ONLINE COURSE FOR THE DIMINUTIONS OF THE BULLYING PHENOMENON IN ELEMENTARY EDUCATION STUDENTS - A RESEARCH EXPERIENCE

María Isabel Uribe-Guarin, Magda Milena Vargas-Gil, Sergio Andrés Zabala-Vargas

Universidad de Santander - UDES (COLOMBIA)

Abstract

The phenomenon of bullying affects the educational institutions worldwide, and includes harassment and aggression behaviours towards peers, and with psychological and personality development implications. The present project develops an investigation to confront this problematic in the Institucion Educativa Campo Hermoso at Bucaramanga-Colombia, particularly in the fifth-grade student population. The propositions were executed in two courses (501 & 502) in 2016. The population sample was from 72 students and utilize a quantitative investigation method quasi-experimental, resorting to a control group and an experimental group. In first instance is resorted to a pre-test application, based on the tool named auto-report, permitting to characterize the population. It is determinate that near 57% of the students have been harmed, the 52% isolated from the group and 24% acknowledge to have assaulted a schoolmate either by physical or electronic means. The design and implementation of a virtual support course is performed where the students develop social skills for the prevention of bullying, with an intensity of 2 hours weekly and 4 thematic units (Concepts and types of bullying, bullying legislation, social skills and civic competences). Subsequently is performed a post-test whose results were compared with the pre-test using the Wilcoxon signed-rank test. Significant statistical differences are found between the experimental and control group. Is concluded that it is possible to perform an awareness about the central subject of the project, development of cognitive competences about the subject, consolidation of assertiveness skills, empathy and active listening in the experimental group, not achieved in the control group. Finally, as the main limitation of the implementation is the level of knowledge of the students on technological tools.

Keywords: Bullying, online course, elementary education, social skills.

1 INTRODUCTION

The bullying and cyberbullying phenomenons are realities which are currently affecting the essence and the objective of the education, leading to recognize the importance of the problematic, which can be seen from many perspectives. The bullying itself defines as a harassing conduct, either physical or psychological, from one student to another, who is designated as the victim of the consecutive intentional attacks, it's very hard for those victims to get a solution by their own. The effects on the victims includes low self-esteem, anxiety and depressive moments, hindering their adaptation to the scholar environment [1].

The World Health Organization [2] and the Centers of Disease Control and Prevention [3] affirms that the harassment between equals on educational context are registered worldwide, which has worrying numbers evidencing the frequency and the increment of violence, resulting in serious consequences, such as exclusion, psychosocial problems, and many times it ends in suicide.

What concerns to international precedents, the works presented in [4] and [5] indicates that this type of violence is characterized by: a) Including behaviors of diverse nature, b) Originating repetitive problems and prolonging its time, c) Usually its originated by one aggressor supported by his group against a defenseless victim, and d) It is maintained by the spectators, the aggressors and the victims.

Although violence has existed for a long time, which also question the role of the education in the social development and its care of the integrity, new ways of school bullying appear every day, as currently the problem of cyberbullying; another type of bullying which demonstrate that the use of new technologies can also be used to harass and victimize peers [6]. In the review made in [7], it is found that the characteristics and the preponderance of the scholar violence its very similar at worldwide, and there aren't significant variants are perceived in spite of geological, cultural or educational differences, deducing then that the phenomenon of bullying is a global school problem.
The study made in [8] includes a 129,000 child sample with an average age of 8.9, from 27 primary schools of Germany, aiming to measure the effects of the anti-bullying virtual learning intervention program, denominated as “No Temas!” (“Don’t Be Afraid!”); results shows that this type of virtual learning design helped the child to acquire effective strategies to deal with the bullying achieving beneficial effects for the victim in short term, such as the escape of the victimization and also as a preventive measure for all the children. In the other hand, the study presented in [9], the students of 13 and 15 years old, from secondary education, was applied a design of repeated pretest-posttest measures with control group. The proposal focused on evaluating the effect of the Cyberprogram 2.0 on the bullying behaviors that come face to face, in a population of 176 Spanish adolescents.

