Interactive Tomi Tool To Improve Attitudes Towards Cyberbullying In Upper Basic Students

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Abstract

Education changes frenetically at the pace of technological advances, likewise there are a series of difficulties that must be faced to avoid falling into cyberbullying that is converted into a way of discriminating against children and adolescents of any social class, the abuse of ICT exposes schoolchildren to this type of violation, where parents and teachers often do not know when a student is being a victim. This article aims to determine the effectiveness of the interactive TOMi tool in improving the attitudes of cyberbullying in students. of an Educational Unit, La Concordia - Ecuador 2023. The approach was quantitative, with a quasi-experimental design, using an intentional non-probabilistic sample of 30 students for the experimental group and 30 students for the control group. The instrument applied was the "European Cyberbullying Intervention Project Questionnaire", validated under the judgment of experts; reaching a coefficient of 0.75 in Cronbach's alpha, the data were displayed in frequency distribution tables and analyzed inferentially. It was concluded that the interactive TOMi tool positively influenced the improvement of attitudes towards cyberbullying in the students where the intervention was carried out.

Keywords: *TOMi Tool, cyberbullying, attitudes, Higher Basic.*

INTRODUCTION

It can be said that some people, especially children and adolescents, are presenting a real addiction to the consumption of the Internet, consequently, the use and abuse of social networks create new concepts[1] associated with these new characteristics that are being adopted by people who have seen the virtual world as a place of refuge and escape from the existing reality (Antón & Collantes, 2022). This situation that exists in different homes of the society of the 21st century has been generated as a consequence of the sanitary measures of confinement given by Covid-19, where the education and daily activities of most people had virtual addresses.(Murillo, 2020)

For Contreras & León, (2019). The constant use of the Internet has changed the usual scenarios of management, development and practice of technology; mainly in interpersonal and communicational relationships, where adolescents born in a technological environment are seen as digital natives and shows two common types of virtual social communication

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practices, where technology facilitates their understanding of the world. On the one hand, and on the other hand, the internet has replaced other traditional ways of learning and obtaining information, social networks have become their entire life scenario and consequently multiple risks are generated in these scenarios.

Among the many risks faced by children and adolescents due to the frenetic use of the internet is cyberbullying, which is a form of persecution that occurs through information and communication technologies (ICTs). This is a growing problem, which can have a negative impact on the physical and mental health of the victims, who are usually children and adolescents from the different levels and modalities of the school system due to poor supervision by parents and guardians (Sánchez et al., 2022). This type of bullying behaviors are becoming more frequent every day due to the isolation, shyness and distraction that victims of this type of harassment present. (Sáez, 2023)

It is necessary to contextualize the elements that intervene in the research and thus know the behavior from the perspective of other latitudes, therefore, According to data from the United Nations – (ONU , 2019), a survey of the school population of 30 to more than 170,000 students reveals that one in three students throughout the school year has experienced some form of cyberbullying, on the other hand, the United Nations Children's Fund – UNICEF (2020) One in ten students has experienced cyber violence, this 10% has suffered this type of virtual harassment through technological means, social networks or other digital channels.

On the other hand, in Peru it was evidenced that of 566 cases of cyberbullying presented, 58.48% the aggressor was a man, 34.09% were women, while 1.94% were intersex and 5.58% the alleged aggressor was not identified. With the emergence of the Internet and social media, a novel manifestation of negative behavior has been identified in Peru: cyberbullying, Peruvian citizens are subjected to psychological abuse online by other individuals, including electronic insults, virtual harassment, and harassment, both with and without sexual connotations (Quiroz, 2023).

Cyberbullying is a form of violence that uses technology to harass, intimidate or humiliate someone in the digital environment, it can have serious psychological consequences for victims, including anxiety, depression, social isolation and in extreme cases, even suicide, through threatening text messages, online harassment, identity theft cause a significant emotional impact on victims (UNICEF, 2022)(Gámez et al., 2021), the main causes are related to three aspects, at the personal level, at the family level, at the social level (González et al., 2022). Likewise, Resett (2020) highlights that cyberbullying can have serious and serious consequences on the emotional health of young people, such as anxiety, depression and low self-esteem. In conclusion, cyberbullying is a serious problem that affects many young people and requires attention and efforts from the whole of society to prevent and combat this form of online violence.

In Ecuador, it has been observed that incidents of cyberbullying, which were reported by 1.7% of the surveyed population, usually occur outside the school period, representing 85.7% of the cases, this circumstance makes it difficult to identify and control cyberbullying, it is also emphasized that in private schools, 95.4% of cyberbullying cases also occur outside school hours, in contrast to public institutions, where this percentage was 76.5% (Martínez et al., 2020). From another perspective, in the progress of the "Report on Cyberbullying in Adolescents in Ecuador: Keys to its Prevention" it is evident that 10% of adolescent students have suffered some type of violence by technological means (Mercury, 2022).

