The Development of Students’ Worksheet based Educational Comic: Research and Development Study

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Abstract

The article analyzed how the developing student worksheet based educational comic at seventh grade of SMP Taruna Jaya and to know the differences in student learning outcomes before and after the teacher used a student worksheet based educational comic at seventh grade of SMP Taruna Jaya. This research was conducted at seventh grade in first semester at SMP Taruna Jaya. This method used Research and Development (R&D). In this case, the research carried out only produces product designs, and the design is validated internally (experts and practitioners’ opinions) but is not produced or not tested, external (field testing). The results of validation by a team of material expert validators, media experts and pre-test and post-test learners on products that are being developed have been declared valid. It was based on the results of validation of material experts and media experts by two lecturers and two teachers get a percentage of eligibility assessment of 90% with the criteria “very Feasible”. While the results of pre-test and post-test learners obtained that the post-test value was higher than the pre-test value, the product is said to be effective for use.

Keywords: Students’ Worksheet, Educational Comic, Worksheet Educational Comic

INTRODUCTION

One of the teaching materials that is often used in the learning process is student worksheets. Student activity sheets are one of the right learning alternatives for students because worksheets help students to add information about the concepts learned through systematic learning activities (Verdina & Gni, 2018). Worksheets are sheets that are used as guidelines in learning and contain tasks that must be done by students in certain studies. Worksheets are sheets containing assignments that students must do (Asmaranti, 2021). These worksheets are teaching materials that have been packaged in such a way, so that students are expected to be able to study the teaching materials independently material-related tasks (Fannie & Rohati, 2014). And at the same time students are given materials and tasks related to the material, implementation of learning tasks that must be done by students, which refers to the basic competencies that must be achieved.

Based on the results of research conducted by researchers at junior High School tarunajaya. Therefore researchers decided to develop English learning, in a learning medium. One learning media that is highly recommended is the Student Worksheet. Student Worksheets are learning tools that contain guidelines for students to carry out
activities programatically. Student Worksheets are simple, multipurpose, and relatively easy to implement. Pranowo, et al., (2014), found that educational comics were effective for increasing motivation to learn in low grade students at MI Ma’arif Grab, with a figure of 0.003 < 0.05. Suggestions for providing Guidance and Counseling services by utilizing the media that have been developed. Furtermore, Lusiana, et al., (2017) concluded that the reason for using comics in this development is because of the advantages of comics that can attract attention, and make students happy so that they can motivate students in learning activities. The results of the comic-based thematic LKS research that have been described, the following conclusions can be drawn: (1) The comic-based thematic worksheets have gone through the validation test stage, with an expert validation score of 4.11 and user validation of 4.77 with a valid category, (2) the results of student performance after using comic-based thematic worksheets with an average of 83.19% and classified as very good, (3) student responses obtained in this study received very positive responses for all aspects. This shows that students feel happy, understand, understand and are interested in the comic-based thematic worksheets that have been developed. Other finding Widyawati, et al., (2018) also found he feasibility of comics is measured through the assessment of media and material experts with the results of the criteria that the product is very feasible to be developed. The characteristics of IPA comics developed based on SETS; and 3) comics contain national building or the development of students’ nationalism character. The product can be used and has fulfilled the components that are in accordance with the SETS approach and nationalism character development.

While the current research was trying to make worksheets more interesting by combining worksheets and comics. The reason the researcher combines worksheets and comics is that learning, especially in seventh grade junior high school, is still in the transitional stage from elementary school to junior high school, where in this mass students’ interest in reading is very low and tends to be more interested in pictures or animated characters or cartoons. So, for this reason, the researcher tries to combine worksheets and comics, where in the worksheet there will be comics containing conversations between several people with the subject matter in accordance with the material in seventh grade junior high school. Related to the formulation of the problem, the objective of this research is to produce student worksheet based educational comic at seventh grade of Taruna Jaya Junior High School and knowing the differences in student learning outcomes before and after the teacher uses a student worksheet based educational comic.

