

Sex Education Learning Module Development for Senior High School Students in Makassar City

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Abstract : This research aims to develop the Sex Education Learning Module (Module PPS) for high school students in Makassar City that are valid, practical, and effective. This research adopts the development steps of Plomp which consists of: the preliminary investigation phase; design phase; realization/construction phase; test, evaluation and revision phase; and implementation phase. Phase I investigation: a review of the concept of sex education, textbooks and learning resources of Biology subjects, analysis of educational practitioners' views and high school students about sex education, and analyzing the curriculum of Biology subjects. Phase II design: design of learning modules. Phase III realization/construction, production and design revision. Phase IV tests, evaluations and revisions: expert and practitioners' assessment of the Module PPS and its set of tools have been made. Based on the input of experts made revisions, resulting in prototype 2 and learning tools that are ready to be tested. Phase V implementation, this phase test prototype Module PPS and its devices are done, to see the practicality and effectiveness of learning tools in the classroom. Module PPS tested in class XI MIA I SMAN 9 Makassar. The results showed that the developed Module PPS was valid, practical, and effective in increasing students' understanding of puberty. This result is evidenced based on test result of validity of expert and practitioner to device components Module PPS developed has strong theoretical foundation, module components have relevance to learning subject of Biology subject and have consistency internally. Based on the achievement of the indicator that is the implementation of learning by using Module PPS in learning has been done entirely and teacher questionnaire responses about the practicality of Module PPS in very good category. The effective Module PPS is used to increase students' knowledge of puberty.

Keywords: Learning Module, Sex Education, Adolescence

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I. Introduction

Law Number.20 of 2003 on National Education System Article 36 paragraph (2) states that "curricula at all levels and types of education are developed with verified principles in accordance with educational units, regional potentials and learners". This indicates that the curriculum must be in accordance with the conditions and uniqueness of the potential that exists in the region. In addition, the curriculum should always be updated in accordance with the demands of the times and the development of science and technology.

Government Regulation (PP) 19 of 2005 Article 13 paragraph (1) stated that the school curriculum can include life skills education, including personal skills, social skills, academic skills, and vocational skills. One application of life skills education in terms of education provision to deal with and solve social problems, providing provisions with basic exercises on values related to everyday life is through sex education, often called *Family Life Education*, or *Education Reproductive Health* (Dik Kespro).

Sex education is important to provide in the family and in the school curriculum. Based on the 1994 Cairo International Agreement (The Cairo Consensus) on reproductive health successfully signed by 184 countries including Indonesia, it was decided on the necessity of sex education for teenagers. In one point consensus is emphasized to seek and formulate sexual and reproductive health care and provide comprehensive information, including for adolescents.

According to Sarlito W Sarwono "Sex education is not a mere illumination of sex, but it involves the transfer of values from educators to learners, given contextually in relation to the norms prevailing in society" (Sarwono, 2011, p.235). The above opinion is reinforced by Lickona (2012: 287) which states that "sexual behavior is determined by value, not mere knowledge, so sex education should educate young people about the moral dimensions of sex acts".

Survey results conducted by BKKBN on contraceptive companies exist in 2015 in most major cities in Indonesia from Sabang to Merauke, accounted for about 40% until 45% of adolescents aged 14 until 24 years old have premarital sex. The results showed 60% of adolescents admitted to not knowing information about sexually

transmitted diseases (PMS). In addition, supported by BKKBN data shows that 60% of teenagers already want to get family planning services (KB). In fact, according to the rules of contraception can only be given to married couples (Merdeka.com).

Certainly this is a concern of the state and society, because adolescents are the next generation who will replace the leaders of the nation in the future, so it takes attention seriously and overcome it. We know that approximately 30% of the total population of Indonesia is teenagers who are now aged 13-22 years old, and this number is increasing from year to year. Teenage age group in Makassar City according to Central Statistics Agency of Makassar City Year 2016 about 32% (470,021 inhabitants) into adolescent age group (BPS, 2017). This shows a considerable amount.

Based on the above, it is necessary for the right sex education for adolescents. Sex education, of course, aims to guide and explain the changes in the functioning of sexual organs as a stage that must be passed in human life accompanied by the planting values of sexuality itself. In Biology lessons, there is a discussion of the structure and function of human reproductive organs, as well as possible abnormal venereal diseases. In addition, there is a discussion of the application of basic concepts and principles of heredity. Both themes can be developed into sex education materials. These are some of the considerations that underlie the need for the development of sex education materials, in the form of learning modules to improve students' understanding of puberty.

Sex Education is also called "*family life Education*" is part of education is the formation of the right attitude so that learners will have the right attitude in dealing with and solving the problems of life. Similarly, sex education, the main goal is the establishment of the right attitude in dealing with and solving problems that arise in sex life (Tirtaraharja, 1997).