The foregoing shows that the aspiration of the Ministry of Education (MINEDUC) embodied in its Organic Law on Intercultural Education, indicates that it must seek to implement mechanisms that help the prevention, detection and attention to the various situations of violence, always with the aim of promoting an education focused on sustainable development and harmonious coexistence in the educational system. It is far from being achieved in the presence of harmful content that is published on the Internet and with greater incidence on social networks. The work in this regard is carried out by the Student Counseling Departments (DECE) that seek to combat situations of violence in the educational environment, but as there are different cases and only one psychologist to carry out the respective follow-up, it became complicated.(LOEI, 2012)

In the Educational Unit "10 de agosto" this problem could be clearly verified, in the educational community the students of the educational center belong to a medium socioeconomic level – below which it allows them easy access to technologies, applications and a range of pages on the web without control from the parental side. In the students of General Basic Higher Education (EGBS) of the educational center, it has not been observed nor is there evidence that any teacher, director or psychologist have applied an interactive tool to prevent cyberbullying among students. From the reality described, the following question arises: How can the application of the TOMi Interactive tool improve attitudes towards cyberbullying in students of an Educational Unit, Ecuador 2023?

For the development of the educational program with the TOMi Interactive tool focused on topics to prevent cyberbullying, it is necessary to correctly plan the times, parameters and activities for an adequate understanding. Jiménez et al. (2016) They affirm that these applications in an educational environment promote the growth of students' cognitive abilities, while facilitating the creation of different communication environments that encourage interaction between the participants of the educational process, in addition to the applications mentioned there are also technological tools that provide great benefits and content on various topics, A clear example of these programs is provided by the TOMi technological tools, which will be taken into account in this research that proposes an educational program through interactive talks within an educational center. The following objective is followed in the research: To determine the effectiveness of the interactive TOMi tool in improving attitudes towards cyberbullying in students of an Educational Unit, La Concordia - Ecuador 2023.

The article analyzes theories applied to behavior change in relation to cyberbullying. In addition, it highlights the adoption of technology as an innovative strategy to promote positive attitudes. The aim is to implement interactive workshops aimed at students of higher basic education, with the aim of reducing attitudes related to cyberbullying in the school environment. This project presents a practical contribution: the educational institution will have access to a technological innovation that will allow the implementation of preventive measures against cyberbullying, the TOMi Interactive tool can also be adopted in other educational institutions to address this problem more broadly.

METHODS

The approach was quantitative, since in the course of it a series of ordered steps were executed in order to address all the possible factors involved in the application of the TOMi Interactive tool to prevent cyberbullying in students of an Educational Unit. The type of research design used was quasi-experimental since it will allow the effect caused by one or more variables to be determined. About that (Hernández, 2018)Hernandez & Mendoza (2018). This type of research design allowed us to identify the degree to which the interactive TOMi tool contributed positively to the process of preventing cyberbullying in students of an Educational Unit.

On the other hand, the population was finite, the population, object of study, is made up of the students of the 8th parallel year "A-B-C" of the E.U. "10 de agosto" with 95 students (Polanía et al., 2019). On the other hand, the sample consisted of 60 students, being an intentional non-probabilistic sample. For the study, given the limitations, the sample was made up of 30 students of the eighth year of Upper Elementary School, 11 females and 19 males, representing 100% of those belonging to the eighth year EGBS parallel "B" of the afternoon section of the Educational Unit "10 de agosto" experimental group and 30 students of section A control group.(Hernández, 2018)

The instrument that was applied in the research is the adaptation of the "European Cyberbullying Intervention Project Questionnaire (ECIPQ)" questionnaire and consists of a detailed Likert scale as follows: 1. No; 2. Yes, once or twice; 3. Yes, once or twice a month; 4. Yes, about once a week; 5. Yes, more than once a week. For the use of the instrument, the approval of the expert assessment judgment was obtained. The instrument had a reliability according to Cronbach's alpha of 0.75.(Hernández, 2018)

RESULTS

Table 1. General analysis of cyberbullying attitudes before implementing the program.

Cyberbullying Pre test				
	Control Group		Experimental Group	
Levels	f	%	f	%
Low	10	33,3%	15	50,0%
Middle	11	36,7%	7	23,3%
High	9	30,0%	8	26,7%
Total	30	100,0%	30	100,0%

Table 1 shows a comparison between a control group and an experimental group in relation to the variable Cyberbullying in the pre-test. It is observed that the experimental group has a higher proportion of cases of students at the "Low" level (50.0%) compared to the control group (33.3%). However, the control group has a higher proportion at the "Medium" level (36.7%) compared to the experimental group (23.3%). The "High" levels are similar between the two groups.