**Literature Review**

Hafiz (2013) explained that development is the process of analyzing needs, making materials, achieving goals, designing learning and testing and revising program achievements to improve student learning outcomes. Development research in education is an industry-based development model where research findings are used to design new products and procedures, then systematically tested in the field, evaluated and refined until they meet certain criteria, namely effectiveness and quality. Where asSugiono said that research development is a research (Alimubarok et al., 2018). Based on the above understanding of development research is the process of product design to produce new products, the effectiveness of the product must be systematically tested in the field so that the product is of high quality.

**Students’ Worksheet**

Students’ worksheet are printed teaching materials in the form of sheets of paper containing material, summaries, and implementation instructions that refer to the basic competencies that must be achieved by students. Students’ worksheet is generally used by students to do exercises. This is not in accordance with the purpose of using Students’ worksheet according to Prastowo which states that the purpose of using Students’
worksheet in the teaching and learning process is to enable students in the learning process and provide the knowledge, attitudes and skills that students need to have. To activate students in the learning process, it is necessary to develop Students' worksheet which includes process skills.

Based on the information above it can be concluded that the student worksheet is a teaching material that contains materials that aim to develop students' potential and skills. To create an Students' worksheet it is necessary to have an innovation that makes the Students' worksheet can improve students' understanding in understanding the material being studied. One way for students to understand the concept of the material is by linking the material in real life with the knowledge they have gained previously. The concept of learning that can link material and real life is contextual learning. As stated by Johnson which states that contextual learning activities are a learning system that suits the brain, it is because these activities can produce a meaning by connecting academic content with the context of everyday life.

Comics as Learning Media

Comics are a form of cartoon that expresses characters and plays a story in a sequence that is closely related to images to provide entertainment to its readers (Ani Widayanti & Ani, 2012). Comics are one of the choices in an effort to carry out communication activities in the digital world, the contents of which are promotions using social media. Public interest in comics, especially in Indonesia is quite large, all of which can be seen from the many imports of comics that come to Indonesia (Gede Lingga, 2019). According to the Association for Educational Communications and Technology (AECT) learning media are everything that is used to convey messages. Learning media are everything that is used to channel messages and can stimulate the thoughts, feelings, attention, and willingness of the learner so that it can encourage the learning process (Nanda Dewi, et al., 2018). This statement is also supported by Yudasmara&Purnami who argue that the media plays a very important role as a carrier of information from the source (teacher) to the recipient (student). learning media is an integral part of the learning system. Many kinds of learning media can be used. Its use includes many benefits as well. The use of learning media must be based on the right selection (Asyhari, Ardian, & Heldia Silvia, 2018). So that it can enlarge the meaning and function in supporting the effectiveness and efficiency of the learning process.

METHOD

The method used by researchers in research is the research and development (R&D) method. Research and development method is a research method used to produce certain products, and test the effectiveness of these products (Sugiyonom, 2017). Researchers use research and development at a low level, namely level 1 where researchers conduct research without testing. In this case, the research carried out only produces product designs, and the design is validated internally (experts and practitioners' opinions) but is not produced or not tested. external (field testing). From the explanation above, the researcher intends to make a design of learning media in the form of student worksheet based educational comics which will later help students in learning activities, especially in seventh grade junior high school subjects.

In collecting data used Interviews, test, and questionnaire, Interviews during the survey with the seventh grade English teacher at Taruna Jaya Junior High School to find out students' interest in English lessons and learning support books. The research and information obtained were used as input for developing student worksheet based educational comics at Taruna Jaya Junior High School. While, test is used to determine the initial condition of the subject before being treated with a certain product, then posttest is used to determine the condition of the subject after being treated with a particular product. Questionnaire that would be given to material and media experts, the researcher
also gives pretest and posttest to students to determine the initial condition of the object before being treated with a new product (pretest) and after being treated with a new product. The number of students who will be given the pretest and posttest is 10 people in seventh grade. The assessment carried out by the researcher to measure the effectiveness of the student worksheet is by calculating the results of the pretest and posttest scores, if the pretest score is higher than the posttest score, then the product is not effective for use in the learning process. However, if the posttest score is higher than the pretest score, then the product is declared effective to support student learning.

