



## Development of Sex Education Model as An Extracurricular Activity in High School to Improve Understanding and Attitude of Care for Reproductive Health

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Article Info	Abstract
Article History : March 2023 Accepted June 2023 Published August 2023	The problem of free sex among adolescents is increasing from year to year, this is because teenagers do not understand and care less about the health of the reproductive organs. The research aims to increase understanding and caring attitude towards the health of the reproductive organs. The development of the sex education model is carried out using the ADDIE development model through 5 stages, namely Analyze, Design, Development, Implementation, and Evaluation. Teaching materials use the Flipbuilder application, the use of the application is expected to make it easier for students to learn. This research also developed other learning tools in the form of lesson plans, syllabi, and other learning assessments. the results of device development obtained reproductive system teaching materials that are valid and suitable for use. The results of the questionnaire from material experts reached 89% (very high), while the validation of teaching materials experts reached 90.48% (very high). At the implementation stage, the effectiveness of the sex education model with teaching materials using the flip-builder application was obtained based on an understanding of 87 (very good). The attitude of students towards caring for the health of the reproductive organs is 65% (good). Students' responses during the biology learning process in class using the sex education model and flip-builder application teaching materials said the students were good to be implemented in class
Keywords: Attitude, Sex Education Model, Understanding, Reproductive Organs.	

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## INTRODUCTION

Today's teenagers (students) have a very high curiosity about various things, one example is the problem of sex. Several studies have found that the problem of free sex is increasing from time to time. These problems are promiscuity, unwanted pregnancies outside of marriage, sexual harassment, and other sexually transmitted diseases (Andriani & Suhrawardi, 2022). This is confirmed by research (Afridayeni et al., 2018) who stated that the problem of free sex among teenagers has become very serious in recent years.

Lots of teenagers (students) misinterpret the problem of sex. They think that sex is a normal thing to do especially in this day and age. They do not know about the dangers of reproductive health organ disorders that they can experience if they do this. This lack of information about the dangers of free sex has a huge impact on the growth of wrong sexual behavior. A lack of information about the dangers of free sex can cause these teenagers to not have good morals. Because of their lack of understanding of knowledge, they seek information from various types of information. For example, some asked their own friends directly or looked for information directly on social media, starting from Google, Facebook, YouTube, and others. But the information they are looking for is not necessarily true. According to (Andriani & Suhrawardi, 2022) argues that the relationship between knowledge and attitudes greatly influences students' mindsets about sex. Teenagers must be smart in choosing and sorting out which information is truly accurate so they don't fall for it. Lack of knowledge and information about sex is one of the factors causing sexual problems, especially in adolescence (Ramadani, 2022). Adolescents are a group of people who are vulnerable to reproductive health problems (Ferine et al., 2023).

According to (Wahyuningtias & Wibisono, 2018) many factors can influence adolescent (student) sex knowledge, one of which is a source of information from social media. It can be seen that there are 82.1% of teenagers who use social media Facebook and Instagram know the human reproductive system. According to (Rahman et al., 2022) discussing sexual matters is something that is still considered taboo and closed by Indonesian society. This causes adolescents not to get clear

information, thus causing sexual problems among adolescents

Based on the results of a survey released by the Indonesian Child Protection Commission (KPAI) in 2020 in several regions, 93.8% of the 4.700 middle/high school students admitted that they were not virgins, had had sexual intercourse, and had watched pornographic videos. According to (Halu, (2021) the factors that influence individual attitudes towards free-sex behavior are influenced by personal experience, environmental influences, family/parents, lack of understanding of religion, and lack of understanding of reproductive system knowledge during the learning process at school. In addition to system material Reproduction in high school is only studied for science students, even though for reproductive system material all students should be required to get it.

Teachers have an important war besides parents. The teacher must take part in the problem of free sex. In addition, the teacher also has an important responsibility in delivering material on reproductive health and disorders. The roles that must be carried out by the teacher include the role of being a guide, trainer, teacher, and educator accompanied by teaching competencies such as pedagogic, social, and professional competencies.

