cyberbullying among them, this being one of the main problems that affects their physical and mental health, generating episodes of anxiety and suffering. In this context, the article presents a methodology for the implementation and deployment of learning capsules with the purpose of preventing bullying and cyberbullying of children and adolescents. The study began with a systematic review of literature on Microlearning as well as existing practices and technologies on the market. The systematic review protocol considered the choice of four digital libraries for the search. The search method and selection of technological solutions was based on finding Apps and websites for parental control and early detection of cyberbullying. An evaluation of 16 technological solutions was carried out and some strategies were identified that will be useful to develop the learning capsules.

Keywords: Cyberbullying, Learning capsules, Parental control, Kids, Teens technology, Cyberbullying prevention

INTRODUCTION

Due to COVID-19 pandemic confinement, children and adolescents may be affected by stress and boredom, leading to misuse of social networks and electronic devices (Delgado 2020). Some studies show that confinement strengthened and increased virtual communication, a phenomenon that has been evidenced through the growth of internet traffic during the pandemic with an increase of up to 63% in the transfer rate; being digital media the available resources to interact with other people; exposing individuals to prolonged times of navigation and use of social networks, videoconferencing

applications, multimedia platforms, among others (Tavra 2020). This has increased the probability of virtual harassment or cyberbullying that affects the mental health of the victim and can even lead to suicide (Delgado 2020).

In recent years this has become more frequent, more intense and in multiple forms. On the one hand, Bullying occurs when children and adolescents are subjected to perverse and violent acts, the acts can be physical, psychological and verbal. On the other hand, Cyberbullying is a concept that is used when children and adolescents suffer a persecution by another or others through the Internet or any electronic device such as mobile phones (Vásquez 2019). Globally, there is violence in children and adolescents where the perpetrators are usually found in the educational environment, family or other people close to the environment in which the victim is (Cardona 2017; Vásquez 2019).

Among the resources that are used virtually, we can find those related to education, which can include several areas of knowledge, including psychoeducation and can be disseminated through learning capsules, which are tools that provide information on a specific topic using multimedia resources of very limited duration (images, text, voice, video) (Vidal et al. 2019). These types of tools seek to change the paradigm in the learning process, since a structured message with clear objectives is transmitted at specific times and in specific situations, allowing meaningful learning that generates an imprint on the collective ideology of a society (Pintos 2005). In addition, unlike other types of learning, where people seek information on a specific topic, with these tools, transparent learning is allowed, which educates the population in values, pursuing a defined objective, which can be used to support social welfare.

Hence, this research seeks to combat and prevent bullying and cyberbullying through the education and training of children and adolescents, educational systems and family environments through the creation of learning classrooms. These learning capsules will be deployed taking advantage of the juncture between the massive use of technology (social networks, messaging platforms, gaming platforms) and the social isolation resulting from the pandemic, so the theme of the deployment according to the characteristics of the target audience, will be carefully analyzed and included in a methodology that allows institutions, governments and others the creation and effective dissemination of content. The central idea of this proposal is oriented to the creation and analysis for the dissemination of learning capsules, which will be based on and aligned with an existing methodology (Cedillo et al. 2021). This methodology will be adjusted for the different subsystems involved and themes according to the proposed research, which will enrich and enhance its application in the specific domain of cyberbullying, the reason for this proposal.

This research has several phases and this article describes the first phase of literature review.

BACKGROUD

Despite technological advances and the development of communication strategies that undoubtedly have an impact on the behaviors, attitudes and
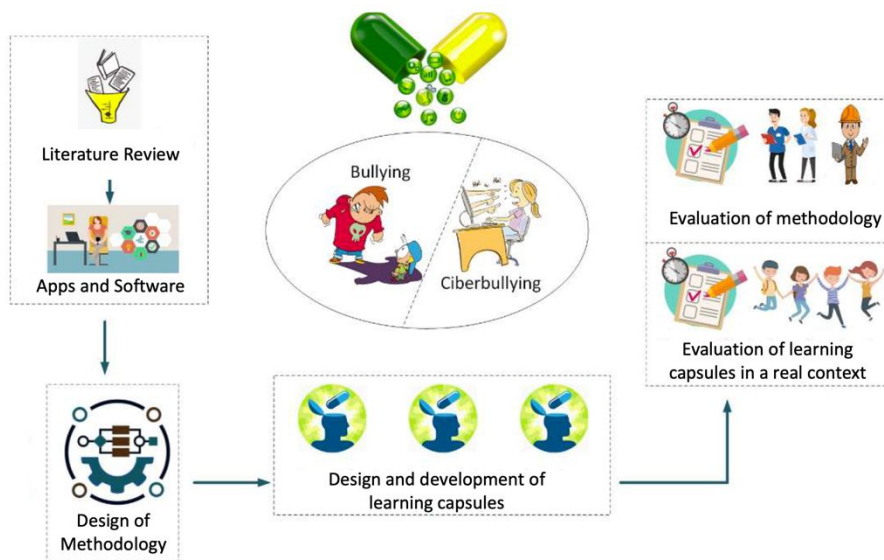
Figure 1: Method.