In development research, the Likert scale is used to develop instruments used to measure attitudes, perceptions, and opinions of a person or group of people towards the potential and problems of an object, product design, product manufacturing process, and products that have been developed or created. Instruments that use a Likert scale have a gradation from very positive to very negative, which can be in the form of words: The procedure of research and development of worksheet based educational comics refers to the development of research and development level 1, the following are the steps taken in this research can be seen in the following figure: procedure steps.

<table>
<thead>
<tr>
<th>No</th>
<th>Category</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Strongly agree</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Agree</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Hesitating</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>Disagree</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>Strongly disagree</td>
<td>1</td>
</tr>
</tbody>
</table>

For the formula for the percentage of results can be calculated by the following formula:

Result = \( \frac{\text{total score obtained}}{\text{maximum score}} \times 100\% \)

Then according to Arikunto the eligibility category is based on the following criteria.

<table>
<thead>
<tr>
<th>No</th>
<th>Score in percent (%)</th>
<th>Eligibility Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&lt;21%</td>
<td>Very unworthy</td>
</tr>
<tr>
<td>2</td>
<td>21%-40%</td>
<td>Not worth it</td>
</tr>
<tr>
<td>3</td>
<td>41%-60%</td>
<td>Fairly decent</td>
</tr>
<tr>
<td>4</td>
<td>61%-80%</td>
<td>Eligible</td>
</tr>
<tr>
<td>5</td>
<td>81%-100%</td>
<td>Very decent</td>
</tr>
</tbody>
</table>

Figure 1. Research Procedure Steps
The following is a description of level 1 development research as follows:

1. Potential and problems
   Potential is anything that has the ability/capacity to be developed, after that potential is developed it will have added value. While the problem is something that deviates from what was planned. Researchers are trying to find potential and problems for students, especially in seventh grade. From the results of observations of seventh grade researchers at Taruna Jaya Junior High School, there are problems regarding supporting students’ teaching and learning activities in English subjects, coupled with reading interest in these students.

2. Literature study and collection information
   After researching the potential and problems, the researcher conducted a literature study. Comparative literature study from several relevant studies as well as collecting data and information. After the data and information were obtained, the researcher began to collect materials as product planning.

3. Product design
   Product design is a design for making product designs in accordance with potential and problems as well as collecting data and information which will later be made product designs to be validated by experts and practitioners.

4. Design validation
   Design validation is an activity process to assess whether in product design, in this case the new rational work system will be more effective than the old one or not. It is said rationally, because the validation here is still an assessment based on rational thinking, not facts on the ground.

   The product design validation is carried out by experts and practitioners (material experts and media experts).

5. Valid design
   After validation is carried out by experts and practitioners, the weaknesses will be obtained. These weaknesses are then tried to be reduced by improving the design. The task of improving the design is the researcher who wants to produce the product. At the development stage, a product feasibility test will be carried out, namely an internal test based on the opinions and assessments of experts and practitioners.

RESULTS AND DISCUSSION
The research that has been carried out by the researcher will then be described in this chapter. In this case, the researcher will present the results of the research that has been carried out based on the findings in the field that have been obtained at the time of carrying out the research by means of a preliminary analysis. The following are the stages carried out by researchers in the implementation of this development research based on the framework of thinking that researchers have made:

1. Preliminary study stage, at this stage the researcher collects data by means of interviews, observations and document studies. The preliminary study serves to seek information and obtain data to support this research activity related to the real conditions in schools and how the conditions in the use of Student Worksheet Based Educational Comic At Seventh Grade In SMP Taruna Jaya media are. While document study serves to collect data or materials to make materials.

2. Stages of developing student worksheet product design, at this stage material mapping will be carried out, and design activities and activities will be carried out to design Student Worksheet Based Educational Comic At Seventh Grade In SMP Taruna Jaya.

