

The development of instructional materials on sex education for elementary school students

Rini Aryani

Educational Technology, State University of Makassar, Indonesia
Email: aryanirini22@gmail.com

Citra Rosalyn Anwar

Educational Technology, State University of Makassar, Indonesia
Email: citra.rosalyn.anwar@unm.ac.id

Abdul Hakim

Educational Technology, State University of Makassar, Indonesia
Email: abdulhakim

Asnur Lidayni

Master of Communication Sciences, Bandung Islamic University, Indonesia
Email: asnurlidayni@gmail.com

(received: 16-03-2024; revised: 12-05 -2024; accepted: 01-06-2024, published: 25-06-2024)

Abstract: This study aims to develop a picture book and to investigate its validity and practicality for elementary school students. A research and development framework was employed, utilizing the ADDIE model, which consists of three stages: analysis, design, and development. Data were collected through questionnaires and an instrument for validity testing. Product testing was conducted in two stages: (1) validity testing, which involved a subject expert, a learning media expert, and an instructional design expert and (2) practicality testing, which involved five students from a small group and 26 students from a large group. The data were then analyzed by integrating both qualitative and quantitative techniques. Results showed the following: the validity was rated by the instructional materials expert at 87%, qualifying as good, and by the instructional media expert at 98%, qualifying as very good. Meanwhile, the practicality was rated by the small group at 98% and by the large group at 96%, both qualifying as very good. These results indicate that guided inquiry-based animated video media was determined to be suitable for use in early childhood learning.

Keywords: *sex education; elementary schools; picture books.*

Abstrak: Tujuan dari penelitian ini untuk mendesain buku cerita bergambar dan mengetahui tingkat validitas dan kepraktisan buku cerita bergambar untuk siswa sekolah dasar. Penelitian ini termasuk dalam kategori penelitian pengembangan yang dibuat dengan menggunakan model ADDIE yang dilakukan dengan tiga tahap yaitu analysis, design, dan development. Pengumpulan data penelitian dilakukan dengan menggunakan kuesioner dan instrumen uji validitas produk. Uji coba dilakukan dalam dua tahap. Pertama, Uji Validasi isi oleh ahli isi mata pelajaran, ahli media pembelajaran, dan ahli desain pembelajaran. Kedua, uji kepraktisan oleh 5 anak uji coba kelompok kecil dan 26 anak uji coba kelompok besar. Data penelitian kemudian dianalisis dengan menggunakan teknik analisis deskriptif kuantitatif dan kualitatif. Hasil analisis penelitian menunjukkan bahwa uji ahli materi pembelajaran memperoleh 87,00% dengan kualifikasi baik, uji ahli media pembelajaran memperoleh 98,00% dengan kualifikasi sangat baik, uji coba kelompok kecil memperoleh 98,00% dengan kualifikasi sangat baik, dan uji coba kelompok besar memperoleh 96,00% dengan kualifikasi sangat baik. Ditetapkan bahwa media video animasi berbasis inkuiri terbimbing layak digunakan dalam pembelajaran anak usia dini.

Kata kunci: *pendidikan seks ; sekolah dasar ; buku cerita.*

Copyright © 2024 Universitas Negeri Makassar. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>)

INTRODUCTION

Sexual violence against children have profound and detrimental effects on their growth and development. In 2022, Indonesian Commission for Child Protection (KPAI) reported 9,588 cases of sexual violence against children, a significant increase from the 4,162 cases reported the previous year. According to KPAI, in 2019, 62% of sexual violence cases occurred in elementary schools, 24% in junior high schools, and 14% in senior high schools. This indicates that elementary school children are particularly vulnerable to sexual violence. Serious attention must be given to this issue due to its significant impact. The results of the National Survey of the Life Experiences of Children and Adolescents (SNPHAR) in 2018 revealed that children are not only the victims, but also the perpetrators of sexual violence. Evidence suggests that 47% to 73% of perpetrators of both contact and non-contact sexual violence are friends or peers, while 12% to 29% are boyfriends or girlfriends (Muzakkiy, 2020).

