



Development Of Student Helpline Application Model To Help Reduce Bullying Cases In Elementary Schools

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Abstract

Bullying or harassment was a negative behavior involving the abuse of power or authority by individuals or groups with the aim of hurting others, which could lead to trauma. The aim of this research was to develop a reporting application called Student Helpline to help reduce cases of bullying and harassment at the elementary school. This type of research was research and development (R&D) using the Borg and Gall development model, which consisted of ten stages including: information gathering and preliminary research; planning; initial product draft development; internal testing; revision; small-scale testing; revision; large-scale testing; final product revision; and dissemination. The instruments used were questionnaires, including product validation questionnaires given to media and language experts, practicality and effectiveness questionnaires given to teachers and students, and interview instruments given to the school principal, teachers, and students. The data collection stages in this research included questionnaires, interviews, and documentation as supporting evidence. The results of the study explained that the developed application product met valid, practical, and effective criteria. This application product received a validity score from media experts of 4.93, categorized as very valid, and from language experts, a score of 4.54, also categorized as very valid. The practicality score of the product from teachers received an average of 4.65, categorized as very practical, and the practicality score from students received an average of 94.2%, also categorized as very practical. The effectiveness of the product received an average score from teachers of 4.45, and from students an average score of 93.4%, indicating that the product developed was effective in reporting and receiving reports related to bullying or harassment in elementary schools.

1. Introduction

Technological advancements have been felt comprehensively by many people from various backgrounds. The rapid development of technology has facilitated the creation of many platforms that can be accessed to search for information or other matters freely on the internet. Unfortunately, this rapid technological progress cannot prevent negative social behaviors such as bullying. Bullying or harassment has become a familiar phenomenon. If we search about bullying on the internet, many cases of bullying can be found, and these cases have spread widely from the smallest environments to the digital world. The scope of bullying has also expanded to social media (Yulia & Dewi, 2020). This phenomenon is a negative event that must be avoided. It is also frequently encountered in education, from primary to higher education. In this regard, it is clear that bullying in the educational realm in Indonesia is a serious issue. Good education aims to build good values to improve the quality of the nation, as stipulated in Law No. 20 of 2003, Article 37, paragraphs 1-3, on the National Education System, focusing on the development of attitudes, character, and the strengthening of ideological-philosophical values of the nation (Lisa & Heri, 2023). Bullying is defined as the abuse of power or authority by an individual or group with the intention of oppressing others. This misuse of power or authority can be carried out by those who are not only physically strong but also mentally strong (Junindra et al., 2022). Bullying is a negative behavior that is repeated and directly targets one child because of a power imbalance. Bullying can take many forms, including behavior, attitudes, or words, carried out either directly or through social media.

Similar research was conducted by Ali et al. (2022) under the title "Forms of Bullying and How to Overcome Bullying in Elementary Schools," which shows many bullying cases that students do not realize, such as physical bullying like kicking or hitting friends, and verbal bullying like mocking and ridiculing friends who have deficiencies. This is supported by research conducted by Candrawati & Agung (2023), which explains the bullying actions that occurred at SDN Tanjung Jati 2 Kamal,

including physical bullying, verbal bullying, and mental bullying. Physical bullying is defined as acts of physical violence, such as punching or kicking. Verbal bullying is dominated by insults, ridicule, or threats expressed through words. Mental bullying involves intimidation, isolation, or social rejection that affects the emotional well-being of students, which often unknowingly leads to negative impacts on student motivation at SDN Tanjung Jati 2 Kamal. Victims of bullying may experience a decline in learning motivation, anxiety, and emotional disturbances. Consistent with the research conducted by Auliya Sani et al. (2019), bullying behavior causes a difference in academic performance, where victims of bullying tend to achieve poorer academic results.

From interviews conducted at four schools in Tulungagung Regency, the researchers gathered information that bullying is one of the issues being highlighted, resulting in special attention being paid to bullying behavior in each school. From interviews with school principals, it was found that schools are actively educating students and parents about bullying. Classroom teachers revealed that students often engage in actions, like small pinches or minor altercations, as jokes, but students do not realize that such behavior constitutes bullying. Therefore, further understanding is necessary. Interviews with several students indicated that some students often call others by nicknames, such as referring to them by their parents' names or other odd terms. Additionally, some students stated that higher-grade students often mistreat lower-grade students. Another issue related to bullying involves students engaging in playful hitting, which causes one of their friends to cry. From the problems identified, it was concluded that students do not understand what behaviors are considered bullying, leading them to continue behaviors that they think are just jokes. Thus, it is necessary to raise awareness of what constitutes bullying behavior to reduce negative bullying actions.

