Developing A Digital Model As A Literature For Preventing And Overcoming Cyberbullying Among Children And Teenagers K-Pop Fans

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Abstract. This study aimed to develop a digital module for Digital Literacy for children and teenagers who were K-Pop fans to prevent cyberbullying. Data showed that K-pop fans consisting of children and teenagers in Indonesia were one of the largest Internet users in the world. The high use of the Internet was also directly proportional to the cyberbullying that occurred to them, not only as victims but also as perpetrators. This was the reason why this study was important because it specifically targeted K-Pop fans while they were active internet users. This study was development research referring to the 4-D model, which consisted of four developmental stages: defining, designing, developing, and disseminating. It was simplified into three stages: defining, designing, and developing. The defining step aims to assess the children and teenagers' needs, the designing stage aims to create the product based on data obtained from the previous stage, and the developing stage is to improve the product based on the results of validation and evaluation. The digital literacy e-module produced in the study consists of an introduction, search engine, social media and online conversation applications, and online shopping, adapted to K-Pop Fans' characteristics.

Keywords: Digital Skill, Cyberbullying, K-Pop, Modul, Children,

INTRODUCTION

Data shows that 2022-2023, Indonesia had 215.63 million digital data users. It increased by 2.67%, which was only 210.03 million in the previous year. (APJII, n.d.). Children and adolescents are the dominant internet users. They ranged from 19-34 years old (32.09 percent) and 35-54 y.o. (33.67 %). On the other hand, ages ranging from 13-18 y.o. were 12.5%, while the adults (>55 years old) were 7.19%. In 2022, the level of internet penetration in groups aged 5-12 years old was at 62.43% (APJII, n.d.)

This data confirms the age of K-Pop fans identified by (C. R. Anwar, 2018). He found that many students started to admire K-Pop when they were in the middle-high school age. The average age of junior high school students is 12-18 years old. Indonesia is one of the biggest fans of K-pop in the world and the most active on the Internet (Yuliawan & Subakti, 2022). This also proves
that K-Pop is also the largest internet accessor in Indonesia.

Data from U-Report 2021 show that 45% of 2,777 youths aged between 14-24 had experienced cyberbullying (UNICEF, 2021). Meanwhile 2020, according to KPAI, several bullying cases happened to children in early 2020. KPAI recorded that in 9 years, from 2011 to 2019, there were 37,381 violence complaints against children. This is in line with the statement of the Coordinating Minister for Human Development and Culture (Menko PMK), Muhadjir Effendy, that 45 percent of children in Indonesia were victims of cyberbullying in 2020 (Utami, 2022).

The bullying cases in educational institutions and social media reached 2,473 incidents, and the trend continues to increase. Cyberbullying (UNICEF, 2021) is bullying performed through social media, including chatting platforms, games, etc. UNICEF confirmed that bullying increased during the Covid-19 pandemic because children could not be separated from the Internet daily. On the other hand, several studies measuring the level of digital literacy in Indonesia show it is still low.

Children, as digital natives, can master the Internet very quickly. Besides what their environment demands, the school, including the extra and intracurricular programs, also utilizes digital spaces. Therefore, it is impossible to stop children from using the Internet.

However, digital literacy comes as the solution. Parents and children have to be digitally literate. Parent have to guide their children in using the Internet by explaining the obligations and rights in the digital space. (M. Yemmardotillah, 2021), in 2019, 66.5% of teenagers in Bandung, Denpasar, Pontianak, and Surabaya learned to apply digital technology autodidactically (Katadata.co.id, 2019). This showed that developing digital literacy for children and young adults through digital books could be an alternative.

Children and teenagers must have digital literacy because changes in behavior and communication style are resolutely promoted by digitalization. (Zis et al., 2021). Studies about native digital and digital literacy have been widely carried out before. However, the present study focused the subjects on K-pop fans.

It is important to target K-pop fans because most of them are children (Andriani et al., 2021) and the biggest Internet users. Furthermore, a survey conducted by Twitter listed Indonesia as a country with a large number of K-pop fans and were also listed as fans who talked the most about K-pop on the social media platform. (Asrie & Misrawati, 2020). This was an important concern because digital media not only promises ease of information exchange and interaction but also has some threats, known as cybercrime and cyberbullying, as previously described, which are mostly vulnerable to children both as victims and perpetrators. (Rinata & Dewi, 2019).