3. The Student Worksheet product testing stage, at this stage a product feasibility test or product validation will be carried out by experts/practitioners (material experts
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and media experts) to validate the Student Worksheet Based Educational Comic products and product revision activities will be carried out by researchers so that Later the Student Worksheet Based Educational Comic product can be said to be feasible to be tested as an English learning medium.

Analysis of Teacher and Student Needs for Student Worksheet Based Educational Comic Products that are being Developed

Departing from the results of the exposure above, namely the results of interviews and observations as well as from real conditions in the field, that the use of learning media, supporting books that are less attractive and time constraints greatly affect the learning process in the classroom. Seeing such conditions, it is very necessary to have interesting media, time efficiency in the learning process and help make it easier for teachers to teach in class.

Meanwhile, the results of interviews conducted by researchers with several students of Taruna Jaya Junior High School showed that the use of Student Worksheet Based Educational Comic media had not been used before. According to the narrative of one of the students, Gilang Syah Reza, when he was interviewed about the Student Worksheet Based Educational Comic product, he stated: “I have never used the Student Worksheet Based Educational Comic product during the learning process. It will be a new experience for me in learning English because so far learning English is still very boring.” (Result Interview, Gilang Syah Reza, Tulang Bawang, Lampung, 23 Desember 2021).

Departing from the analysis of the needs of teachers and students, here the researcher concludes that a learning media is needed at Taruna Jaya Junior High School in Class VII is to develop Student Worksheet Based Educational Comic, which will be Student Worksheet Based Educational Comic which will be developed by researchers useful for learning activities grade VII mathematics and can provide solutions to problems faced by teachers and students. In analyzing the Student Worksheet Based Educational Comic developed by the researcher, of course, it will also be adjusted to the basic competencies so that the Student Worksheet Based Educational Comic will later be right on target and in accordance with the material being taught so that students can understand the material easily. The material that will be developed in this Student Worksheet Based Educational Comic is the subject of "Good Morning, How Are You?" which includes material on Greeting, Parting, Expressing For Thanking. And the subject of "This Is Me" which includes material on Introduction, Asking for and telling identify and introducing family members.

1. Preparation of the Initial Draft Design of the Student Worksheet Based Educational Comic

Based on the analysis of the results of the needs of teachers and students for the above learning media, which of course describes the real conditions in the field at this time, it is very necessary to develop a learning media that is intended to help students in learning activities. Of course, here the researcher will develop a Student Worksheet Based Educational Comic learning media. In developing and compiling this e-module product, of course, the researcher refers to the model and requirements used by the researcher in this research, namely the Sugiono development model which in this case uses the level 1 stage which includes potential problems to find problems in the field, then after the problem is obtained, then it will be continued with literature study and information gathering to find data that will later be used to design Student Worksheet Based Educational Comic products that are used as learning media until they can be carried out to the validation stage by experts/practitioners and will be carried out in stages revisions so that the Student Worksheet Based Educational Comic product can be said to be feasible for testing.

Of course, in the preparation of Student Worksheet Based Educational Comic, it must be adjusted and refers to basic competencies, as well as indicators and materials which
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are of course adapted to the Revised 2013 curriculum, so that later Student Worksheet Based Educational Comic products will be easily understood by students. In the preparation of this Student Worksheet Based Educational Comic product, there are several aspect criteria in it which include: 1) cover design aspects, 2) feasibility aspects of the content/feasibility of Student Worksheet Based Educational Comic material, 3) Student Worksheet Based Educational Comic product presentation aspects, 4) aspects of the appropriateness of the language used in the Student Worksheet Based Educational Comic product, and 6) aspects of the overall appearance of the Student Worksheet Based Educational Comic product.

After determining the basic competencies, indicators and materials that must be adapted to the latest curriculum, namely the Revised 2013 curriculum, then the next stage is to carry out data collection activities related to the material that has been determined by the researcher, namely "Good morning, how are you? and This is Me". After the material is arranged properly and correctly, the next stage will be the process of designing or designing the Student Worksheet Based Educational Comic product. There are several main elements contained in the Student Worksheet Based Educational Comic including, the front cover of the Student Worksheet product, the contents of the Student Worksheet product and the back cover of the Student Worksheet product. The product of this media development is in the form of Student Worksheet Based Educational Comic.