Considering that children can be both victims and perpetrators of sexual violence, it is imperative to provide early sex education. (Nilawati et al., 2022). Additionally, this highlights the importance of appropriate treatment and stimulation to ensure children's optimal growth and development. Therefore, efforts must be made to prevent and protect children from the dangers of sexual violence, and one effective measure is providing them with appropriate sex education. Sex education helps children develop positive attitudes and increase their understanding of sexuality, empowering them to protect themselves from sexual violence. (Umar, Noviekayati, & Saragih, 2018) stated that children are at a higher risk of becoming the victims of sexual violence due to their high dependence level and limited ability to protect themselves. Moreover, researchers in the previous study asserted that one contributing factor to sexual violence against children is their lack of awareness of the private parts of their body that should not be touched by other people. Children often remain unaware if they have become victims of sexual violence. Sex education encompasses a wide range of topics, including the reproductive system anatomy, personal sexuality development, sexual relationships, reproductive health, contraception, self-image, values, decision

making, communication, sexually transmitted diseases, protection from sexual violence, and unplanned pregnancy. It also includes information on maintaining the health, hygiene, and safety of the reproductive organs (Budi Rahardjo, Nur Amalia Olby Anwar, Ayu Aprilia Pangestu Putri, & Fachrul Rozie, 2022; Zakiyah et al., 2016).

Therefore, it is imperative to make efforts to prevent and protect children from sexual violence. Teaching children about sexuality is a choice. Sex education enables children to develop positive attitudes and deepen their understanding of sexuality, aiding them in protecting themselves from sexual violence. However, discussing sexuality with children remains a taboo in some societies, inhibiting them from gaining valuable and accurate information on sexuality. Consequently, many children do not receive adequate and necessary sex education (Novrianza, & Santoso, 2022). This lack of understanding of sexuality may place children at a higher risk of becoming either victims or perpetrators of sexual violence. Despite parents' crucial roles in their children's sex education, some are hesitant to discuss sexuality with their children. Thus, sex education at school is vital.

Sex education encompasses various topics, such as human anatomy, reproductive system, ovulation and pregnancy, healthy sexual relationships, sexual acts, and sexually transmitted diseases such as HIV/AIDS (Ybkb.or.id, 2019). These topics are integrated into students' discussions about the interconnections between gender-based bullying, harassment, and the oppression of other marginalized populations. A critical literacy approach is applied to engage students in critical thinking and to analyze the messages conveyed in the books (Goldfarb, Ph, Lieberman, & Ph, 2021).

In fact, elementary schools have not yet fully incorporated sex education into their curriculum (Remaja, 2021). However, it is possible that this content can be integrated into specific themes. Observations related to sex education had been done at some elementary schools, but the school was finally chosen. Results of observations showed that most students were aware of their private body parts that should be protected and the appropriate manner of interacting with others. Sex education requires special media that are easy for teachers to use and appealing to children. The congruence

between instructional materials and children's activities can be an indicator of a teacher's professionalism. Professional teachers play a vital role as communicators and motivators for their students. As communicators, teachers are responsible for planning, implementing, and creating a communicative atmosphere through activities for students. This helps teachers assess students' development. Professional teachers are able to identify students' needs and to provide appropriate instructional materials (Apriliani & Radia, 2020; Octavia, 2019).

This indicates that instructional materials utilized for the delivery of sex education at elementary schools are both appropriate and crucial. Evidence suggests that instructional materials should be made enjoyable and comprehensible for students.

(Novrianza, & Santoso, 2022; Suprpto, 2021) argued that the first lesson in sex education typically aims to introduce body parts. This lesson can be delivered through pictures, posters, songs, and games. Picture books are the most effective in helping children learn to read because they are fun and appealing to elementary school-aged children (Musa & Atqia, 2021). Furthermore, pictures are capable of conveying deeper meanings than words. Children learn to interpret and comprehend the story through pictures. Pictures help deliver important messages. Thus, comic and picture books are popular among children. Children who read picture books often have positive reactions. Based on the study by (Tristaningrat, Putrayasa, & Mahartini, 2022), it is valuable to develop a picture book because picture books can assist students in meeting their learning needs and have an attractive appearance. Studies have shown that picture books can be employed as an educational media at elementary schools.