Sex education is an educational process aimed at providing knowledge, attitudes, rational behavior, and responsible to the target students about the function and role of sex life in daily welfare, in terms of social, biological, psychological, and moral aspects in an integrated manner.

Kirkendall and Rubin (1979, p.56), stated the purpose of sex education that is;

1. To help adolescents channel their sexuality desires to be brilliant for their life in the present and in the future.
2. Providing a fundamental understanding of every aspect of sex toward maturity.
3. Help to recognize differences in sexual patterns so that adolescents can interact in harmony with the environment.

II. Research Methods

The type of research is a developmental research with development steps adopted from Plomp consisting of a preliminary investigation phase; design phase; realization/construction phase; test, evaluation and revision phase; and implementation phase.

The focus of research is the development of sex education module. The developed module is integrated into Biology subjects. The developed module was tested in class XI MIA I SMAN 9 Makassar. Therefore the subject of this research is the eye opener teacher of Biology and students of class XI MIA SMAN 9 Makassar.

The instruments used to collect data in this development study are questionnaires, interview guides, and tests. Questionnaires and interview guides were used to collect review data from study content experts, design experts and learning media specialists, students during small group trials, students during field tests, and subject teachers during field tests. The test is used to determine student learning outcomes before using the Module PPS in learning (*pretest*) and after using the Module PPS in learning (*posttest*).

III. Result and Discussion

A. Results

1. Phase - I Initial Investigation (*Preliminary Investigation*)

The initial stage of the research is "preliminary investigation" (needs analysis). The analysis done in this phase is: (1) Study of the concept of sex education, (2) Study of teaching books and learning resources of Biology Subject which can be used as the basis of preparation of learning module of sex education, (3) Analysis of view, Biology expert from university, education practitioners and high school students about sex education, (4) Analyze the curriculum of Biology Subjects. This analysis is useful in organizing all Biology Subject materials that have the potential to be developed into a module of learning sex education. (5) The results of this investigation in the form of blueprint of sex education which became the basis for the preparation of the design of learning module of sex education which is integrated in Biology Subject.

Based on the results of monitoring and observation (either directly or indirectly) about the current condition relating to the learning of Biology Subject in the class and based on the results of interviews with Biology subject teachers obtained information as follows:

- a. There are some materials that have the potential to be developed and incorporated values of sex education, including: Reproductive System and Body Defense System.

- b. Handbook of teachers and students used has not included elements of sex education in it. According to the results of interviews with teachers of materials that have been used very solid and only provide basic knowledge, such as "reproductive health" material, so far the teacher only provides basic material but does not touch the material about the values contained in sex education.
 - c. The result of interview with one of the Biology experts from the Faculty of Mathematics and Natural Sciences (Prof. Hj Nurhayaty) welcomes and strongly supports the development of the module that will be conducted by the researcher. According to him the material that has been taught in Biology Subjects is not enough to provide knowledge aimed at preventing teenage free association, especially teenagers in high school level. According to him, it is time for sex education to be given in learning in schools, because the development of technology and communication so rapidly, so that today's teenagers easily access and obtain information about anything, not to mention sex information. It is feared that information obtained by high school teenagers is not entirely correct information, so it can plunge the teenager himself.
2. Phase - II Design
The development outcomes of this phase are the initial solution spans that include; (1) Initial draft of Module PPS, (2) Initial draft of the Module PPS for teacher manual, which describes instructional devices adapted to the designed Module PPS, and (3) the design of instruments used to obtain the required data in development process.
 3. Phase III Realization / Construction
The results obtained in phase-I and phase-II are further reflected, discussed with the expert and reviewed again. The products produced in this phase include; (1) Module PPS, (2) User Manual of Module PPS, (3) Instruments of validity, practicability, and effectiveness of Sex Education Learning Module. This product is named Prototype-I (Module PPS, Module PPS User's Guide, and instrument).
 4. Phase-IV: Testing, Evaluation, and Revision
Module's validity, will be followed up on this IV phase by conducting test activities of the validity Module. **Test Validity Module:** Validating Activities Module and user manual of Module begins by giving the script along with the assessment sheet of the Module to three experts and practitioners who are competent in the field of education.
 5. Phase-V: Implementation
This phase is carried out a prototype test of learning module of sex education and its tools, to see the practicality and effectiveness of learning tools in the classroom.
 - a. Practicality of Module PPS
As a development product in the form of a revised module based on input from several validator experts, it is submitted and tested to 6 students selected by subject teachers based on high, medium and low grade achievement from some equivalent classes (MIA classes) to see the practicality of developed modules, and practical test by 3 Biology subject teachers who teach at SMAN 9 Makassar.
 - b. Effectiveness of the Module
As in the initial testing phase, at the end of the fourth meeting of the testing phase the module is also given an evaluation (posttest) to measure the achievement of the learning objectives of the established Module. The results of these evaluations are also used as a test of the effectiveness of modules developed. The learning objectives as listed in the Module are adapted to the learning materials.