Another highlighted international experience is the developed by the KiVa program (Acronym of Kiusaamista Vastaa), which is a project with actions specifically designed for children from 7 to 15 years of age in the scholar system of Finland, made by the University of Turku from that country. The KiVa program works on various modules including the interpretation of the phenomenon by the spectators in the intimidation process through lessons for the classes, activities for all the scholar population and a website for parents [10]. Several studies highlight the positive contributions of this program on several schools in Finland and in other countries. For example, the discoveries in [11], indicates that the KiVa program is effective to reduce victimization and bullying in the first to third grades, with some gender differences, as well as being effective for the fourth and sixth grades; in conclusion, long-term effectiveness is observed on the students of primary and secondary schools. In the [12], a review is presented of the utilization of the KiVa program in the years 2012 and 2013 in England, where 17 schools were linked and children of 5 and 6 years old were included, who were complemented by an online survey at the beginning and at the end of the school year; results show a significant decrease in bullying and victimization, also the teachers related with these children reported high levels of acceptance, and because of the excellent results in later years, another studies started in children from 7 to 11 years old.

For the other hand, presented in [13], was included 53,316 students in fifth and ninth grade from 1000 schools in Colombia; the students achieve the test of citizen competences, data of violence and socioeconomic conditions of the municipalities. Results show that in fifth grade, 29.1% has been intimidated by his schoolmates and 49.9% were spectators of violence; and in ninth grade the 14.7% were intimidated by his schoolmates and 56.6% were harassed and spectators, respectively. The violence of the conflict predicted bullying at municipal level for the fifth grade; for the ninth grade, there was inequality in the land property. This results can help to understand how the context can support the bullying, and how the socio-emocional competences can help to prevent the negative effects from a violent and unequal environment. Another work to consider is in [14], where the bullying was characterized in adolescents from an educational institution in the Department of Santander. The population was made up of 304 students with ages between 10 and 18 years old. Results show that there are behaviors related to the bullying phenomenon in the educative institution; a 30.5% of the student population recognize that, at least one time, has attacked one schoolmate, and the bullying is presented in a 22.8% of the student population.

On the other hand, the investigation developed in [15] characterized the bullying and the familiar dysfunction in 340 students from Educational Institutions of Santa Marta. Results show a 30% of bullying prevalence, which included students and teachers, both passively and actively. These results backup another studies in Colombia and concludes that the presence of bullying and familiar dysfunction in scholar environments could increase on puberty.

In accordance with [16], the ICT triggers new ways to process, store and manage the information, producing significant changes on the world, referring to social, political, cultural or educational spheres. Although its influence has affected sectors as the agriculture, the culture, the economical ones such as electricity and petroleum, the leisure, among others; and because it can be used in a constructive or destructive way, wide expectations in the education are created which imply a reconsideration of the teaching-learning process, adapting to it new the new necessities of the contexts [17].

In that sense, [16] affirms that the Learning Objects (LO) are fundamental elements for the creation and distribution of the contents, and are designated to change the way of learning, increasing its efficiency. Such elements have been positioning as an indispensable element, enriching the academic processes from preschool to higher education, working not just as communication tools but are taken as part of the educational process. In addition, Los become a bridge between distance learning and face-to-face education in classrooms [18]; thus taking advantage of the flexibility of the virtual model, and taking advantage of the group principles, the pace of learning and the direct contact with the
teacher, promoting organizational skills, written communication skills and the responsibility of managing their own learning.

In conclusion, it is highlighted that Los are a positive aspect of the technological advance of the ITCs, this virtual resources contributes the teaching-learning processes, which highlights: the modifications in the roles of the teacher and student, the requirement of creative and innovative teaching methodologies, the design of virtual objects and the creation of learning spaces with interactive elements.