Therefore, the researchers were motivated to develop a picture book to facilitate sex education. A picture book consists of words and pictures arranged systematically and aligns with the characteristics of its target readers to help them understand a material. (Kartikasari & Setiawati, 2020; Fitriani et al., 2021) asserted that instructional media facilitates the teaching and learning process and creates an enjoyable and engaging learning experience. Audio-visual media is one of the learning media that is currently undergoing significant development. Pictures can illustrate the story, facilitating the readers' comprehension of the content of a book. Research has been conducted on the use of

instructional media to deliver sex education to elementary school students. A study by Wallner (2020) from Tanjungpura University in Pontianak was conducted to develop a video that serves as an instructional media to educate elementary school students about sexuality and to prevent sexual harassment at elementary schools. Similarly, Ninawati, Wahyuni, & Zulfadewina (2020) from Muhammadiyah University of Prof. DR. Hamka in Jakarta conducted a study on the use of a book of sex education animated cartoons to educate elementary school students about sexuality and increase their understanding of it. Studies have shown that picture books are preferred by children. This study was conducted to develop a picture book as an instructional material for sex education. Picture books are instructional materials that can promote students' interests in reading, which consists of words and pictures arranged systematically to suit the target readers' characteristics and to enhance their understanding of the material.

METHOD

A research and development framework and the ADDIE model were employed to conduct this study (Sugianti, 2020). This model is particularly useful in developing a product as it consists of five relatively simple stages and detailed explanations of its subcomponents. Due to the time constraint, the evaluation stage will be performed in a follow-up study. This model is suitable for a media development because it particularly discusses loyalty (Tristaningrat et al., 2022). This study adopted only three stages of the ADDIE model, which are analysis, design, and development, in developing instructional materials. This is because the analysis and design stages have been performed in the previous studies. This study involved 31 students, a media expert, an instructional material expert, and a third-grade teacher. The data were collected through observations, interviews, and questionnaires using an interview guide as the research instrument.

RESULTS AND DISCUSSION

Table 1. Table 1 outlines the steps for developing the picture book titled *Aku Belajar Melindungi Diri Sendiri* (I Learn to Protect Myself) for elementary school students: (1) planning the sub-themes, which include: (i) meeting a stranger, (ii). safe and unsafe touch, (iii). my secret, and (iv). shout, run, and tell, (2)

developing a story outline, (3) sketching pictures, (4) coloring the pictures using CorelDraw digital art, and (5) assessing the quality of the book.

Two elementary school teachers and two specialists assessed the quality of the picture book. The final result of this stage is a picture book for children with the title *Aku Belajar Melindungi Diri Sendiri* (I Learn to Protect

Yourself), which has been analyzed, designed, and developed into a prototype. As the standard in developing a book for children, a storyboard is created to illustrate the elements of a story. Storyboards are commonly used to determine the order of the interrelated events (materials). The storyboard for this picture book was created based on the purposes identified by 31 surveyed students.

Table 1. Development Model Framework

Development Stage	Results of Development
<i>Development</i>	The picture book for elementary school students has the main theme of Me and My Body and four sub-themes: (i) meeting a stranger, (ii) safe and unsafe touch, (iii) my secret, and (iv) shout, run, and tell. The picture book was developed by creating a story outline, drawing a storyboard, coloring the pictures using CorelDraw digital art, assessing its validity with the assistance of a media expert and a content expert to evaluate its suitability for elementary school students. It was then tested on elementary school students. The final result of this stage was a picture book.

The first stage is the needs identification analysis to identify the needs for sex education to improve elementary school students' understanding of sexuality. Then, at the needs analysis phase, the scope was defined and the respondents' characteristics were identified. The questionnaire consisting of ten question items

was distributed to 31 students to identify their needs. At the second stage, before the media was created, a storyline or a storyboard was created to serve as a guide for the development of the picture book. The plot or storyboard was created based on the results of identification of the objectives to be achieved.