An application is defined as a program used to follow the commands of users according to the purpose of the application's creation. It is also defined as a special tool based on its capabilities as a ready-to-use computer device for users (Siregar & Melani, 2019). The advantage of an application is that it can be accessed anywhere and anytime. In terms of its use, an application can be employed for reporting or other purposes, depending on its development goals. Application usage is considered appropriate today due to the technologically advanced era and the demand for quick access to something. An application can be designed as a tool for reporting or taking action. Based on research conducted by Wicaksono et al. (2019) on "Development of an Android-Based Road Damage Reporting System for Malang City Using the Crowdsourcing Concept," it is explained that the use of android and web-based applications is considered easy to use and effective in assisting reporting related to road damage cases. This explains that the appropriate use of an application can help users solve their problems. Given the many cases of bullying in schools, there needs to be action taken by various parties. Effective action must provide positive outcomes. This research aims to develop an application called Student Helpline, which is simple and attractive and assists in reporting bullying or harassment cases in elementary schools. The application is android and web-based and can be used by schools to handle bullying and harassment cases.

2. Method

This research is research and development (R&D). The development model used is the Borg and Gall model, consisting of (1) Information gathering and preliminary research; (2) Planning; (3) Initial product draft development; (4) Internal testing; (5) Revisions; (6) Small-scale testing; (7) Revisions; (8) Large-scale testing; (9) Final product revision; and (10) Dissemination. The stages of this development model use terms similar to the stages of the Borg and Gall development model. According to Ardhana, every development research can determine the most appropriate steps to use based on the specific conditions faced by the researcher (Wibowo & Pratiwi, 2018). The stages of this development process are as follows:

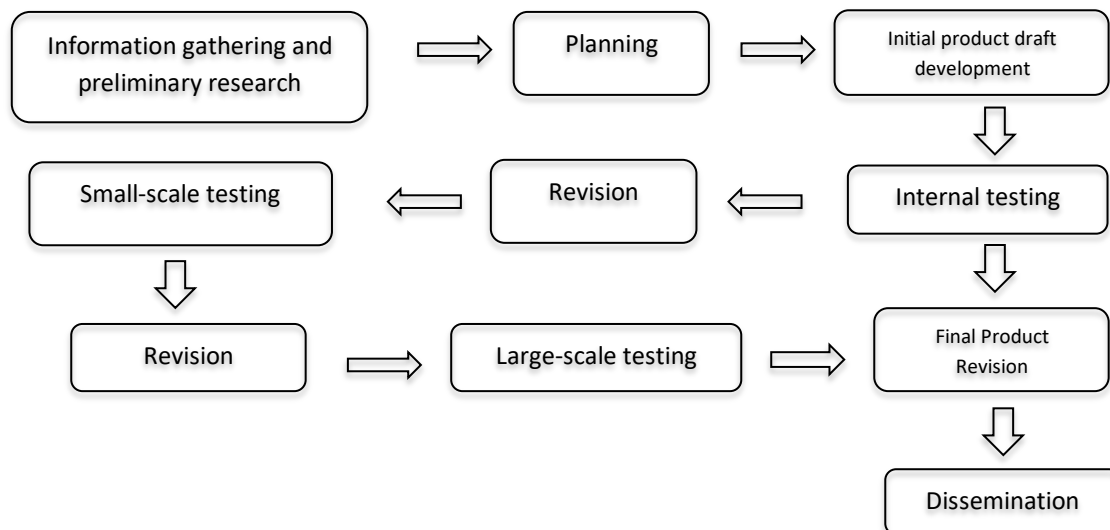


Figure 1. The Borg and Gall Research Flow

This research and development were conducted on elementary school students at SD/MI in Tulungagung Regency. The total number of participants was 60 students, divided into 10 students for the small-scale trial and 50 students for the large-scale trial. The sampling technique used in this research was random sampling. Random sampling was chosen so that each member of the population would have an equal chance of being selected as a respondent, in line with Arieska & Herdiani (2018), who stated that random sampling is a sampling technique that gives every member of the population an equal opportunity to be selected. Data collection in this study was carried out using questionnaires, interviews, and supported by documentation as evidence to strengthen the research data. The instruments in this research were adapted from previous studies.

