

Chapter 3

Research Methodology

1.1 Research Method

1.1.1 Research Method

The method that is used in this research is Developmental Research. Stated by Seels & Richey (1994) in Richey & Klein (2005) that the methodical study of designing, developing, and evaluating instructional programs, procedures, and the outcome must meet the internal consistency and effectiveness. Developmental research is not research that aim to create new theory, but it's focusing on producing or developing a product. The developmental research is a method that used to developed and evaluate an educational product. Is also an effort to create a product that is suitable and effective to be used by school in teaching and learning processes(Gravemeijer, 1998).

1.1.2 Model of Comic Development

In this research, the researcher uses the ADDIE model as the media development stage. The ADDIE model is a model that consists of 5 steps shown in Figure 3.1. Consist of Analysis, Design, Development, Implementation, and Evaluation. An instructional design model's goal is to "... provide both an appropriate endpoint and the correct path to lead you there..." or to "... enhance students ensure that they are teaching the necessary information in an optimum way." Addie's model is one of the instructional design models. It is used to develop the curriculum in various fields (Cheung, 2016). The ADDIE instructional design is a very well-known approach that is often used to develop instructional courses and training programs. This help educators to clearly define the stages in effective implementation of the instruction (Peterson, 2003).

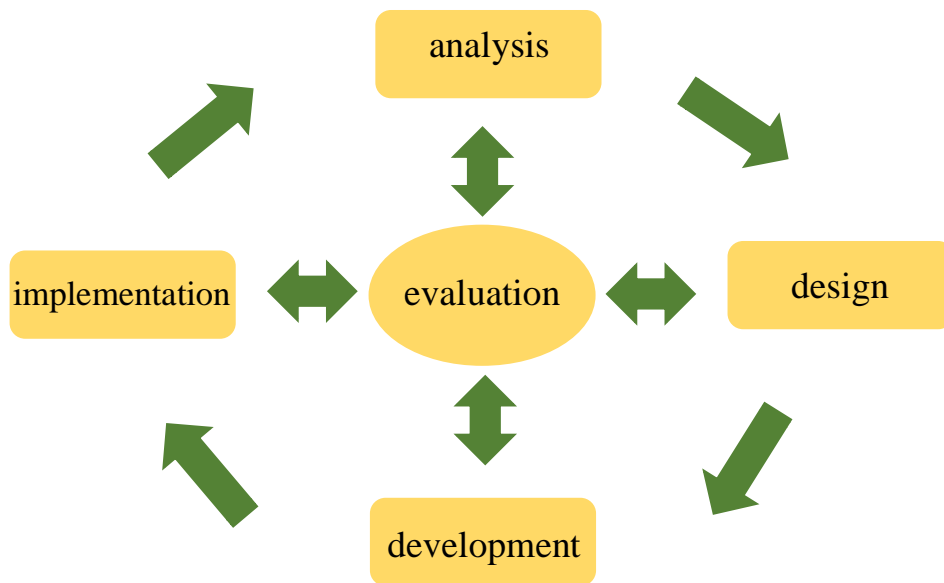


Figure 0.1 ADDIE model

Using ADDIE model in the teaching learning process improve a lot of aspects such as the performance of the teachers in the class, and also how students engaged in the learning activities. Using ADDIE model prove that the model can help the quality of teaching learning in the secondary school (Handrianto et al., 2021).

A. Analysis

In the analysis phase, the creators will consider the main target of the audience. Analyses needed must be conducted to determine the needs of the audience (in here is the students') by determining between what students' need to know and what the students already know at the conclusion of the course or the materials given (Peterson, 2003).

B. Design

In this phase, there are several key facets. Mainly is where the creator is conducting the research and planning throughout this phase. The planning includes:

1. Identifications of objectives
2. Determining how the objectives will met
3. The instructional strategies that will employed to achieve the objectives
4. The media and methods that will be most effective in the delivering of the objectives. And during the design stage, the creator must consider the data

and information from the previous stage. (Peterson, 2003).

C. Development

Designers should now develop a product for the delivery of the information during the development phase by simply referring to the results of the previous two phases. During this phase of transition, the creator's job changes from one of research and planning to one of producing. Drafting, manufacturing, and evaluation are the three areas that are prioritized in the development phase. Designers in this stage develop or select materials and media as well as conduct formative evaluations (Peterson, 2003).

D. Implementation

Creators must play a more active than passive role throughout the implementation phase. With the advent of this phase, the creator's or instructor's job becomes more important. The product must continue to be evaluated, redesigned, and improved by creators in order to be delivered efficiently (Peterson, 2003).

E. Evaluation

The evaluation phase, which includes multiple dimensions, is a crucial part of the ADDIE process. The evaluation phase can take the form of formative evaluations during the development stage, evolving student and teacher support during the implementation phase, and a summative evaluation for instructional improvement at the conclusion of the implementation of a course or program. The designer must decide whether the problem has been solved (important to training programs), if the objectives have been accomplished, the impact of the product or course, and the changes that must be made for the program or course to be delivered in the future during the assessment phase (Peterson, 2003).

1.2 Participants

This research done in 7th & 8th grade students of Junior High School. Also, for all students that have been studying drugs topics. In total there are 30 students who involved in this research. While the expert's judgment that involve in this research are 3 (three) lecturer and 2 (two) teachers, that experts in the related fields that use in the comic.