According to (Zahwa & Syafi'i, 2022) learning media is a container for conveying information and messages in learning. In this modern era, it is very appropriate if the learning is packaged by existing developments in Science and Technology. This is an effort to balance the current generation which is classified as a digital native generation, namely the current generation prefers to use digital equipment including in the learning process. According to Besseetal (2021), the learning process using technology-based teaching materials is very suitable for Generation Z. According to (Rahmanita, 2020) technology-based media can increase student independence in learning. Technology media can also make it easy for students to study anywhere because students prefer learning to use technology, it is necessary to develop teaching materials, namely using the flip-builder application. The flip builder-based e-module is one of the learning media that can support the learning process to be more effective because students can study independently at school or home (Wati, 2019). According (Mariana, 2021) states that the most

important benefit of technology-based teaching materials is to increase student learning motivation.

Teaching materials using the Flipbuilder application are expected to help in the student learning process. Based on this, it is very necessary to increase the knowledge of adolescents such as early sex education in the youth section about free sex by adding extracurriculars so that all students, both science and non-science, can both receive reproductive system material at school.

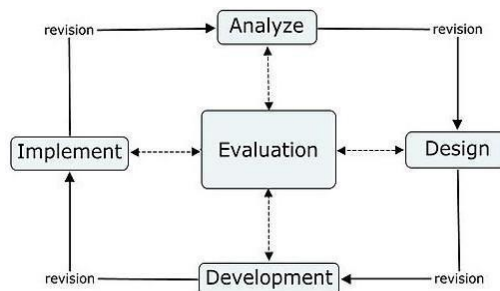
It is hoped that the existence of flip-builder teaching materials as education on reproductive health and disorders can help everyone, especially adolescents, to understand the physical development they are experiencing. The purpose of the researchers was to find out the characteristics of the sex education model and the reproductive system teaching materials, the feasibility of the teaching materials, the effectiveness based on students' understanding and attitudes, and the students' responses to the sex education model using the teaching materials.

**METHODS**

The implementation of the research was carried out at SMA Nusa Bhakti Semarang. The research subjects were teachers and students of grades X, XI, and XII for the 2022/2023 academic year who had already implemented the 2013 curriculum. The subjects for the scale trial were conducted in high school involving class XI. Field trials or large-scale trials are carried out by using the products of revision I. The tests are carried out in high schools consisting of students in grades X, XI, and XII.

The type of research used is the design development model of the ADDIE model.

Development research in the field of education uses the development design model from Dick and Carry (Hamzah, 2019) namely the ADDIE Model where there are 5 stages namely Analyze, Design, Development, Implementation, and Evaluation



**Figure 1.** Development of the ADDIE Model

Analyze, at this stage the researcher analyzed the background problems using qualitative methods, the emergence of the need for a sex education model using teaching materials as extracurricular activities in high school to increase understanding and caring attitudes about the health of the reproductive organs. The analysis steps carried out are needs analysis and curriculum analysis.