On the other hand, the Emotional Intelligence (EI) is a very important concept defined as the self-consciousness of each one, and allows us to manage in a more proper way our own emotions [17]. In the theory presented by the author, several skills of emotional intelligence are mentioned, which can be synthesized in: a) Emotional Self-knowledge: Knowing how the mood can affect the behavior. b) Emotional Self-control or Self-regulation: Allows a person to no overact, allowing the loss of control regarding the feelings of a specific moment. c) Self-motivation: To focus different emotions to a specific target imply to maintain the motivation and get focus on these. d) Recognition of other people’s emotions or empathy: Social relations necessarily imply the interpretation of signs that allow to recognize the emotions or feelings of other people, thus helping to create stronger relationships with those who are around. If this skill is developed, will be more possibility to understand other people and then the possibility of being empathic with them. e) Interpersonal relationships or social skills: The healthy relationships with the other people are indispensable in the life of a human being, for what is required to know and understand how to behave in different situations. At the same time, [18] highlight that this intelligence can be learned, the elements which conforms the intelligence are identifiable and can be evaluated and improved, people who don’t know this would be destined to fail. The education of the emotions is determinant to prevent emotional and personality problems in the childhood, and this process must be continuous and throughout the entire life of the child. The opportunity to start working at emotional intelligence is given at the first years of life, since the emotional capacities are developed by the kids in later years are based on the first years. The emotional intelligence includes a set of capacities, competences and non-cognitive abilities that determinate the success of one person confronting the emotions, so the success of a person is the result of a mixture of skills of diverse type [19].

In this sense, the Social Skills (SS) are found in the Emotional Intelligence, which are the middle of the interpersonal relationships, and are related to the necessary behaviors to successfully and satisfactorily relate with others. As it is presented in [20], the SS are organized in accordance with basic to complex levels, these being necessary to develop the basic ones first in order to learn the complex ones. Even there are a lot of classifications types, it is possible to resume in: a) Basics: (Smiling, Listening, Greeting, Starting a Conversation, Maintaining a conversation, Asking a question, Expressing gratitude, Introducing himself/herself, Making a compliment and Asking and Doing favors), b) Making Friends (Supporting others, initiating the interaction with others, Joining a Group, Sharing, Offering Help), c) Management of feelings, opinions and emotions (Knowing the own feelings and the other’s feelings (Empathy), Expressing feelings and emotions, Facing the anger of someone else, Expressing affection, Facing Fear, Self-rewarding, and Defending the own feelings and opinions), d) Management of Aggression and solving social problems (Asking for Permission, Sharing something, Helping others, Negotiating, Initiating self-control, Defending their own rights an appropriate way (Assertiveness), Responding to teasing, Avoiding trouble with others, Avoiding fights, Identifying the problem, Searching for solutions, Anticipating consequences, and choosing or testing solutions).

There is particular emphasis on the relation between skills such as assertiveness, active listening and the empathy, categorized as communication skills; in this context, active listening is defined as the capacity to pay attention and to denote interest in the talking, considering as the base of an effective communication; In this communication process the empathy is required, which is defined as the capacity to give importance and to recognize the place and emotions of another person.

In [21] a learning program of social interaction skills is presented. In this is highlighted that the Social Skills can be learned, as well as other behaviors, and through five steps the training process of social skills can be applied in school environments. The authors’ proposal is a program based on five steps based on: 1) Verbal instruction, dialogue and discussion, 2) Modeling, 3) Practice, 4) Feedback and reinforcement, and 5) Activities.

For the specific case of interest of this document, in the Educational Institution Campo Hermoso (IECH) from the city of Bucaramanga-Colombia is observed this type of scholar violence, the teachers have observed violence such as taunts, shouts, insults, physical harassment and isolation due to the
indifferent behaviors of the schoolmates, some students are constantly harassed, intimidated by hurtful expressions or threats; this is based on a survey about bullying applied to the students of fifth grade during the year 2014, which the 40% claims to have been harassed in one or another way.

Taking into account the above, the authors' proposal in this document was to design a program based on ICTs aimed for the development of social skills that contributes the prevention of bullying behaviors. In order to achieve this, a diagnosis was applied to the student population of fifth grade (being the population chosen to intervene). Then it was designed and applied a Virtual Learning Object (VLO) to one of the two groups (chosen as experimental), to measure it later and determine the impact of said tool, contrasting with a control group. This allowed differences in the questionnaires, and the applied method was the scientific method, starting from the observation, going through research to test the hypothesis and finally the analysis of the results.