Table 2. Problem Identification

No	Aspect of Assessment	Learning Content	Sex Education
1.	Meeting with strangers	Attitudes and behaviors when interacting with strangers	Members of the nuclear family or other trusted people
		Body parts that must be covered and protected	Recognize body parts
2.	Safe and unsafe touch	Private body parts and who can see or touch them	Recognize private body parts that can be seen or touched by other people
		See and touch others' private body parts	Recognize private body parts that cannot be seen and touched when meeting with strangers
3.	My secret	Tell parents or trusted people if someone asks us to keep a secret that makes us feel uncomfortable	What we must do if we find things that go beyond private boundaries
4.	Shouting, Running, Reporting	Actions that need to be taken when interacting with other people in private body parts	

Table 2 shows the results of problem identification, encompassing four aspects, which describe the needs of elementary school students for instructional materials on sex

education.

Figure 1. The Picture Book's Appearance



In addition to questionnaires distributed to students, interviews were performed with the teacher of IIIB class. The teacher was interviewed about sex education. The results suggest that giving sex education to children is not taboo and is highly necessary for children considering that the cases of sexual violence against children are highly prevalent (Chasanah, 2018). Sex education teaches students about their body parts and how to protect them and helps them build a habit of not showing their private body parts to other people. Therefore, the teacher agreed that a picture book on sex education was developed.

- a. Making interactions with others. Sex education helps children increase their basic understanding of how to interact with strangers. Children must be taught about the boundaries within their nuclear family, people outside the family (such as teachers, doctors, and school friends), and complete strangers.
- b. Identifying body parts, which is often neglected in sex education. Children must be educated about body parts that must be covered and should not be seen and touched by others, beyond the limits set in the previous point.
- c. Looking at and touching other people's body parts. In addition to understanding their own body parts, children must be taught how to behave towards others. They must learn about respecting others' boundaries.
- d. Openness. This is another important aspect to be taught to children. Being open to parents and teachers can help them anticipate unfavorable things that may lead to sexual violence.
- e. Defending themselves. Children will learn what actions they must take to protect themselves, such as shouting, running, and submitting reports.

Children are expected to incorporate this knowledge into their daily habits of social

interactions. Regarding the format, the elements of the picture book were selected based on the characteristics of elementary school students. The chosen font type is easy for children to read and copy. The sentences are short, and the language style is suitable for elementary school student, making it easy for them to understand the story. The colors used are bright, and the characters in the story are relatable to elementary school children. The picture book has different but interrelated sub-themes to facilitate children to understand the story. Thus, it is important to combine appropriate pictures, colors, and sentences in a picture book. The development of the picture book as instructional media. The following are the development stages of the instructional media. The first stage is making the story. In making a story, the most important parts are the opening, the relationship among the story and the sub-themes, and the messages to be conveyed. The story, content, and media of the developed picture book are valid for use in delivering sex education to elementary school students based on the validation by the media and content experts.

The second stage is drawing the storyboard or animation to help conveying the messages. The picture book titled: *Aku Belajar Melindungi Sendiri* (I Learn to Protect Myself) is divided into four sub-themes, each of which is determined based on the results problem identification at the beginning. Once the storyboard was finished, a complete picture book was developed.

Figure 2. The Picture Book's Appearance



The next stage is validation by experts, which causes revisions in the developed picture book. The main revision is to change the phrase *pendidikan seks* (sex education) into another phrase with an aim of preventing miscommunication from the beginning. As result, the title of the picture book: I Learn to Protect Myself. Protect Oneself

A. Product Testing

1. Small Group Testing

The next stage is small group testing. It involved five out of 31 students to obtain the

results of their assessment of the picture book. The five students were chosen using a simple random sampling technique, which allows all

individuals in a population to have an equal chance of being selected, either individually or in a group (Nugroho, 2018).

Table 3. Results of Small Group Testing

No	Aspect of assessment	Percentage
1.	The appearance/design of the instructional materials is attractive.	100%
2.	This instructional material makes me more excited to learn about how to protect myself	96%
3.	The font in the instructional material is easy to read.	100%
4.	The sentences in the instructional material are easy to understand.	100%
5.	The pictures in the instructional material encourages me to study	96%
6.	The content of the instructional material is easy to understand.	100%
7.	This instructional material helps me know how to protect myself	96%
Average		98%

The average rating of 98% indicates that the presentation of the picture book is classified as very good.

This testing was performed to gather the responses from 26 students about the practicality of the developed picture book.