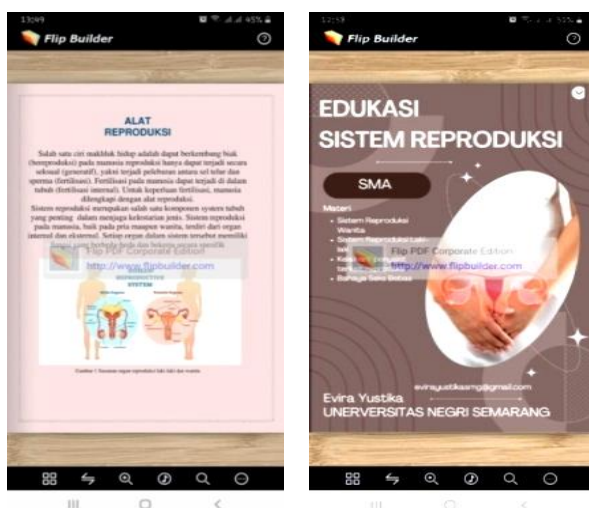
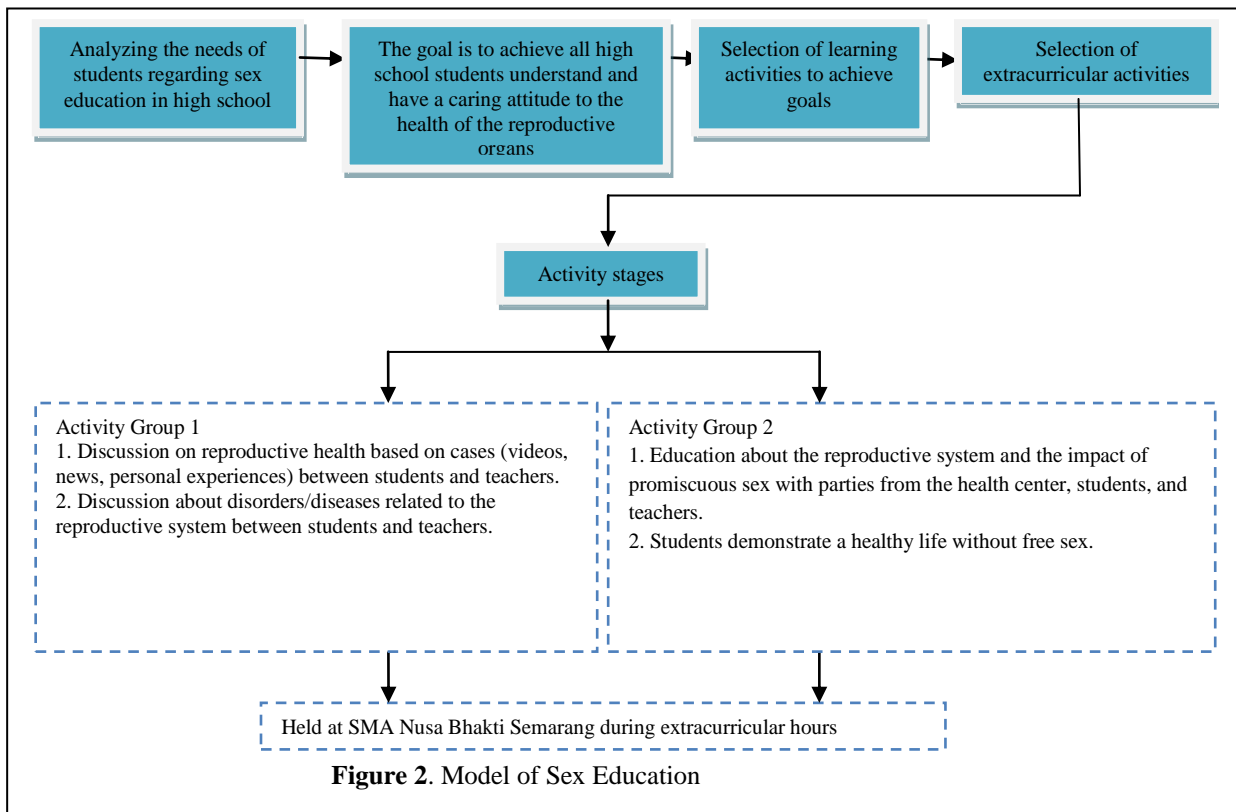
Design, at this stage there are several steps taken, namely: Material Design, Competency Design, Manuscript Design, Appearance Design, Implementation Design

At the development stage, it begins to be developed according to a predetermined design. If the sex education model with teaching materials has not reached good criteria, revision II is needed to be considered for making improvements to these teaching materials.

**RESULTS AND DISCUSSION**

**Model Characteristics of Sex Education and Teaching Materials of the Reproductive System**

The sex education model developed at SMA Nusa Bhakti Semarang can be illustrated in Figure 2 and Figure 3.



**Figure 3.** Display of Flipbuilder Teaching Materials on a Smartphone

The sex education model with teaching materials on the reproductive system material was designed and developed with the aim and objective of enabling students to improve their understanding and attitudes in high school students. The sex education model developed in this study has several

activities carried out in two activity groups. In the first group of activities, there are two sub-activities carried out, namely the first is discussing reproductive health based on cases (videos, news, personal experiences) and. Discuss disorders/diseases related to the reproductive system. While the second activity group has two sub-activities, the first is carrying out education about the reproductive system and the effects of promiscuous sex with parties from the health center, students, and teachers. The two students demonstrated about living a healthy life without free sex. Held at SMA Nusa Bhakti Semarang, during extracurricular hours.