2 METHODOLOGY

This proposal has a quasi-experimental quantitative methodology, as the objective is to develop and implement an OVA aimed to the students of the grade 501 (experimental group), comparing the results before and after the implementation of the program, and then the grade 502 (control group) to which the program was not applied. The design applied at the present study belongs to the quasi-experimental designs' category, and it is applied to the non-equivalent control group. It has as characteristic an experimental group and a control group, to which a previous and posterior test is applied, but because of the lack of randomness they aren’t equivalent, nevertheless the assignment of the experimental group to X or experimental condition is randomly chosen. The research variables are: a) Independent variable: Virtual Learning Object (VLO) and Dependent variable: Typical bullying behavior. The fifth grade of primary education starts in the afternoon, at the groups 501 and 502, with a total of 72 students, the first is conformed by 37 students meanwhile the second is conformed by 35, aged between 9 and 12 years old, 43 men and 29 women, the educational level of the parents are baccalaureate and are informal employees.

The proposal hypothesis is related below:

H1: Students from group 501, to which the prevention of bullying program was applied, will show a significant increase at the social skills and a significant decrease of bullying behaviors.

And by the other hand, the null hypothesis is that:

H0: Students from group 501, to which the prevention of bullying program was applied, will show the same social skills of bullying prevention to the children in the group 502. The research process is shown below:

The methodological execution steps are:

Sensitization and socialization initial phase: The authors’ proposal informed the educational institution about the study and its objectives. The planning of control and experimental group is performed. The consent of the parents and the interest of the students were obtained.

Diagnosis phase: The initial diagnosis of the population is performed throughout a previous test, based in the indicators of citizen competences and social skills previous defined, subsequently is applied individually but simultaneously to grades 501 and 502. The questionnaire self-report is applied as a method of data collection, this tool is applied individually to both groups of students of fifth grade of primary school. The self-report is defined as a verbal manifestation that a person gives to some personal event [22], the author affirms that through it is possible to collect information about the personality, the moods, the problem behaviors and cognitive constructs. This type of instrument was selected because it is easy to apply and because is widely used in the educational field, another of the primary self-report techniques are the interviews, questionnaires, inventories and scales.

For this project, a questionnaire was design to apply before and after the OVA, to evaluate the incidence at the development of cognitive and social skills regarding the bullying problematic. The questionnaire is applied to the fifth-grade students in written form with only 15 minutes of time to respond, conforming 24 questions, the 15 first with two options to check with an X, with the option: Yes or No, and from 16 to 24 there are more options to check with an X, these options are Never, Some Times, A lot of times, Always. This instrument helps teachers to learn about specific knowledge regarding bullying, as well as the existing legislation, the social skills and the citizen competences, and precisely based on these aspects is how the pedagogical proposal was designed, which are executed.
through the OVA to strengthen this type of aspects. It is clarified that for the post-test measurement, a new questionnaire is applied with the same number of elements and with the same categories of answer, in order to decrease the interference probability in the results, due to previous learning.

At the same time, a test of basic knowledge is applied before the students use the computational tools, and an academic training was done in order to establish the baseline through leveling courses.

Design Phase: The most appropriate pedagogical model was reviewed to develop significant and everlasting knowledge. The activities of pedagogical intervention and the VLO design, and its implementation as Moodle tool was done. The objective of this phase is the improvement in the application of the learning method to achieve a greater understanding, therefore is decided among the best methods in order to develop the knowledge and skills in the subject worked. According with that, the following pre-active tasks are performed prior the development of the course: a scheme of the subjects to work, then the four most relevant and the activities are selected, also a name for the course, the grade and the time intensity are defined. The Ausubel learning model was selected as pedagogical model and the Moodle platform was selected for the design of the OVA, using all applications in it. To more details see Fig. 1

![Figure 1. Design stages.](image)

Developmental Phase: In this second phase, all the materials, means, forms of interaction and interactivity needed are planned and constructed, including any other required resource to start the program. In addition, a pedagogical proposal, with the description of how it executes, was elaborated in such way that can be seen in the corresponding section, as well as a navigation map was designed for the virtual tool.

It begins with the pedagogical design, which consist of two big activities: The application of concepts of the learned about VLO, and the definition of competences to develop.

Afterwards, the design of the navigation is done, establishing the modules content and the thematic units. At this point the instruction for the activity, the didactic resources, the evidence and evaluation criteria are created. In the table 1 the detail of the implemented VLO is presented.