Hallyu Wave offers interesting entertainment and potentially promotes some negative impacts, especially cybercrime, because most activities are online, like streaming, socialization, and shopping (Reid & Gatson, 2011). Cyberbullying can lead to war among fans (Juditha, 2021). Besides that, online shopping does not only promote consumerism and allows fraud (Cesara & Putri, 2021; Khoirunnisa et al., 2018) (Khoirunnisa et al., 2018)) but can also lead to cyberbullying. Cyberbullying is familiar among K-pop fans because they communicate and interact mostly online (Sandrilla, 2023). Social media, which allows unlimited activities with anonymity, is another reason for the emergence of cyberbullying (Amry & Pratama, 2021).

Based on this, the researchers found that digital literacy was very important for children K-pop fans. Even though they have good digital skills, cyberbullying still threatens them, which could negatively affect them in real life. Providing digital literacy is difficult because it must be adjusted to the target needs. Meanwhile, the K-Pop fans have unique characteristics (Jang & Song, 2017; Lie, 2012). Therefore, this study is preceded with need identification and developed a digital smart book that is interesting and easy to assess by children.

Each chapter of the digital book displays the colors of fandom and idols that interpret the digital literacy competencies set by Kominfo, Siberkreasi, and JAPELIDI, namely Digital Capability, Digital Media Ethics, Digital Media Culture and Safe Digital Media ((Monggilo, 2021)). The book describes facts and stories about K-pop, the common terms, and the positive and negative impacts of their various problems. (Kusumawati & Widita, 2021; Vargas Meza & Park, 2015). This book also presents guidelines for preventing cyberbullying using social media features, which can be used to prevent information abuse and cyberbullying.
The book aims to introduce a safe and comfortable internet for K-pop fans (C. R. A. Anwar, 2021) and as a guide for parents to better understand their children's world, including the potential dangers threatening their children in the digital world so that they can wisely solve or prevent it.

METHOD

This research and development refers to the 4-D model proposed by S. Thiagarajan and Semmel (1974), which consisted of 4 stages of development, namely defining, designing, developing, and disseminating. However, it skipped the dissemination process as suggested by (Sugiyono, 2018). The reason was that the stages were in accordance with the research objectives to produce a digital module that was easy to access and attractive to children who were KPop fans.

This study was carried out in Makassar City by inviting junior and senior high school students as subjects. They were selected based on a questionnaire distributed through the K-Pop fan community in Makassar City. The results of this study were validated by two experts in educational media, content, or material and were tested by groups of children and teenagers who were KPop fans. The object of research was the e-book- to prevent and overcome cyberbullying among children who were K-Pop fans.

The data collected through questionnaires were grouped into three parts, namely: (1) evaluating data from the assessment made by experts,

(2) the second stage is data analysis. All data were grouped according to their nature (qualitative or quantitative). Qualitative data were obtained through interviews related to the results of expert reviews. On the other hand, quantitative data were obtained from the results of the assessment of 25 K-Pop who were selected by purposive sampling.

Research data were collected through observations, questionnaires, and interviews. Observations were carried out to collect initial data to understand the phenomena better. Then, questionnaires about the feasibility and attractiveness of the e-book- developed by the researchers were given to the learning media expert and a content/material expert. Meanwhile, interviews were carried out to get responses, comments, and suggestions from the young K-

Pop fans after using the learning media developed by the researchers.

This development research employed two data analysis techniques: qualitative descriptive and descriptive statistics.

1. Qualitative Descriptive analysis

This qualitative descriptive analysis processed data from experts' reviews of material/content and learning media. This data analysis technique was carried out by grouping information from qualitative data obtained from questionnaires, including input, feedback, critiques, suggestions, interviews with media and design experts, learning material content experts, individual trials, and teacher responses. The results of this analysis were used as the basis to revise the product.

2. Descriptive Statistical Analysis

This analytical technique was used to process the data obtained through a questionnaire in the form of a descriptive percentage. There is a formula used to calculate the percentage of each subject.

RESULT AND DISCUSSION

Result

Definition Phase

a. Preliminary Analysis

At the initial analysis stage, the researchers identified problems through an online survey distributed to the K-pop fan community in Makassar, tailored to the needs based on age. Thirty-eight respondents filled in the questionnaire to discover the basic problems teenage K-Pop fans face in Makassar. Based on the survey, we found that cyberbullying is the problem young K-Pop faces when interacting in the digital world. In this case, out of 38 respondents, 12 had been victims of cyberbullying, and 3 had doubts or had unknowingly been victims.