The characteristics of the reproductive system teaching materials in the Flipbuilder application are that the most important thing is that they are very easy to use, you don't need to have special skills when using them. This is because the teaching materials for the reproduction system in the Flipbuilder application are designed to be very practical. After all, the Flipbuilder application can be opened on smartphones. So that students are easier to use and can be read anytime and anywhere. The

material reproductive system teaching materials contains several sub-materials, namely, a general explanation of the male and female reproductive systems, differences in the male and female systems, diseases/disorders of the reproductive system in males and females, the dangers of free sex, how to treat reproductive system organs, besides that there are several pictures and videos to support the reproductive system material. The characteristics of reproductive system teaching materials are expected to be able to increase understanding and caring attitudes toward the health of the reproductive organs in high school students.

**Feasibility of Sex Education Models and Teaching Materials**

The results of the feasibility of sex education models and teaching materials for the reproductive system and testing of research teaching materials were obtained from material experts and media experts so that the teaching materials could be used, appropriately and effectively.

**Table 1.** Material Expert Validation

No	Variable	Presentase	Information
1.	Content feasibility aspect	90	Very high
2.	Feasibility of supporting learning	80	Tall
3.	Language eligibility	96	Very high
4.	Presentation eligibility	90	Very high

**Table 2.** Media Expert Validation Results

No	Variable	Presentase	Information
1.	E-book format (teaching materials)	90	Very high
2.	Cover-book design E-book Content	91.43	Tall
3.	Design (Teaching Materials)	90	Very high

Based on the data obtained during the process of making sex education models and teaching materials, it can be said that these teaching materials are suitable for use in the teaching and learning process. It is proven based on the results of a questionnaire obtained from material experts showing that based on the aspect of eligibility for content, namely 90% is very high, the feasibility of learning support is 80% high, the feasibility of language is 96% very high and the feasibility of presentation is 90% is very high if averaged from validation material experts, namely reaching 89%, is stated to be very high (Table 1). (Hidayatulloh et al., 2019) stated that the use of the Flipbuilder application was stated to be very feasible because the use of the application could be read via a smartphone so it could attract students to learn easily. Besides that, Flipbuilder is also a flipbook that produces interesting and creative e-books (Khairi & Hutagalung, 2021).

From the results of these data, it can be concluded that the teaching materials used are very suitable for use in the learning process. This can be interpreted that the teaching materials that have been developed have achieved the desired goals. The use of reproductive system teaching materials with the flip-builder application can be an alternative solution to support student learning in this modern era. According to (Yulia, 2021) said that digital Flipbuilder can make learning activities more interactive because in the presentation it can be inserted in the form of animation, images, video, and audio. It is also compatible(Saparina et al., 2020) states that the digital flip-builder is also equipped with pictures to support the material to be conveyed. In addition, electronic teaching materials are a form of self-study material that is arranged systematically and displayed in electronic format, in which there are audio animations and navigation. (Suardana et al., 2019). The reproduction system teaching materials in the Flipbuilder application can not only be applied in the classroom during the learning process, but students can learn on their own using a smartphone downloaded by the Flipbuilder application.

Furthermore, through data obtained from media experts, it shows that the format aspect of the e-book (teaching materials) is 90% very high, the cover-book design is 91.43% very high, the content design of the e-book (teaching materials) is 90% is

very high if the average is from the validation of media experts, which is 90.48% which is very high (Table 2).

From the description above, it can be concluded that the reproductive system teaching materials from the point of view of material experts are stated to be very high or very feasible. From the perspective of media experts, it is stated to be very high or very feasible. So that the reproductive system teaching materials using the flipbuilder application can be used.