### Table 1. General design of the course.

| Educational Institution Campo Hermoso |  |
|-------------------------------------|  |
| Teacher’s name: Maria Isabel Uribe and Magda Milena Vargas Gil |  |
| Course’s name | Program for the development of social skills that contributes in the prevention of any bullying behaviors. |
| Grade | Fifth of primary school |
| Weekly schedule | 2 hours |
| Course Introduction | The virtual program will help the students of fifth grade to develop bullying knowledge and to strength their social skills that could prevent bullying behaviors to appear, through the thematic exploration and interactive elements, such as pedagogical strategy that promotes the motivation and significant learning. |
| Learning Objectives | The ICT based program will allow the students to broach contents to the social skills' development, that will contribute to prevent the bullying behavior, through the thematic and activities exploration interactively, thus promoting learning, development and strengthen of positive behaviors that promote the peaceful coexistence, also decreasing the bullying behaviors. |
Welcome Announce

Welcome dear students, in this course that uses technological tools (computer, internet and programs or applications for academic activities); you can become an expert of bullying at the scholar area, you can learn about the relationships with your schoolmates and you can discover important elements, such as the bullying definition, the types of bullying, the characteristics to identify an aggressor or a victim, and the law that requires students to respect the difference; what’s more, social skills activities will be performed, specially those which allows the problems’ solutions, and finally, concepts and exercises about, with a lot of importance in the school life, the citizen competences.

General Communication Areas

It is a bullying thematic forum, where is possible to ask questions about this subject, to chat with the teacher about any arisen concerns, and to receive messages to get updates of the activities.

The Thematic units developed are:

a) Bullying and types of bullying. Identifying aggressors: In this first activity, the general concepts about the bullying are reviewed, allowing a characterization by the students regarding the harassing situations at the classroom. The actors involved has to be identified at the classroom.

b) Colombian Law, 1620 of 2013. Anti-bullying law: A reading of the most important aspects within the Law 1620 (related to scholar abuse), as well as the review of one video related to the topic. They have to complete a crossword puzzle about bullying with the possibility of participating in forum with their peers.

c) Development of social skills: The students reviewed a video about social skills, its importance, usage and the appropriate way to develop them. An interactive game of relate concept with images will be realized. They actively participated in a forum where the students could contribute their ideas about social skills.

d) Development of citizen competences: The students reviewed the citizen competence concept, mainly on active listening. A new crossword and a table with general characteristics are developed.

![Figure 2. Evidence example of the thematic activity 2.](image)

Implementation Phase: Through VLO, the intervention was performed to the experimental group (501). The sessions were at the computer classroom with 2 hours of duration. The phases described above were applied, both the diagnosis and the implementation of the VLO to the classroom.

Validation Phase: By last, the post-test questionnaire was applied to the both groups (501 and 502) to compare the results after the application of the OVA, finally the statistical treatment was applied to the data and the results and recommendations were elaborated. This is presented in the following chapter.
3 RESULTS

During selection of the statistical test to use, it was determinate that the study consists of paired samples (dependents), since they are the same subjects at the pre-test and the post-test, with ordinal numerical variables; additionally, the criteria for selective parametric and non-parametric test was verified, finding that the subjects wasn’t randomly assigned to the development of the VLO, therefore, it was decided that it is a non-parametric test of Wilcoxon. In accordance with the data analysis performed, in the Table 2 is possible to see the most relevant statistics related with two groups and the pre-test and post-test measurements for the dependent samples.

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Median</th>
<th>Standard deviation</th>
<th>Standard error</th>
</tr>
</thead>
<tbody>
<tr>
<td>501 pretest</td>
<td>36</td>
<td>32,11</td>
<td>7,2</td>
<td>1,2</td>
</tr>
<tr>
<td>501 postest</td>
<td>36</td>
<td>45,42</td>
<td>4,87</td>
<td>0,81</td>
</tr>
<tr>
<td>502 pretest</td>
<td>36</td>
<td>30,72</td>
<td>10,20</td>
<td>1,70</td>
</tr>
<tr>
<td>502 postest</td>
<td>36</td>
<td>31,00</td>
<td>10,38</td>
<td>1,73</td>
</tr>
</tbody>
</table>

By the other hand, in the Table 3 is possible to see the data found after the conformation of the ranges to calculate the Z of Wilcoxon, which was calculated because the sample exceeds N=25. Then the value of Z=-5,25 for data related to grade 501 at pre-test and post-test conditions, and Z=-9,1 for data related to grade 502, at same conditions. This Z at a significance level of 0.05, is found a critical value of 0.000 which end on the rejection of the null hypothesis, therefore, there are significant differences in the group 501 before and after the application of the VLO, in comparison with the control group to whom the VLO wasn’t applied.