2.1. Method 2

This research and development involved media and language expert validators to validate the feasibility of the developed product. The validation from media and language experts would serve as the benchmark for the feasibility of the developed application product. An initial interview was conducted to observe bullying cases in schools, and this interview was unstructured. Product-related interviews were conducted to gather responses regarding the developed product as well as suggestions and input related to the developed application. The questionnaire in the development research was used to assess the practicality and effectiveness of the product. The practicality of the product was measured by how easy the application was to use by students and school staff, and the effectiveness was assessed by the application’s ability to assist in reporting bullying cases. The data analysis in this study was both descriptive and inferential. Descriptive analysis involved suggestions and critiques from validators and users, while inferential analysis involved calculating the results of the questionnaire. The expert validation questionnaire and the practicality and effectiveness questionnaire for teachers used a Likert scale of 1-5. The following are the evaluation criteria for the developed questionnaire.

Table 1. Product Validity Categories

Interval Skor	Category
$X > 4,21$	Very good
$3,40 < X \leq 4,21$	Good
$2,60 < X \leq 3,40$	Currently
$1,79 < X \leq 2,60$	Low
$X \leq 1,79$	Very low

The effectiveness questionnaire for teachers was assessed in the same way as the practicality questionnaire. Meanwhile, the practicality and effectiveness questionnaires for students used the Guttman scale with “Yes” or “No” answer choices. The selection of this scale was intended to make it easier for elementary school students to assess the developed application product. The following are the practicality categories according to Sugiyono (2012) that were used.

Table 2. Product Practicality Categories

Interval Skor	Category	Decision
$X > 4,21$	Very good	Can be used without revision
$3,40 < X \leq 4,21$	Good	Can be used but requires revision
$2,60 < X \leq 3,40$	Currently	Can be used with major revision
$1,79 < X \leq 2,60$	Low	Not to be used, needs revision
$X \leq 1,79$	Very low	Cannot be used

The average score of aspects evaluated by validators and teachers is calculated using the following formula:

$$X = \frac{\sum X}{n}$$

Explanation:

- X = Average score
- $\sum X$ = Total score
- n = Number of aspects assessed

2.1.1. Method 3

Meanwhile, the practicality and effectiveness questionnaires for students use the Guttman scale with "Yes" or "No" response options. The purpose of using this scale is to make it easier for elementary school students to evaluate the developed product. The following are the practicality categories based on Sugiyono (2012) that are used.

Table 3. Guttman Scale for Student Practicality and Effectiveness Questionnaire

Response	Score
Yes	1
No	0

The results of the questionnaire are assessed to determine the practicality of the developed product. Once the questionnaire data is collected, the scores are analyzed using the formula (Irsalina & Dwiningsih, 2018):

$$P = \frac{\sum x}{N} \times 100\%$$

Explanation:

- P = Percentage
- $\sum x$ = Total score
- N = Maximum possible score

The overall results from the student response questionnaire are processed to determine the practicality category of the developed product. The percentage categories for the practicality of this media product are as follows:

Table 4. Criteria for Student Practicality Results

Percentage	Category	Decision
80% < P ≤ 100%	Very Practical	Can be used without revision
60% < P ≤ 80%	Practical	Can be used but requires revision
40% < P ≤ 60%	Fairly Practical	Can be used with major revision
20% < P ≤ 40%	Less Practical	Can be used with major revision
0% < P ≤ 20%	Not Practical	Cannot be used

The effectiveness category from the student questionnaire is assessed similarly to the student practicality questionnaire, following the evaluation categories based on Akbar (Rohmah et al., 2022).