After the flow of drafting the product above has been completed, then a validation step will be carried out which will be carried out by experts/practitioners, namely media and design experts. Validation of the e-module product was carried out in order to test the feasibility of the learning media in the form of Student Worksheet Based Educational Comic which was developed by the researcher based on the assessment given by material and media experts. Of course, in selecting validators to assess student worksheet products, researchers must consider the abilities and skills of the validators in assessing this e-module product. Of course, in the product assessment provided by the validator there are suggestions and input that can be used to see the shortcomings of the product which can later be used as material for making improvements.

2. Presentation of Validation and Revised Data

Products that are being developed and are ready, will then be carried out activities or stages of validation to assess the feasibility of the product. Validation activities will be carried out by a validator team consisting of material expert validators and media experts. The material expert validators consist of a teacher from Taruna Jaya Junior High School (Harjuni Nhingroem, S.Pd.) and IAIM NU Metro Lecturer (Umar Alfaruq A.Hasyim, M.Pd.) who will assess the product in terms of product assessment aspects, aspects of physical appearance, linguistic aspects, material aspects and aspects of material feasibility. Meanwhile, media expert validators consist a teacher of Taruna Jaya Junior High School (Heriyanto AndreasAmd) and IAIM NU Metro lecturer (Andika Ari Saputra, M.Pd.) and will assess product design in terms of physical appearance, content presentation and linguistic aspects. At this stage, it is an activity process to assess the product design that is being developed by the researcher. Later each validator (material expert and media expert) and will fill out a validation questionnaire provided by the researcher to assess the product by giving a checklist (✓) when filling out the questionnaire. The following is the presentation of the data from the validation results:

a. Presentation of Internal Validation Result Data

1) Material Expert Internal Validation

The material expert validators consist of IAIM NU Metro lecturer (Umar Alfaruq A.Hasyim, M.Pd.), as first material expert validator and English subject teacher at Taruna Jaya Junior High School, namely (Harjuni Nhingroem, S.Pd), as
second validator material expert. The results of the assessment of the two validators can be seen in the table: Assessment Aspect

**Table 3. Aspects of Feasibility of Student Worksheet Materials**

<table>
<thead>
<tr>
<th>No</th>
<th>Rating Indicator</th>
<th>Validator 1</th>
<th>Validator 2</th>
<th>Average</th>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Student Worksheet according to KD</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>100%</td>
<td>Very decent</td>
</tr>
<tr>
<td>2</td>
<td>Student Worksheet according to the learning topic</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>100%</td>
<td>Very decent</td>
</tr>
<tr>
<td>3</td>
<td>Fill in the material according to the sequence</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>100%</td>
<td>Very decent</td>
</tr>
<tr>
<td>4</td>
<td>Adequate content of the material</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>100%</td>
<td>Very decent</td>
</tr>
</tbody>
</table>

**Table 4. Aspects of Student Worksheet Presentation**

<table>
<thead>
<tr>
<th>No</th>
<th>Rating Indicator</th>
<th>Validator 1</th>
<th>Validator 2</th>
<th>Average</th>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Student Worksheet has clear learning objectives</td>
<td>4</td>
<td>5</td>
<td>4,5</td>
<td>90%</td>
<td>Very decent</td>
</tr>
<tr>
<td>2</td>
<td>Presentation of images according to the material</td>
<td>4</td>
<td>5</td>
<td>4,5</td>
<td>90%</td>
<td>Very decent</td>
</tr>
<tr>
<td>3</td>
<td>Student Worksheet is easy to use</td>
<td>4</td>
<td>5</td>
<td>4,5</td>
<td>90%</td>
<td>Very decent</td>
</tr>
<tr>
<td>4</td>
<td>Practice questions and evaluation questions according to the material</td>
<td>4</td>
<td>5</td>
<td>4,5</td>
<td>90%</td>
<td>Very decent</td>
</tr>
</tbody>
</table>