<table>
<thead>
<tr>
<th>Rank</th>
<th>N</th>
<th>Rank Average</th>
<th>Sum of the ranks</th>
</tr>
</thead>
<tbody>
<tr>
<td>501 pretest-501 postest</td>
<td>Positive ranks</td>
<td>36</td>
<td>18,50</td>
</tr>
<tr>
<td></td>
<td>Negative Ranks</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tie</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>502 pretest-502 postest</td>
<td>Positive ranks</td>
<td>11</td>
<td>12,77</td>
</tr>
<tr>
<td></td>
<td>Negative Ranks</td>
<td>10</td>
<td>9,05</td>
</tr>
<tr>
<td></td>
<td>Tie</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>36</td>
<td></td>
</tr>
</tbody>
</table>

The table above shows that the grade 501 does not have negative ranges, unlike the grade 502 where the average of negative ranges reach the 9.05. As for the scores obtained by the tabulations of the self-reports the students from grade 501 without any statistical treatment have the higher scores, explaining why the median was higher at the post-test measurement, and although the median was only greater than the group 502 by 1,39, the direct difference in the post-test was 14.42.

Given that the differences found were significant, it was determined that the implementation of the OVA helps at the prevention of bullying in the students of fifth grade of primary school of the IECH. Because of the statistical significance, the authors can accept the hypothesis H1 and then discard the null hypothesis H0.

4 CONCLUSIONS

Results show a significant statistical difference between the execution of the pre-test and post-test to the both groups, therefore, the results can be directly attributed to the OVA’s application to the students of the grade 501; it is concluded that the interactive activities based on the significance learning promoted a sensitization process and the development of cognitive competences, that is,
knowledge. This results where confirmed by [23], who found that when using ICTs’ tools to work the 
bullying problematic, in the Physical Education subject, greatly facilitated the acquisition of knowledge 
by students regarding this phenomenon, promoting a change of attitude.

Development of skills as assertiveness, empathy, and the active listening were also positively affected 
using this type of virtual tools, since this design of pedagogical activities promotes the knowledge and 
the practice of those skills, it is also observed that some students with aggressive behaviors apply new 
techniques like counting to 20 or apologizing. As well as the study carried by [9], who through a 
computer program was possible to promote a decrease of aggressive behaviors such as bullying or 
cyberbullying, and some positive skills increased such as the empathy; it is concluded that if a design 
of the same type as the present study is used, the changes occurred will follow the tool used, although 
it is considered that is needed to work more on aspects of the program that achieved the results of the 
intervention.

On the other hand, the activities designed on the VLO regarding the bullying thematic, with all aspects 
related, including the new Colombian Law which aims to mitigate the bullying events, contributed to 
the recognition of this phenomenon within the institutions and contributed to the development of social 
skills which become mechanism to prevent bullying at the educational Institution; The effort of the 
legal component and pedagogy field, supported on ICTs, is leading to the decrease of scholar 
violence, as stated in [11], showing with their study that there are certain types of effective programs 
that help to reduce victimization and bullying, with a greater effectiveness in the primary students.

In addition, at curricular subjects such as mathematics or biology, the students present their activities 
more responsibly, for example, when the activities are delivered through the virtual classroom, those 
who didn’t deliver it on time, they deliver it but a little later, unlike the other subjects they simply ignore 
if they don’t do it in time.

Finally, it favored the teachers to adopt technological tools due to the design of the activities, the 
selection of pedagogical model, the instructional design and the implementation of activities that 
require the teacher to handle the VLO that imply the access to the platform, the development of 
activities such as receiving activities, viewing activities, applying resources, among others.

It is concluded that there are statically significant differences at the execution of both pre-test and 
pot-test measurements, whose function is to indicate the incidence of a VLO at the learning process of 
students of the grade 501 regarding bullying prevention.

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