3. Results and Discussion

At the information gathering stage and conducting preliminary research, a pre-research study was carried out in several elementary schools in Tulungagung Regency, along with a needs analysis related to bullying cases. Based on observations and interviews, it was found that several bullying incidents occurred, predominantly verbal and physical bullying. These incidents persist due to the students' lack of understanding about bullying. From the pre-research results, it was revealed that the bullies were often unaware that they were engaging in bullying, as they perceived it as merely joking. On the other hand, teachers reported that many students were too embarrassed to report what was happening to them directly. The next stage is the planning phase, where the research instruments and the model for the Student Helpcare application are developed. The instruments created include validation tools for the Student Helpcare product, as well as the syntax development for the application. The third stage is the development of the application product draft, carried out by the team by designing the Student Helpcare product in the form of both an application and a website. The design process began with coding and creating the features for the application and website. Afterward, the draft was tested to check for any errors. The result of this development media product are as follows:

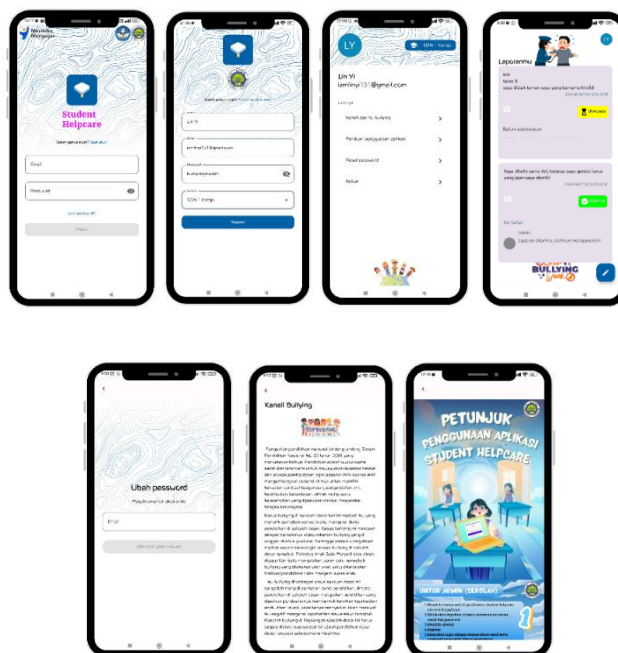


Figure 2. Student Helpcare Application Display

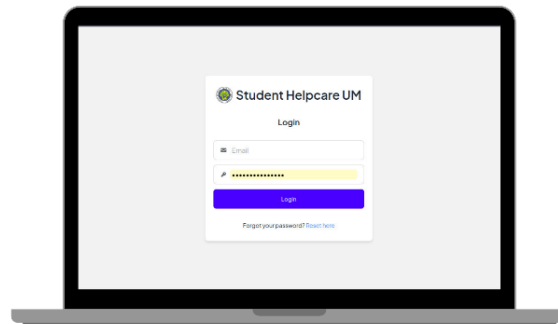


Figure 3. Student Helpcare Web Admin Display

After the product was completed, the validation of the Student Helpcare product was conducted by media experts and language experts to assess the validity of the developed application.

Table 5. Media Validation Result

Validation	Aspect	Score
Media Expert	Display	24
	Usage	35
	Function	15
Total Score		74
Average		4,93
Category		Very Feasible

Based on the table presented, the validation results for the media, analyzed using the evaluation criteria according to Sukardjo (2008) as cited in Sholeha (2021), received a score of 4.93. According to Sukardjo's five-point evaluation scale, a score of 4.93 falls within the interval of $4.93 > 4.21$, which is categorized as very valid, indicating that it is suitable for use or testing without revisions. It can be concluded that the validity of the Student Helpcare application is excellent. Additionally, the media expert suggested providing information related to the application and the profile of the developers of the application.

Validation	Aspect	Score
Language Expert	Language Suitability	22
	Communicative	14
	Clarity	14
Total Score		50
Average		4,54
Category		Very Feasible

From the data presented in the table, the language validation results, analyzed using the evaluation criteria according to Sukardjo (2008) as cited in Sholeha (2021), received a score of 4.54. According to Sukardjo's five-point evaluation scale, a score of 4.54 falls within the interval of $4.54 > 4.21$, which is categorized as very valid, indicating that it is suitable for use or testing without revisions. It can be concluded that the validity of the Student Helpcare application is excellent. The language expert also suggested adding engaging text, considering that the target users of this application are elementary school students.

3.1. Results and Discussion 2

The next stage of development, after product validation, is internal testing with peers before the product is tested in a limited and wider context in the research. This internal test was conducted with several classmates to download, register, report issues, and respond to reports on the developed application. The results from the internal testing with peers indicated that the developed application has a good interface and user-friendly features. However, some bugs were encountered when switching accounts or registering, necessitating improvements, followed by revisions based on the internal test results.