One of the factors triggering cyberbullying among young K-Pop fans in the city of Makassar is the high intensity of assessing the Internet, which is not balanced by digital literacy skills. Therefore, we made an e-book to prevent and overcome cyberbullying in groups of children and teenagers K-Pop in Makassar.

b. Analysis of Teenagers

The study's respondents were in the age range of 15 to 17 years. The 5 (five) years period was chosen to identify if the respondents had
started to idolize KPop since they were children. It also indicates that they had entered the digital world since that age.

**Table 1. Table of Informants**

<table>
<thead>
<tr>
<th>No.</th>
<th>Age</th>
<th>Number of Informants</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15 y.o.</td>
<td>6 Respondents</td>
</tr>
<tr>
<td>2</td>
<td>16 y.o.</td>
<td>17 Respondents</td>
</tr>
<tr>
<td>3</td>
<td>17 y.o.</td>
<td>10 Respondents</td>
</tr>
<tr>
<td>4</td>
<td>19 y.o.</td>
<td>5 Respondents</td>
</tr>
</tbody>
</table>

Based on the table, 21 respondents accessed the Internet for more than 8 hours, 7 accessed the Internet for 8 hours, 8 accessed the Internet for 4-6 hours, and 2 accessed the Internet. The length of internet access was not balanced with their digital literacy skills, so it became an opportunity for cyberbullying attacking the K-Pop fans in Makassar. Then, the product developed by the researchers should be relevant to solve the problem.

c. Concept Analysis

The e-module for digital literacy consists of 1) K-Popers Starter Pack (introductory part) and 2) What are you looking for? As a search engine, Ask K-Popers (chat application), 3) K-Popers Connection (social media and support applications), 4) Idol (e-commerce or online shopping). The four sections were based on the initial identification and basic competencies compiled by KOMINFO, Siberkreasi, and JAPELIDI. Then, it was described with 10 Japelidi digital Literacy competencies.

d. Task Analysis

Materials were mapped based on the results of concept analysis conducted by researchers. The material on the module is arranged into several parts. Each subject contains several questions to explain the purpose of the section and an evaluation to measure the users' understanding of the module.

e. Formulation of Goals

Goals were formulated based on basic digital literacy competencies determined by KOMINFO, Siberkreasi, and JAPELIDI. Then, they were described based on digital literacy competence by breaking them down into several main materials. The descriptions of the ten digital literacy competencies were: 1) Accessing, 2) Selecting, 3) Understanding, 4) Analyzing, 5) Verifying, 6) Evaluating, 7) Distributing, 8) Producing, 9) Participating, and 10) Collaborating.

**Design Phase**

a. Design objectives

The design aimed to provide a digital literacy module ebook to prevent and overcome cyberbullying among K-Pop fans in Makassar.

b. Data Analysis Techniques

At this stage, we analyzed data from reviewing the literature on the guidelines for writing digital literacy modules published by JAPELIDI, SIBERKREASI, and KOMINFO and from the Focus Group Discussion (FGD).

c. Design Process

In designing the module, we did the following stages:

1) Selecting the digital book software
   The software was exported using the Portable Document Format (PDF) format. This format could store text and images and be opened on any operating system, making it easy to share and save.

2) Selection of Format
   The content format of the digital literacy e-module was as follows:
   a) The texts used popular scientific language that was easy for readers to understand.
   b) The number of pages was 60 pages.
   c) The size of the printed module was 15.5 x 23 cm (UNESCO A5 standard)
   d) 6th APA style, with bodynote (no footnotes at all).
   e) The font type of content was Calibri (body), with a size of 12pt. The chapter titles used calibri (bold) with a size of 14pt. The subchapter used calibri (bold) with a size of 12pt.
   f) The spacing was 1.5 to ease readers to read the module text.
   g) The material was organized systematically and sequentially.

3) The Initial design

Designing aims to make a prototype before developing the product. The digital literacy e-book module was designed based on a prototype that had been made previously. The material in the module was made based on digital literacy competencies. The display of the digital literacy module was also based on the layout that had been designed,
including the colors determined by incorporating K-Pop, typography to create attractive visuals and backgrounds that match K-Pop, as well as attractive illustrations that made it easier for readers.