**Table 5. Language Aspects of Student Worksheet**

<table>
<thead>
<tr>
<th>No</th>
<th>Rating Indicator</th>
<th>Validator 1</th>
<th>Validator 2</th>
<th>Average</th>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Use proper and correct language rules</td>
<td>4</td>
<td>5</td>
<td>4,5</td>
<td>90%</td>
<td>Very decent</td>
</tr>
<tr>
<td>2</td>
<td>Sentence</td>
<td>4</td>
<td>5</td>
<td>4,5</td>
<td>90%</td>
<td>Very decent</td>
</tr>
</tbody>
</table>
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2) Media expert Internal Validation

The media expert validator consists of IAIM NU Metro lecturer (Andika Ari Saputra, M.Pd.) as first media expert validator and from Taruna Jaya Junior High School teacher (Heriyanto Andreas, Amd.) as second media expert validator who will assess the product. The following data will be presented from the validation of media experts in the table:

Table 6. Aspects of cover design

<table>
<thead>
<tr>
<th>No</th>
<th>Rating Indicator</th>
<th>Validator Average</th>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Interesting Student Worksheet cover design</td>
<td>5 4 4.5</td>
<td>90%</td>
<td>Very decent</td>
</tr>
<tr>
<td>2</td>
<td>The physical performance of the Student Worksheet is attractive</td>
<td>5 5 5</td>
<td>100%</td>
<td>Very decent</td>
</tr>
<tr>
<td>3</td>
<td>Interesting Student Worksheet cover color</td>
<td>5 4 4.5</td>
<td>90%</td>
<td>Very decent</td>
</tr>
<tr>
<td>4</td>
<td>Featuring an attractive and harmonious center of view</td>
<td>5 5 5</td>
<td>100%</td>
<td>Very decent</td>
</tr>
<tr>
<td>5</td>
<td>The appearance of the cover layout is harmoniously aligned and consistent</td>
<td>5 5 5</td>
<td>100%</td>
<td>Very decent</td>
</tr>
<tr>
<td>6</td>
<td>The composition and size of the layout elements (titles and images) are appropriate and consistent</td>
<td>5 5 5</td>
<td>100%</td>
<td>Very decent</td>
</tr>
</tbody>
</table>
### Table 7. Aspects fill design Student Worksheet

<table>
<thead>
<tr>
<th>No</th>
<th>Rating Indicator</th>
<th>Validator</th>
<th>Average</th>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Instructions for using the Student Worksheet are easy to understand and understand</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>100% Very decent</td>
</tr>
<tr>
<td>2</td>
<td>The purpose of the Student Worksheet in learning is easy to reading</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>100% Very decent</td>
</tr>
<tr>
<td>3</td>
<td>The use of variations in letters (bold, italics, and font size) is not excessive</td>
<td>5</td>
<td>4</td>
<td>4.5</td>
<td>90% Very decent</td>
</tr>
<tr>
<td>4</td>
<td>Usage (size, font, margin, spacing) is clear</td>
<td>5</td>
<td>4</td>
<td>4.5</td>
<td>90% Very decent</td>
</tr>
<tr>
<td>5</td>
<td>The separation between paragraphs is clear and consistent</td>
<td>5</td>
<td>4</td>
<td>4.5</td>
<td>90% Very decent</td>
</tr>
<tr>
<td>6</td>
<td>The picture is in accordance with the discussion material</td>
<td>5</td>
<td>4</td>
<td>4.5</td>
<td>90% Very decent</td>
</tr>
<tr>
<td>7</td>
<td>Image layout doesn't interfere with title, text, and page numbers.</td>
<td>5</td>
<td>4</td>
<td>4.5</td>
<td>90% Very decent</td>
</tr>
<tr>
<td>8</td>
<td>Image size looks harmonious</td>
<td>5</td>
<td>4</td>
<td>4.5</td>
<td>90% Very decent</td>
</tr>
</tbody>
</table>
a. **Product revision**