practices of a population, issues such as the prevention of domestic violence have not been addressed. This is verified by means of the systematic review of the literature carried out by Gómez & Cedillo (2020) as a previous part to the approach of this research. This review condenses the work that has been carried out in recent years in relation to methods, technologies and strategies for the creation of learning capsules in the area of microlearning oriented to different population groups. This review was carried out following the guidelines proposed by Kitchenham and Charters (2007) and the following research question was posed: "What technologies, methods, strategies and tools are used for the implementation of learning capsules in the microlearning area?. The following research sub-questions were posed: i) What tools, platforms and technologies are used for the implementation of learning capsules in the area of microlearning? ii) What technologies are used to prevent bullying and cyberbullying? iii) What methods and strategies should be considered for the implementation of learning capsules in the area of microlearning? and iv) What methods and strategies should be considered for the implementation of learning capsules in the area of microlearning?

METHOD

The creation of the learning capsules has been necessary to align it to a methodology that allows its elaboration and specialization considering the children, adolescents, educational system, family members, among others involved; this will allow to generate an input oriented to the interests and needs of them. This solution could also be used by groups and institutions working on issues related to the prevention of bullying and cyberbullying, taking into consideration the rights of children and adolescents.

Figure 1 shows each of the elements of the proposal that will make it possible to describe the achievement of the objective of our research. As a basis,

the state of the art is reviewed through a systematic review of the literature, on which the design of the methodology is based; as well as exploring the technological tools that have been developed to prevent cyberbullying.

With the information gathered, an instructional methodology will be designed before creating and developing the learning capsules, taking into account the micro contents of the topics to be transmitted. Subsequently, the acceptance of both the methodology and the resulting products will be evaluated by means of case studies and/or controlled experiments applied to professionals in the associated areas (technical personnel, experts in the social and educational sciences) and the perception of the end users. This article describes the first part of the literature review exploring the existing tools on the market to prevent the risks of bullying and cyberbullying.

RESULTS

The systematic review protocol considered the choice of four digital libraries for the search. The authors conducted the search considering a period starting in 2005, the year in which the first formal academic meeting was held: Microlearning 2005: Emerging Concepts, Practices and Technologies after e-Learning, from which its editors (Hug, Lindner and Bruck 2005) published the results of the congress and the first attempts were made to systematize this learning perspective, acquiring new knowledge through interaction with micro-content (Mosel 2005).

In the case of platforms, it is evident that learning capsules are commonly deployed on social networks (33%), with Facebook and Twitter being the most frequent (Kovacs 2015; Polasek and Javorcik 2019; Sun et al. 2018; Dearman and Truong 2012; Chen et al. 2016; Ján 2018). Also, online learning platforms (39%) such as edX, Khan Academy, and Coursera have been employed for the deployment of microlearning capsules (Fitzgerald and Tisdell 2019; Sun, Cui, Shen, et al. 2017; Jahnke et al. 2020; Sun et al. 2018). Other types of platforms such as online video or messaging platforms are used to reach broader populations with diverse characteristics (Aldosemani 2019; Tingjun 2016; Fitzgerald and Tisdell 2019; Polasek and Javorcik 2019; Chen et al. 2016; Ján 2018; Sun et al. 2018), and even, in this context, ways of deployment in other media that are currently not considered to show learning capsules, but are oriented to other types of dissemination, mainly marketing (e.g., online games), where, for our objectives, mechanisms can be introduced for the incorporation of these learning capsules.

In the case of Apps and Software the Table 1 shows 16 solutions found in Apps Store.

Analyzing some of the software presented in Table 1, it was possible to identify some of the categories that are used, among them: storytelling (Jadán-Guerrero et al. 2020), identifying hurtful messages, help notifications, confronting the abuser, avoiding responding, blocking the contact, thinking before giving quick responses or entering virtual applications to report.

Table 1. Data collection techniques and instruments.