![Image](image.png)

**Figure 1. Modul Cover**

**Development Phase (Develop)**

**a. Development Objectives**

The prototype of the digital literacy e-module was tested to determine its validity and practicality. After developing the product, experts validated it, including learning media experts and content or material experts. The e-book was then developed using Microsoft Office Word software and inputted into design software.

Then, the development was made on the layout, text, background, color combinations, and illustrations. The layout arranges the graphic elements from text, backgrounds, and illustrations. The text used a format already available in the design software, added with typography and a colorful background presenting the K-Pop. In addition, illustrations were made based on the material that had been prepared.

**b. Data Collection Techniques**

After the product was developed, an alpha test was carried out, namely validation from experts, including learning media experts and content or material experts, and a beta test, a trial conducted by giving a questionnaire to 27 young K-Pop fans in Makassar City. The alpha and beta tests were conducted to assess the media, materials, and trials to identify whether the product was valid and practical. The scale used in the questionnaire was a rating scale with options 1-5.

1) Material validation by material experts

The Material expert who evaluated the product was Dr. Rita Gani, S.Sos., M.Sc., lecturer of the Communication Studies Program at the Islamic University of Bandung. The products sent to content or material experts were digital literacy e-modules and a core competency framework for material developed by researchers.

2) Validation of educational media by media experts

Experts carried out validation to measure the validity of the developed digital literacy e-module. After that, it was validated by a learning media expert named Dr. Abdul Hakim, M.Si, a lecturer of the Education Technology Study Program at Makassar State University. The products submitted to the learning media experts were digital literacy e-modules and prototypes.

3) Learning Tools Trial

Target users performed beta testing to determine the users' response to the product's performance to measure its practicality. This stage was carried out after the digital literacy e-module was valid and feasible to be tested according to media experts and content or material experts. Twenty-seven young K-pop fans tested the digital literacy e-module in Makassa.

**Table 2. The Results of Material Validation**

<table>
<thead>
<tr>
<th>No</th>
<th>Criteria</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Appropriate contextualization of modules and users</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Clarity regarding digital literacy and digital literacy competencies</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Conformity between core competencies and material objectives</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Clarity of material indicators and sub-indicators</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>Clarity of the examples</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Correspondence between tables, charts, pictures/illustrations, and material</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>The accuracy of the bibliography as a reference for finding relevant reading sources</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>The accuracy of charts, tables, or illustrative image placement</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>Clarity of the material presentation order</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>43</td>
</tr>
</tbody>
</table>
Table 3. The Results of Media Validation

<table>
<thead>
<tr>
<th>No</th>
<th>Criteria</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cover Quality</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>The attractiveness of the cover design</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>The accuracy of the illustrations on the cover</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Typing Lay Out Accuracy</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Consistency of spaces, titles, subtitles, and typing of material</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>Text Quality</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>Completeness of the components in each chapter of teaching materials</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>The accuracy of the material presentation</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>Accuracy placement of charts, tables, or illustrative images</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>Clarity of the material presentation order</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>48</td>
</tr>
</tbody>
</table>

Table 4. Trial Results

<table>
<thead>
<tr>
<th>No</th>
<th>Assessment Aspect</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The attractiveness of the digital material display</td>
<td>91%</td>
</tr>
<tr>
<td>2</td>
<td>The material/message in the digital module was easy to understand</td>
<td>93%</td>
</tr>
<tr>
<td>3</td>
<td>The suitability of the colors used on the digital module</td>
<td>88%</td>
</tr>
<tr>
<td>4</td>
<td>The font type used in the digital module was easy to read</td>
<td>93%</td>
</tr>
<tr>
<td>5</td>
<td>The quality of the image display on the digital module</td>
<td>91%</td>
</tr>
<tr>
<td>6</td>
<td>The language used in digital modules was easy to understand</td>
<td>94%</td>
</tr>
<tr>
<td>7</td>
<td>The appropriateness of material for teenage K-pop fans</td>
<td>93%</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>92%</td>
</tr>
</tbody>
</table>