The following will be presented the results of revisions from the validation of material experts and media experts that have been done based on suggestions and comments from validators that can be seen from the table:

After the researcher carried out the internal validation of the material and media experts, then the researchers made improvements to the product being developed by the researcher, namely the Student Worksheet Based Educational Comic, suggestions and comments given by the validator of the material and media expert. As for what needs to be improved in the student worksheet product on the validation of material and media experts, including: adding assignments to the speaking aspect, adding a touch of color to make it interesting, re-examining writing. After making improvements or product revisions based on suggestions and comments from material and media expert validators the Student Worksheet Based Educational Comic is ready to be tested on students.

b. **Final Draft of Student Worksheet**

<table>
<thead>
<tr>
<th>Final view of Student Worksheet</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Final view of Student Worksheet" /></td>
<td>Student worksheet front and back cover design</td>
</tr>
</tbody>
</table>
The Development of Students’ Worksheet based Educational Comic: Research and Development Study

- Display on the basic competence page and foreword.

- The first page contains greeting material
- The second page contains some exercises and partings material
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- The third page still contains material about partings and practice questions.
- The fourth page contains material expressing for thanking and expressing for apologizing.

- The fifth page contains the practice of speaking aspects.
- The sixth page contains conversations (comic).
- The seventh page contains conversations (comic).
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- Eighth page contains and
  Nine contains multiple choice exercises from all chapter 1 material

- The tenth page contains chapter II introduction material
- The eleventh page contains materials asking for and telling identify
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- The twelfth page contains exercises and materials for introducing family members.
- The thirteenth page contains exercises on the speaking aspect.
- The fourteenth page contains conversation (comic).
- The fifteenth page contains multiple choice exercises on all the material from chapter II.
4. Pre-test dan post-test of students

To test the results of the product made by the researcher, the researcher carried out two stages. The first stage is to provide questions that have been adjusted to the material to determine the ability of students in mastering the material (pre-test). Then for the second stage, the researcher gave the product made by the researcher and then explained about the material in the product and gave questions to find out the results. From the two stages, it aims to find out how the results of students are before being given a product (pre-test) and after being given a product (post-test). The following table shows the results of the pre-test and post-test scores of ten students from seventh grade of Taruna Jaya Junior High School:

<table>
<thead>
<tr>
<th>No</th>
<th>Name</th>
<th>Pre-Test score</th>
<th>Post-Test score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Angga Saputra</td>
<td>70</td>
<td>80</td>
</tr>
<tr>
<td>2</td>
<td>Bela Apriyani</td>
<td>65</td>
<td>90</td>
</tr>
<tr>
<td>3</td>
<td>Desti Serlina</td>
<td>70</td>
<td>90</td>
</tr>
<tr>
<td>4</td>
<td>Fani Marlina Sari</td>
<td>60</td>
<td>90</td>
</tr>
<tr>
<td>5</td>
<td>Gilang Syah reza</td>
<td>70</td>
<td>100</td>
</tr>
<tr>
<td>6</td>
<td>Julia Nur Hayati</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>7</td>
<td>Natalius Pratama</td>
<td>65</td>
<td>100</td>
</tr>
<tr>
<td>8</td>
<td>Setya Rahmadani</td>
<td>75</td>
<td>100</td>
</tr>
<tr>
<td>9</td>
<td>Tata Regita Aulia</td>
<td>70</td>
<td>90</td>
</tr>
<tr>
<td>10</td>
<td>Yuyun Wida Sari</td>
<td>65</td>
<td>100</td>
</tr>
</tbody>
</table>

From the results of the pre-test and post-test conducted by the researchers, there is a difference in the value of the results of the two. As stated in chapter III, that if the pre-test value is higher than the post-test value, the product is not effective to use. However, if the post-test value is higher than the pre-test value, the product is said to be effective for use. Looking at the results of the pre-test and post-test conducted by the researcher on ten seventh grade students of SMP Taruna Jaya, it can be seen that the post-test score is higher than the pre-test score, so it can be concluded that the product is effective to use.