2. Large group testing

Table 4. Results of Large Group Testing

No	Aspect of assessment	Percentage
1.	The appearance/design of the instructional materials is attractive.	98%
2.	These instructional materials make me more excited to learn about how to protect myself	96%
3.	The font type used in the instructional materials is appropriate.	100%
4.	The sentences in the instructional materials are easy to understand.	96%
5.	The pictures in the instructional materials encourage me to study	97%
6.	The content of the instructional materials is easy to understand.	95%
7.	These instructional materials help me know how to protect myself	92%
Average		96%

The average rating of 96% indicates that the practicality of the picture book is classified as very good.

3. Teacher's Response

Following the large group testing, the picture book was assessed by the class 3B teacher to evaluate the practicality of the developed picture book by completing the

questionnaire containing ten statement items.

The feasibility and advantage of the developed picture book were tested by involving different parties. The validity testing (alpha test) was conducted by an instructional media expert and a content or instructional material expert using a rating scale assessment method.

Table 5. Results of the Teacher Response Questionnaire

No	Aspect of assessment	Score
1.	The instructional materials align with the learning objectives.	5
2.	The instructional materials are equipped with pictures.	5
3.	The instructional materials align with the characteristics of the students.	5
4.	The instructional materials have a quality appearance/design.	5
5.	The pictures in the instructional materials are easy to understand.	5
6.	The pictures align with the narratives.	5
7.	The terms in the instructional materials are easy to understand.	5
8.	The instructional materials can grab students' attention.	5
9.	The instructional materials are easy to operate.	4
10.	The instructional materials can help students make connections between concepts and reality (in daily life).	4
Total		48
Percentage (%)		96%

The scores obtained from the data were used to determine the feasibility of the media, while the comments and suggestions were used to revise the developed picture book. The comments and suggestions from the instructional media expert included the media developer's identity, media identity, objectives, glossary, and reference list. Some writing mistakes were also rectified.

The scores obtained from the data were used to determine the feasibility of the media, while the comments and suggestions were used to revise the developed picture book. The content expert suggested avoiding the word "sex" in the title of the picture book developed for children. A limitation of this study is that the effectiveness level of the picture book is not measured. This study only investigated the response and benefits of the developed picture book which can be seen from the validity and practicality levels of each testing carried out. The results indicate that the developed picture book is valid and practical.

CONCLUSION AND SUGGESTIONS

In general, the developed picture book is considered valid based on the validation results conducted by the instructional media and instructional material experts, who rated it as very good and good, respectively. Regarding its practicality, based on the results of the small group testing, large group testing, and teacher's response questionnaire, the developed product received very good ratings. Therefore, the developed picture book is considered practical for use in the learning process. Further research might explore the effectiveness of the picture book in achieving learning outcomes.

REFERENCES

- Apriliani, S. P., & Radia, E. H. (2020). Pengembangan media pembelajaran buku cerita bergambar untuk meningkatkan minat membaca siswa sekolah dasar. *Jurnal Basicedu*, 4(4), 994–1003.
- Budi Rahardjo, Nur Amalia Olby Anwar, Ayu Aprilia Pangestu Putri, & Fachrul Rozie. (2022). Teachers' Role as Communicator and Motivator in Facilitating Early Childhood Sex Education in Kindergarten. *Jurnal Pendidikan Anak Usia Dini Undiksha*, 10(2), 283–290. <https://doi.org/10.23887/paud.v10i2.49962>
- Chasanah, I. (2018). Psikoedukasi pendidikan seks untuk meningkatkan sikap orangtua dalam pemberian pendidikan seks. *JIP (Jurnal Intervensi Psikologi)*, 10(2), 133–150.
- Fitriani, D., Fajriah, H., & Wardani, A. (2021). Mengenalkan Pendidikan Seks Pada Anak Usia Dini Melalui Buku Lift The Flap "Auratku." *Gender Equality: International Journal of Child and Gender Studies*, 7(1), 33–46.
- Goldfarb, E. S., Ph, D., Lieberman, L. D., & Ph, D. (2021). Three Decades of Research: The Case for Comprehensive Sex Education. *Journal of Adolescent Health*, 68(1), 13–27. <https://doi.org/10.1016/j.jadohealth.2020.07.036>
- Kartikasari, A., & Setiawati, N. (2020). Bagaimana Komunikasi Orangtua terkait Pendidikan Seks pada Anak Remaja Mereka? *Journal of Bionursing*, 2(1), 21–