Table 2. Analysis of attitudes in the dimensions of cyberbullying before implementing the program.

PRE TEST								
	Victimization				Aggression			
Levels	Control Group		Experimental Group		Control Group		Experimental Group	
	f	%	f	%	f	%	f	%
Low	10	33,3%	13	43,3%	15	50,0%	9	30,0%
Middle	13	43,3%	11	36,7%	7	23,3%	13	43,3%
High	7	23,3%	6	20,0%	8	26,7%	8	26,7%
Total	30	100,0%	30	100,0%	30	100,0%	30	100,0%

The analysis in Table 2 shows a comparison between a control group and an experimental group in two dimensions: victimization and aggression, in the pre-test. Regarding the victimization dimension, the experimental group has a higher proportion of students at the "Low" level (43.3%) compared to the control group (33.3%), at the middle level the control group presents 43.3% and the experimental group 36.7%, at the high level they are similar between both groups. For the aggression dimension, the control group has a higher proportion of students at the "Low" level (50.0%) compared to the Experimental Group (30.0%), the "Medium" level of aggression shows a higher proportion in the experimental

group (43.3%) compared to the control group (23.3%), finally, at the high level of the aggression dimension the control and experimental group has the same percentage (26.7%).

To respond to the second specific objective in terms of identifying the effectiveness of the interactive TOMi tool in improving attitudes towards cyberbullying: victimization, aggression in the students of the experimental group after applying the program.

Table 3. Analysis of attitudes towards cyberbullying after the implementation of the programme.

Cyberbullying Experimental Group				
	Pre Test		Post Test	
Levels	f	%	f	%
Low	15	50,0%	30	100.0%
Middle	7	23,3%	0	0,0%
High	8	26,7%	0	0,0%
Total	30	100.0%	30	100.0%

Table 3 shows interesting results on the cyberbullying variable in the experimental group. It is divided into three levels: Low, Medium, and High. Before the experiment (Pre Test), 15 cases were observed within the low-level range (50.0%), 7 medium-level cases (23.3%), and 8 high-level cases (26.7%). After the experiment (Post Test), all cases are at low level (100.0%), while medium and high level cases decreased to zero (0.0%).

Table 4. Analysis of attitudes in the dimensions of cyberbullying after the implementation of the program.

Cyberbullying Experimental Group (Dimensions)								
	Victimization				Aggression			
Levels	Pre Test		Post Test		Pre Test		Post Test	
	f	%	f	%	f	%	f	%
Low	13	43,3%	30	100,0%	9	30,0%	30	100,0%
Middle	11	36,7%	0	0,0%	13	43,3%	0	0,0%
High	6	20,0%	0	0,0%	8	26,7%	0	0,0%
Total	30	100,0%	30	100,0%	30	100,0%	30	100,0%

Table 4 shows the results on the cyberbullying variable in the experimental group, broken down into two dimensions: victimization and aggression. Before the experiment (Pre Test), 13 cases of low victimization (43.3%) and 9 cases of low aggression (30.0%), 11 cases of medium victimization (36.7%) and 13 cases of medium aggression (43.3%), and 6 cases of high victimization (20.0%) and 8 cases of high aggression (26.7%) were observed. After the experiment (Post Test), all cases of victimization and aggression dropped to zero at the medium and high levels, and increased to 30 at the low level.

To respond to the third specific objective in terms of comparing students' attitudes against cyberbullying, before and after applying a program based on the TOMi Interactive tool in the control and experimental group.

Table 5. Analysis of attitudes towards cyberbullying before and after implementing the programme.

Cyberbullying Levels			Low	Middle	High	Total
		f	10	11	9	30
	Pre Test	%	33,3%	36,7%	30,0%	100,0%
Control		f	1	4	25	30
Group	Post Test	%	3,3%	13,3%	83,4%	100,0%

Experimental Group	Pre Test	f	15	7	8	30
		%	50,0%	23,3%	26,7%	100,0%
	Post Test	f	30	0	0	30
		%	100,0%	0,0%	0,0%	100,0%

Table 5 presents data on cyberbullying in two groups: control group and experimental group, with three levels: Low, Medium and High. In the control group, before the experiment (Pre Test), 33.3% were at a low level, 36.7% at a medium level, and 30.0% at a high level. After the experiment (Post Test), only 3.3% are at a low level, 13.3% at the medium level, and an increase of 83.4% at the high level is evident. On the other hand, in the experimental group, before the experiment (Pre Test), 50.0% were at the low level, 23.3% were at the medium level, and 26.7% at the high level. After the experiment (Post Test), 100.0% experienced a change in their attitudes and 100.0% of the group was positioned at the low level, and there were no cases of medium or high level.