The modules that had been developed were then distributed to K-pop fans in Makassar. They were also asked to fill in an assessment form related to the module. Based on the assessment, it was found that 67.7% stated that the module display was very clear, and 35.75% of them stated that the module display was appropriate and attractive. K-pop fans also considered the message in the module very easy to understand. Real examples experienced by K-pop fans accompanied the material in the module; the examples were also provided with wise quotes from idols to convey the message easily. To convey the message properly, it is important to consider the characteristics of the KPop fans that were different and unique. Here, there should be a different approach. Approaching them through their idol was one of the right choices. According to (Yana Choria Utami, 2014), fanatical K-pop fans had emotional bonds with their idols, so whatever happened to them, they greatly affected their activities on social media. The fanatic nature and emotional attachment of these fans motivated them to listen and do what their idols said (Asrie & Misrawati, 2020; Jang & Song, 2017), so giving examples through their idol activities on social media was the right choice to understand them regarding digital literacy.

Figure 2. Module Content

The color selected for the module was also based on the theme. The pastel dominates the
book’s cover and introductory part of rose pink, which was the fandom color of Girls Generation/SNSD. On the other hand, each chapter has a different color. 53.6% of respondents stated that the colors used in the module were very appropriate and attractive, while 10% stated that they were not suitable. In addition, the type of font used in the module was appropriate and eased readers to understand the material presented. The material was accompanied by pictures, which most readers consider appropriate and clear.

The material presented in the module was also considered to align with the characteristics of young K-Pop fans. 67.9% of respondents stated that the material presented was suitable for young K-Pop fans. The language in the module is simple and easy to understand by teenagers, especially K-Pop fans. The terms used there were also familiar to the readers.

However, some weaknesses we found included the placement of less precise images, which made the writing unclear and visible. The explanations in some sections were still too long, so it looked monotonous with the writing.

Then, the weakness of the e-module is that it might damage the eye after a long exposure because of the light radiation from the computer or mobile phone. In addition, to present the module, we need supporting tools such as a laptop/computer to project it.

Discussion

K-Pop fans, which consist of teenagers and children, normally spend a lot of time on the Internet. Korean wave (Lie, 20212) offers many things that may modify the characteristics of the fans. The Korean wave has grown as a soft power, bringing a big impact worldwide (Kozhakhmetova, 2012). As a consequence, the culture it brings spread all over the world. The Internet does not only ease many aspects of life but also potentially triggers harm to the users. Thus, the k-pop lovers should have a good understanding of it. Born as digital natives, they have very good digital skills, leading them to do big action through the Internet to be trending, viral, and so on (Lim et al., 2022). Online shopping skill is also promoted by the availability of their needs on the Internet (Lestari & Tiarawati, 2020). Activities such as voting, streaming, and chatting are common among them to support their idol (Achsanty et al., 2021). Those activities stimulate cyberbullying among K-pop fans not only as victims but also as perpetrators. The study found that K-pop fans received cyberbullying from internal fandom, among fandom, and communities who are not K-pop lovers (Andriani et al., 2021). Besides that, cyberbullying is also faced by K-pop artists, which can influence their fans (Rismayanti et al., 2022). Being a K-pop lover is not only for having fun and being trapped in consumerism but can also bring some positive impacts (Mohd Jenol & Ahmad Pazil, 2022). They can learn about their own culture and compare it to the K-pop culture, like the Sulawesi Selatan people’s habit of using the word ‘table’ (Suhada et al., 2021). Teenagers can also be a part of the global community to talk with other K-pop fans about their idols (Paramita & Laila, 2022).

Therefore, teenagers should be equipped with a guide to apply their internet skills more comfortably to maintain their mental health. They should have a module that is easy to understand, is based on their characteristics, and has an emotional bond with their idol. Their digital skill should be empowered to bring more benefits.
CONCLUSIONS AND SUGGESTIONS

Based on the survey, problems we found among young K-pop fans included cyberbullying caused by the long Internet access without being balanced with digital literacy skills.

The stages to develop the book are: (1) select software and make prototype literacy modules. (2) develop a digital module by determining color, which incorporates K-pop and a background that fits elements of K-pop, as well as illustrations that make it easier for readers.

The digital module was valid based on the assessment carried out by the content/material experts and the media and digital module design experts. Practicality was assessed through individual, small-group, and large-group trials.

Based on the conclusions, we suggest that further researchers develop the digital literacy module to overcome cyberbullying.

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