27.
<https://doi.org/10.20884/1.bion.2020.2.1.33>
- Musa, M. M., & Atqia, W. (2021). Inovasi Pembelajaran Cepat Membaca bagi Siswa Sekolah Dasar berbasis Media Pembelajaran Interaktif Android. *SEMAI: Seminar Nasional PGMI*, 1(1), 16–38.
- Muzakkiy, M. A. (2020). *Peranan Pusat Pelayanan Terpadu Perlindungan Perempuan dan Anak (P2TP2A) terhadap Korban Tindak Pidana Kekerasan Seksual (Studi Kasus P2TP2A Kota Pasuruan)*. Universitas Islam Malang.
- Nilawati, A., Toja, B., Fathirunnisa, N., Syam, N., Ardiansyah, A. A. M., Muharram, M., & Herman, H. (2022). Masih Tabu, Pendidikan Seks Untuk Anak Usia Dini. *Journal Jendela Bunda PG PAUD UMC*, 10(1).
- Ninawati, M., Wahyuni, N., & Zulfadewina, Z. (2020). Penggunaan Book of Sex Education Animated Cartoons Untuk Meningkatkan Pemahaman Seks Siswa Sekolah Dasar. *PEDAGOGIK: Jurnal Pendidikan*, 7(2), 294–318.
- Novrianza, & Santoso, I. (2022). Dampak Dari Pelecehan Seksual Terhadap Anak Di Bawah Umur. *Jurnal Pendidikan Kewarganegaraan*, 10(1), 53–64.
- Nugroho, U. (2018). *Metodologi penelitian kuantitatif pendidikan jasmani*. Penerbit CV. Sarnu Untung.
- Octavia, S. A. (2019). *Sikap dan kinerja guru profesional*. Deepublish.
- Remaja, P. S. K. (2021). Kebutuhan pendidikan seksual pada remaja: berdasarkan survei persepsi pendidikan seksual untuk remaja. *Jurnal Bimbingan Dan Konseling Terapan*, 5(01).
- Sugianti, Y. hari rayanto. (2020). *Penelitian Pengembangan Model Addie Dan R2d2: Teori & Praktek*. Lembaga Academic & Research Institute.
- Suprpto, H. M. (2021). Pengaruh Buku Cerita Bergambar Terhadap Kemampuan Membaca Pemahaman Dan Hasil Belajar Siswa. *Litera*, 20(3), 446–463.
<https://doi.org/10.21831/ltr.v20i3.40074>
- Tristaningrat, M. A. N., Putrayasa, I. B., & Mahartini, K. T. (2022). Buku Cerita Berbasis Budaya Lokal untuk Kelas IV Sekolah Dasar. *Jurnal Edutech Undiksha*, 10(2), 225–232.
<https://doi.org/10.23887/jeu.v10i2.43220>
- Umar, N. M., Noviekayati, I., & Saragih, S. (2018). Efektivitas Personal Safety Skill terhadap Peningkatan Kemampuan Mencegah Kekerasan Seksual pada Anak Ditinjau dari Jenis Kelamin. *Indigenous: Jurnal Ilmiah Psikologi*, 3(1), 45–50.
<https://doi.org/10.23917/indigenous.v3i1.5815>
- Wallner, L. (2020). Kid friendly? Constructions of comics literacy in the classroom. *Language and Literature*, 29(1), 76–94.
<https://doi.org/10.1177/0963947020910626>
- Ybkb.or.id. (2019). Pentingnya Pendidikan Seks untuk Anak dan Remaja.
- Zakiyah, R., Prabandari, Suryo, Y., & Triratnawati, A. (2016). Tabu, Hambatan Budaya Pendidikan Seksualitas Dini pada Anak di Kota Dumai Taboo, The Culture's Barrier of Early Sexuality Education for Children in the City of Dumai. *BKM Journal of Community Medicine and Public Health*, 32(9), 323–330.