#### The Effectiveness of the Model of Sex Education and Teaching Materials Based on Understanding

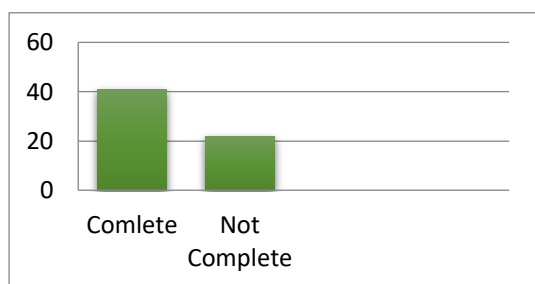


Figure 4. Knowledge Value of Health and Reproductive Organ Disorders

Based on the graph above, it can be seen that there were 55 students who completed, and 8 students who did not complete, so that classical completeness was obtained: 87%. So, classical completeness in the knowledge of health and disorders of the reproductive organs is 87%, based on the product effectiveness percentage table, it is included in the very good category.

Based on these descriptions and data, it can be concluded that of the students who completed as many as 55 or 87% of the classical results were stated to be very good, the reproductive system teaching materials were very effective to use. This means that the use of sex education models and reproductive system teaching materials can attract students to learn the material more easily, can attract students' interest in learning the reproductive system, besides that students are not bored to read so as to increase students' understanding of the reproductive system. This is in accordance with the opinion (Ayuardini, 2022) learning teaching materials in the form of flipbook-based interactive e-modules can improve the ability to understand biological concepts.

Learning teaching materials is the most important thing in the teaching and learning process. Teaching materials with good learning tools will guide students in a good learning process. In the use of teaching materials, teachers also see the efficiency of the teaching materials used. According to (Nufus et al., 2020). E-modules can be applied to gadgets so that e-modules are innovative teaching materials.

#### The Effectiveness of Sex Education Models and Teaching Materials Based on Attitudes

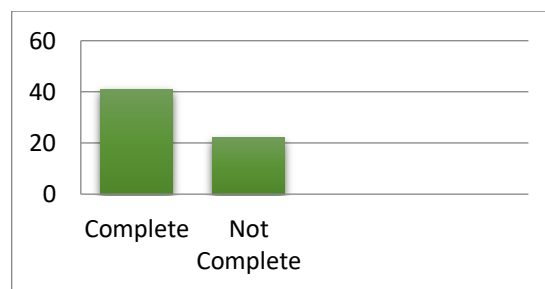


Figure 5. Value of Health Attitudes and Disorders of Reproductive Organs

Based on the graph above, it can be seen that 41 students completed, and 8 students did not complete, so classical completeness was obtained: 65%. So, classical completeness in the Attitude of Concern for Health of the Reproductive Organs is 65%, based on the product effectiveness percentage table, it is included in the Good category. Based on these descriptions and data, it can be concluded that of the students who completed as many as 41 or 65% of the classical results were stated to be very good, the reproductive system teaching materials were very effective to use.

The development of attitude assessment in the process of extracurricular activities requires the value of the character of students both individually and socially while attending lessons at school which is developed according to the components to be measured through non-tests. Extracurriculars can shape students' personalities to become more characterful and become good personalities and uphold social values that exist in society, one of which can be realized by having social concern (Dwi Isrodiyah, 2017). Several factors influence students' attitudes during the learning process, namely internal and external factors. Internal factors include curiosity, anxiety, students' self-confidence, students' motivation, and awareness. External

factors include teaching materials, teaching models, materials, curriculum, and teachers (Velazco et al., 2022). During the learning process, the teacher is the main factor in the course of class activities. The teacher's attitude will determine how students behave when learning, if the teacher has the creativity to manage the class more actively then students are provoked to learn more actively (Madukwe et al., 2019).

### Student Responses to Models of Sex Education and Teaching Materials of the Reproductive System

Student responses to sex education models and reproductive system teaching materials were obtained using interview techniques. Based on the results of these interviews, the process of learning the reproductive system in class using the sex education model and flip-builder application teaching materials is said to be good for students to carry out in class, that is, it is good to use and can be opened on smartphones, the material is more complete, and students understand the material explained better.

### CONCLUSION

The educational model with teaching materials using the Flipbuilder application is good for extracurricular activities. Teaching materials with the Flipbuilder application are said to be feasible. The use of sex education models with teaching materials based on understanding and attitudes is said to be effective. Students' responses to the use of sex education models with teaching materials are said to be good for implementation in class.

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