While the sampling, the researcher decides to use convenience sampling. Convenience sampling is not controlled by any obvious criteria (Etikan, 2017). Convenience sampling or known as a Haphazard sampling or widely known as an Accidental sampling is a non-probability or non-random sampling where the participants meet the specific criteria determined by the researcher. Things like being easy to reach out, being nearby, being available when needed, or wanting to be part of the study is the criteria that need to be meet by the participants. This type of sampling are sometimes seen as an Accidental sampling because the elements are chosen for the sample just because the targeted are conveniently located, either physically or in terms of administration, close to where the researcher conducted the research to collect the data (Etikan, 2016).

1.3 Assumption

Digital comic can trigger students' enthusiasm in learning. Students are also influenced to learn more about the specific topic that delivered by the digital comic as a media.

1.4 Research Instrument

This research will use two types of research instruments which consist of the lecturer and teacher as the expert's judgment and students' judgment in the form of a questionnaire. The lecturer and teacher judgment consists of content judgment (in terms of science), linguistic judgment, and art judgment. While the students' judgment in the form of a questionnaire will consist of students' understanding and awareness after reading the comic. The lecturer and teacher as the expert judgment will use a questionnaire also a checklist that consists of three-point that are described below:

1.4.1 Lecture and Teacher as an Expert Judgment:

The lecture and teacher as an expert judgment will consist of 3 (Three) points which are:

A. Content Judgment

Content judgment from the lecture and teacher of the comics is seen from how complete and clearly the material is presented and how it is easily understood.

B. Linguistic Judgment

Several aspects of linguistic judgment are seen from how easily the language used in the comic is understood, how the material is delivered, and if it is translated and changed into another language, how accurately the material can be translated and delivered.

C. Art judgment

Art judgment is used in this research to see if the art used art suitable for students and is attractive enough to catch students' attention.

1.4.2 Students Questionnaire

Students' questionnaires will contain several assessments about the comics according to the students' perspectives. The scoring contains the students' scores on the characters in the comic, how the contents are delivered, how easily the students understand the content that is delivered, and how attractive is the comic used in the learning process. Students can also provide feedback in the form of short answers about the comic that has already been made.

1.5 Data Analysis (by Aiken)

The data analysis in this research is analyzed through the expert and teacher judgment answers and through the students' questionnaire answers to improve and validate the comic to be used in the teaching-learning process. The data collected from the expert and the teacher's judgment used to improve the content, artwork, and linguistics of the comic, while the students' questionnaire answers will be used to make the comic suitable for students to read and study through it.

1.6 Research Procedure

The procedure used in this research is followed by some steps. The flowchart of the research procedure can be seen in Figure 3.2. The steps consist of:

1.6.1 Preparation stage

1. Identification problems
2. Defines objectives and targeted audience
3. Defines the media
4. Do a Literature review of digital comics, educational comics, and related topic drugs.
5. Constructing instruments
6. Instruments revision

7. Designing flowcharts and storylines
8. Designing the comic (Sketching)
9. Comic revision

1.6.2 Implementation stage

1. Collecting Lecturer judgments
2. Collecting Teachers judgments
3. Comic revision
4. Collecting students Responses

1.6.3 Finalization stage

3. Analysis data results
3. Discuss the data results
3. Research report arrangement

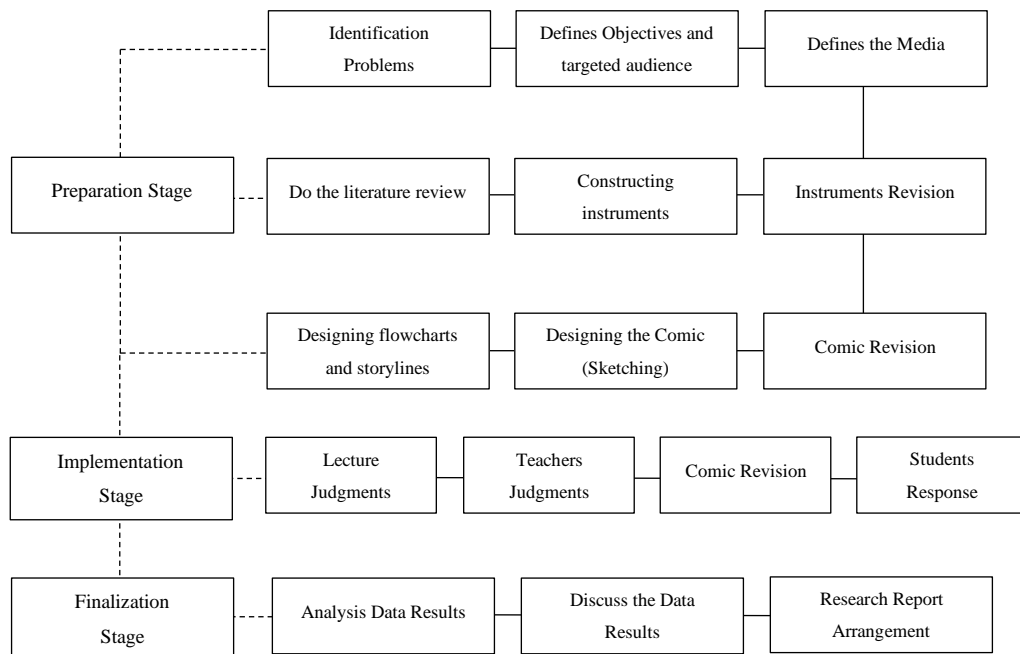


Figure 0.2 Flowchart of Research Procedure