IV. Discussion

1. Achievement of research and development objectives

a. Validity

The module design described in the research and development section illustrates that the module has been attempted to fulfill the principle of validity before it is tested. There are two steps taken to ensure the validity of the developed model. The first stage, model is designed and developed by taking into account the relevant theories and strives to comply with the principles of developing the instruction module advanced by the expert. In the second stage, the draft module that has been designed is validated by 3 experts. Both experts assess the suitability of the module with the principles and components that must be met.

The result of the evaluation of the three validators after the module was improved based on suggestion and correction showed that from 20 validity indicators, the value given by validator I is 14 (70%) is categorized very well, 6 (30%) is categorized well, and there is no categorized indicator less good, not good, and not very good. Validator II gives a value of 10 (50%) is very good category, 10 (50%) is categorized well, and there is no indicator that categorize less good, not good, or very bad. While the validator III gives a score of 10 (50%) is categorized very well, 8 (40%) have good category, 2 (10) bad category, and there is no indicator that categorized, not good or very bad Based on the assessment so it can be said that the three validators rated the validity and the Module in either category. The third conclusion of the validator is that the module is valid in terms of content and construction and can be used for learning high school biology subjects.

b. Practicality

The practicality of the module can be seen in the biology teacher's response using the module at the initial test phase of the testing phase. In the initial test phase obtained the results of practicality test based on the opinions of teachers and students.

Theoretically, based on the validator assessment of the module developed, it is declared feasible to be applied in the learning process. Empirically, based on the results of small group trials of 6 students of class XI from several IPA / MIA classes, and the results of the practitioners' responses, in this case 3 teachers of biology study field in trial I stated that it has fulfilled the criteria of practicality and improved its execution on the trial II

c. Effectiveness

The effectiveness of learning modules developed can be seen in the level of achievement of learning objectives that have been defined in the module that can be measured after using the module. If the learning objectives that have been set can be achieved optimally in the learning process, it can be said that the developed effective for use.

The result of pretest to the students' initial knowledge about sex education, especially the students' understanding on puberty, found that there are 4 students who are categorized as good or 11.43%, there are 4 students who are sufficiently categorized or 11, 43%, and there are 3 students categorized failed or 8, 57%, but most of the students were categorized less as 24 students or 68,57%. Furthermore, in accordance with the average score of pretest results obtained value of 62.23 it can be said that the results of pretest students on their initial knowledge about sex education, especially the students' understanding of puberty is categorized into the category less.

Furthermore posttest result of students after following Biology lesson with addition of using module show data that most of the value obtained belong to good category as many as 20 students or 57,14%, and very good category counted 15 student or 42,86%. Furthermore, in accordance with the average score of posttest result of student obtained value equal to 84,46. So it can be stated that the student's posttest result to measure students' understanding of sex education especially concerning puberty is categorized in good category.

V. Product Specification of Research Result

In the finalization stage of the module, the important step taken is to determine the product specification of research results. Product specifications of the research results are require with the aim that the resulting product is preserved and its use is not misplaced. Product specification of research is determined based on the aspects, namely; (1) usage capacity, (2) usage time, and (3) users. The module product specifications can be described as follows;

- a. Modules can be used to increase students' understanding of puberty.
- b. The developed module can only be used by the subject teachers of Biology, because the material is developed based on the subject matter of Biology.
- c. The advantages and disadvantages of research products. The product of this research has advantages and disadvantages. The advantages of this module are; can be used individually as well as in-class learning aimed at giving students understanding of puberty. While the shortcomings of this module is the module produced still needs more in-depth study and the addition of supporting theories.

VI. Constraints experienced during the study

The constraints are:

- a. Learning with the Module of Sex Education as a learning material supplement is not easy to do because it requires careful preparation in designing this activity, this learning is difficult to implement if the source of learning does not support.
- b. Material of Module too dense and at the time of execution of learning teacher overwhelmed in reaching competence to be achieved

VII. Conclusion

Based on the results of research, it can be concluded as follows:

- a. The process of developing the Sex Education Learning Module is developed through the development phase, namely; (a) the preliminary investigation phase; (b) Design Phase; (c) Realization/Construction Phase; (d) Test, Evaluation, and Revision Phase; and (e) Implementation Phase. The development process in the first three phases produces the Prototype-I Module PPS, while the fourth phase development process is to validate and test to produce a valid, effective, and effective Learning Module for Sex Education.
- b. Based on the test results of validity of experts and practitioners on the components of the learning module tool developed has a strong theoretical foundation, the module components have relevance to the subject matter of Biology subject and have an internal consistency.

- c. Based on the achievement of the indicator that is the implementation of learning by using Learning Sex Education Module in learning has been done entirely and the questionnaire responses teachers about the practicality of the Sex Education Learning Module on the category very well.
- d. Effectiveness of Learning Sex Education Module is used to improve students' knowledge about puberty.

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