Table 6. Analysis of attitudes towards cyberbullying in its dimensions before and after the implementation of the programme.

	Cyberbullying Levels			Low	Middle	High	Total
Control Group	Victimization	Pre Test	f	10	13	7	30
			%	33,3%	43,3%	23,3%	100,0%
		Post Test	f	2	5	23	30
			%	6,7%	16,7%	76,7%	100,0%
Experimental Group	Victimization	Pre Test	f	13	11	6	30
			%	43,3%	36,7%	20,0%	100,0%
		Post Test	f	30	0	0	30
			%	100,0%	0,0%	0,0%	100,0%
Control Group	Aggression	Pre Test	f	15	7	8	30
			%	50,0%	23,3%	26,7%	100,0%
		Post Test	f	2	3	25	30
			%	6,7%	10,0%	83,3%	100,0%
Experimental Group	Aggression	Pre Test	f	9	13	8	30
			%	30,0%	43,3%	26,7%	100,0%
		Post Test	f	30	0	0	30
			%	100,0%	0,0%	0,0%	100,0%

Table 6 presents the levels of cyberbullying, victimization and aggression in the control and experimental groups before and after treatment, expressed in percentages. In the control group in the post-test, the victimization and aggression dimensions show a substantial decrease in the low and medium levels, with a notable increase in the high level (76.7%) in victimization and 83.3% in the aggression dimension. In the experimental group, the medium and high levels of victimization and aggression were totally reduced, leaving the group of students at a low level of attitudes towards cyberbullying. These results indicate that the treatment had a positive impact, especially in reducing aggressive behaviors.

DISCUSSION

After examining and making sense of the descriptive and inferential statistical results, it was possible to show that the interactive TOMi tool had a positive and significant impact on the improvement of cyberbullying attitudes in students, in summary, the experimental group (GE) achieved a decrease in victimization and aggression behaviors after the intervention, in contrast to the control group (CG) who maintained a level of negative attitudes related to cyberbullying.

Initially, both the control group (CG) and the experimental group (EG) presented similar levels of cyberbullying attitudes in the dimensions of victimization and aggression. Since the general objective was to determine the effectiveness of the interactive TOMi tool in improving attitudes towards cyberbullying in students, according to the results there is a significance $p = .000$ found a significant difference between the posttest of the experimental group and the control, having a high impact on the improvement of behaviors towards cyberbullying. This shows us that at a global level, the "interactive TOMi" tool has a positive impact on the reduction in victimization and aggression behaviors of the students who participated in the study.

The findings presented reinforce the conclusion of Navarro et al., (2018), who have already established that the effectiveness of technological applications translates into a decrease in sexist behaviors among adolescents. This study underlines the relevance of incorporating technologies as preventive tools against gender-based violence in education. The consistency between the two studies supports the idea that technological tools are not only effective in this context, but also play an essential role in promoting more equal and safe educational environments.

Similar results were obtained Ortega et al. (2022) Who They clearly indicate that the implementation of the program had a positive and significant impact in reducing the incidence of cybergression. In addition, it is noteworthy that the experimental group exhibited a notable increase in positive behaviors, suggesting that the program not only effectively addressed the problem, but also contributed to the promotion of healthier attitudes. These findings support the effectiveness of the program in adequately improving perceptions and attitudes towards cyberbullying, pointing to its relevance as an effective tool in mitigating this phenomenon.

In accordance with Abanto (2019) I seek to determine the effectiveness of the gender equality program based on cognitive theory to improve negative attitudes of sexism, this study was carried out with a sample of 21 students from the city of Nuevo Chimbote / Peru. For the results, Student's parametric t-test was used for related groups, obtaining a coefficient of -0.000 with a p-value of 0.000 (p < 0.00), these results supported the acceptance of the alternative general hypothesis. It was concluded that students have modified their perception in relation to the gender roles established during their upbringing and training at home.

It was concluded that the interactive TOMi tool had a positive influence on the improvement of attitudes towards cyberbullying in the students where the intervention was carried out, according to the results of the U-Mann-Whitney test = 24,500; Z = -6.322 and a statistical significance of $\rho = 0.00$ After comparing the results of the experimental group at two moments, notable improvements were evidenced in the dimensions of victimization and aggression, therefore it is concluded that the program was effective.

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