The next stage is a small-scale trial involving 10 elementary school students, followed by revisions based on the small-scale results. Subsequently, a large-scale test involving 50 students from three elementary schools is conducted, with revisions made based on the feedback and suggestions received. The small and large-scale tests are carried out to assess the practicality and effectiveness of the developed product. Below are the results of the practicality and effectiveness of the product based on feedback from teachers and students.

Table 6. Student Practicality Result

No	User (Students)	Score	Category
1.	Small-Scale Trial	90%	Very Practical
2.	Large-Scale Trial	98,4%	Very Practical
Average		94,2%	Very Practical

Table 7. Teacher Practicality Result

No	User (Teacher)	Score	Category
1.	Small-Scale Trial	4,7	Practical
2.	Large-Scale Trial	4,6	Practical
Average		4,65	Very Practical

From the results of the practicality questionnaire for students and teachers, it was found that the Student Helpcare application is practical for use by both students and teachers, as neither group experienced difficulties while using the developed application. Suggestions and feedback related to the practicality of the product include adding notifications so that students can track the progress of their reports without needing to open the application first.

Table 8. Student Effectiveness Result

No	User (Students)	Score	Category
1.	Small-Scale Trial	89%	Very Effective
2.	Large-Scale Trial	97,8%	Very Effective
Average		93,4%	Very Effective

Table 9. Teacher Effectiveness Result

No	User (Teacher)	Score	Category
1.	Small-Scale Trial	4,5	Effective
2.	Large-Scale Trial	4,41	Very Effective
Average		4,45	Very Effective

From the results of the practicality questionnaire for students and teachers, it was found that the Student Helpcare application is effective for both students and teachers in reporting and responding to instances of bullying at school. Suggestions and feedback related to the effectiveness of the product include adding a photo feature. The final stage of this development model is the dissemination of the product, which is carried out by sharing the results of the product development through journal article seminars and social media.

3.1.1 Results and Discussion 3

The development of the Student Helpcare application using the Borg and Gall development model resulted in a valid, practical, and effective outcome. In line with Nieveen et al. (2015), good development must meet three aspects: validity, practicality, and effectiveness. The Student Helpcare application model received positive feedback from both teachers and students. The application development was deemed appropriate and helped schools address bullying behavior, while also serving as a platform for reporting bullying programs conducted by the education authorities.

According to expert validation, the developed product was highly valid, with media experts stating that the product's appearance was attractive, supported by images and colors in the application. In terms of usability, the application was simple, with features easily understood by elementary school students. The functionality of the application aids both teachers and students in addressing bullying actions. Regarding the practicality, the product was rated as very practical by both teachers and students, who found the application easy to use for reporting and responding to bullying incidents. As explained by Fithriyah & Abdur (2013), practicality testing is used to assess how easy it is for users to operate the developed product (Annisa et al., 2020).

Research conducted by Ariputri (2015) on the use of android-based applications found that such applications are easy to use in helping individuals address technological phenomena. Meanwhile, effectiveness testing was used to measure the achievement of the intended goals. In this case, the product's effectiveness was good, but regular activities, such as follow-up on reports and discussions with the parents of involved students, are necessary. Related to bullying behavior arising from students' lack of understanding, the material provided in the Student Helpcare application will help students understand the definition of bullying, its types, and the effects and ways to overcome bullying. Additionally, the inclusion of reporting features can facilitate teachers' efforts in detecting bullying incidents. Based on research conducted by Junindra et al. (2022), the role of teachers in addressing bullying is crucial, as teachers can take several actions, including preventing and addressing bullying, motivating students, imposing sanctions for inappropriate behavior, conducting discussions, cooperating with parents/guardians, and consistently guiding students. Through this application, teachers' performance in dealing with bullying will be supported.

3.2. Conclusion

Bullying and harassment are negative behaviors that must be avoided because they have harmful effects. The forms of bullying vary, including verbal and physical bullying. The impact of bullying and harassment in schools is very dangerous, one of which is the loss of motivation, academic achievement, and a sense of security. As a product in the form of an application, the Student Helpcare product provides several features that are easy to use and help both students and teachers. Through this application, students have the opportunity to report problems they experience privately without having to feel embarrassed in front of others. Thus, the development of this application product in this research is expected to address the issues related to bullying in elementary schools and help students understand bullying.

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