Software	Description	Download
ReThink	Use the keyboard to rethink hurtful messages when users are being typed on any platform or social network. When detecting this type of offensive messages, it recommends through an alert notification, to pause, review and rethink the words.	https://bit.ly/33l42hf
Proofup	Through this App a user can record the messages or conversations that reach the smartphones to have evidence of harassment. It also has an alert button in case of being in danger, which notifies the parents or the person who has been placed as a protector.	https://bit.ly/3BsEonh
SafeToNet	It is an application that serves to educate children in real time. This application warns children and adolescents if it detects any risk in a social network.	https://bit.ly/3gN4RCp
Qustodio	This free app is designed to monitor and protect minors' use of their mobile devices. It has an online portal where parents can see how their children use devices and websites.	https://bit.ly/33k4E6E
Bully Button Parent-Kid	Bully Button is a parenting app which helps to record bullying actions against kids. Kids can easily record it and send it to Parent and School authority.	https://apple.co/3sHsyBD
KnowBullying	The app focuses on detection within the home itself. A matter in which communication between parents and children is basic and an aspect that the app tries to improve. In addition, it allows them to access general information about bullying, open a chat with their children about it, set reminders to talk to their children at certain times, and so on.	https://bit.ly/3GJMtVz
Brave UP	This tool seeks to improve communication and participation within school communities, in order to build a collaborative and healthy environment for learning and detect cases of school violence in time.	https://bit.ly/3uNTjqK

Table 1. Continued.

Software	Description	Download
My Mobile Watchdog	Allows guardians to know the messages and call history of minors in their care, set limits on the duration of calls and messages sent, access the contact list, locate user, block certain web pages and applications.	https://bit.ly/3H2rzS1
Net Nanny Parental Control App	It allows us to monitor the actions of our children on the mobile phone and integrates some filters that can be activated (or not). The information it collects, in any case, is only stored for 24 hours.	https://bit.ly/3sFnON9
Anonymous Alerts	It is a software to anonymously report these types of cases. An application with an easy and safe operation that allows, in addition to reporting incidents related to bullying and cyberbullying, others related to depression, family problems, drugs and weapons	https://bit.ly/3sJlRiq
Bullying es Acoso escolar	With "Bullying is bullying" children can learn more about this problem, from such basic issues as what bullying is, to the typology, the type of profile of the bully and the bullied, the relationship between the two, the consequences and, of course, the tips you can put into practice to detect and avoid it.	https://apple.co/3oOh26w
Basta de Bullying	It aims to end (prevent, detect and solve the different cases) with bullying at the hand of a series of educational and interactive resources. In fact, the app has a specific section to test the knowledge obtained, as well as other sections in which to play and watch related videos.	https://bit.ly/3rOk1Oh
CyberBully Hotline	A service that provides assistance and support to victims of bullying and allows to react and prevent such problems. Its motto is to "end the fight before the first blow is thrown", to enlist the support of witnesses to bullying and to protect the students concerned.	https://bit.ly/3uPm3zn

Continued.

Table 1. Continued.

Software	Description	Download
Andrea	It is an App that accompanies children or teenagers at all times and helps them to recognize and anonymously report cases of bullying or cyberbullying.	https://bit.ly/33k9Szi
b-resol	This App allows both victims and bystanders to alert the situation immediately and safely. Anonymity is guaranteed by default and there is the option of selecting the interlocutors of both a message and a chat. For its part, the educational center or gold type (sports, leisure, etc.) has a control tool with which it can carry out the monitoring of the incidence in full.	https://b-resol.com
Stop!t	A tool that addresses the lack of preparation of teachers when dealing with these issues and allows them to detect it more easily. Likewise, and of course, it also allows those affected to report cases of abuse. Of course, it focuses rather on the so-called cyberbullying, that is, on those that take place through the network but that are also carried out by students.	https://apple.co/3sEVU3Q

CONCLUSION

The literature review highlights the importance of this research project, which will mainly consider the technological part to deploy the microcapsules; and, therefore, the content that the learner is required to consume. In addition, in this state of the art it has been evidenced that among the principles that a learning capsule must comply with in order to be considered as such (short learning units, short learning activities, reduced time, immediate feedback, on-demand).

Another important finding derived from this systematic review, which will shed light on the development of the methodology for the creation of learning capsules, is that they have generally been designed for an unspecified age group (72%), e.g. (Sun, Cui, Beydoun, et al. 2017), by means of a learning analysis and educational data mining, were able to determine the learning patterns through open educational resources and the characteristics of the learning capsules. Learning through open educational resources and the characteristics of students' learning styles but did not consider age as a factor in the analysis. To a lesser extent, the specificities of adults (28%) (Dingler et al. 2017; Edge et al. 2012) and adolescents (11%) have been considered (Baldauf, Brandner and Wimmer 2017); leaving aside the sector of children

and older adults. Therefore, creating a methodology that allows the development of learning capsules that consider the different types of families (extended, nuclear, single-parent, composite, among others) and the characteristics of each of the members, result in the coverage of an important knowledge gap.

Through this analysis, it is also evident the need to generate new research focused on children and adolescents who are in situations of violence, such as bullying and cyberbullying. With this, it is determined that there is a need to implement this project in order to support the prevention of violence against children and adolescents, and protect their rights, integrity and life.

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