DISCUSSION

Based on the results of the validation by the validator team, namely material experts and media experts, the product that the researcher is developing, namely Student Worksheet Based Educational Comic At Seventh Grade In SMP Taruna Jaya is declared valid. In the validation of the material experts, the percentage of the feasibility assessment was 90% with the "very feasible" criteria. Similar to the results of material expert validation, media expert validation also received a percentage of 90% with the "very feasible" criteria. Based on the results of the validation, which shows that the Student
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Worksheet Based Educational Comic At Seventh Grade In SMP Taruna Jaya is feasible/valid to be tested. Furthermore, in the results of the pre-test and post-test conducted to ten seventh grade students of Taruna Jaya Junior High School, the result is that the post-test score is higher than the pre-test score, so it can be concluded that the student worksheet based educational comic product is effective.

While, Misbah et al., (2018) found that Achievement of the student worksheet developed based on the sheet of scientific attitudes is categorized as moderate, and the practicality of the student worksheet developed based on the calculation of students response questionnaire is categorized as practical. Furthermore, Dwi Putri Julianti (2018) found that Student Worksheet developed has valid criteria. Student Worksheet is in accordance with the demands of the 2013 curriculum which emphasizes the learning process with a scientific approach. The resulting Student Worksheet has very practical criteria and can help teachers and students in the learning process.

The current finding was different with previous finding because the result is Train Student's Scientific Attitude, while the result in the research product are to find out student learning outcomes in the form of grades after doing some exercises. On the other hand, the material that given using the material Approach on Environmental Pollution Topic, while student worksheet which are make researcher, make a two material, it is "good morning, how are you? Dan this is me".

Other finding from Basuki & Wijaya (2018) concluded that student worksheets developed based on Realistic Mathematics Education on the circles which has characteristic using real-world context, construction, the process of mathematization, interactivity and integrated learning was Practicality, interesting and useful. And using worksheet can develop students' Biology using the guided inquiry was valid, practically, and effective to be used in the instruction (Erlin, et al., 2018). The integrated comic student worksheets are also suitable for use based on validation. This is evidenced by empirical evidence which shows that students' worksheets can show the distribution of students' critical thinking abilities in both modelling and implementation classes in various ability categories (Dinda, et al., 2019).

Vivian, et al., (2019) gave argumentation that comics as learning media can be accepted and liked by students and can help and facilitate the learning process. Because the results of the data analysis of student responses were stated to be very positive with a total percentage of 92% and analysis of learning outcomes data, as many as 22 subjects used in this study all have reached the KKM used by the school. Many ways to improve students skill, for instance using material Comic Strips can be improve students' vocabulary in doing test (Rokhayani & Aisyah, 2014). Other finding also found that worksheet developed has valid criteria. Student Worksheet is in accordance with the demands of the 2013 curriculum which emphasizes the learning process with a scientific approach process (Julianti, 2018). The resulting Student Worksheet has very practical criteria and can help teachers and students in the learning process.

The contribution of this research helped the teachers and prospective teachers to alternative learning alternatives that are innovative and interactive, so that it can foster interest in teachers or prospective teachers to make alternative learning resources better. This development research has a lot of potential to be developed further along with the development of technology and information, and variations on teaching materials. The results of this study are expected to help foster student interest in English lessons.

CONCLUSION

The student worksheet based educational comic product is effective. The students' worksheet based educational comic resulted in the initial draft preparation then continued at the validation stage, material experts and media experts both received a percentage of 90% with the "very feasible" criteria. Then produce a Student Worksheet

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Based Educational Comic At Sevent Grade In SMP Taruna Jaya which is feasible/valid to be tested. The suggestions of this research concluded that Student Worksheet Based Educational Comic can be developed as an alternative for seventh grade learning because the material presented is more interesting and simple so that the time to deliver the material is more efficient. And for further researchers, it can be more interesting in presenting animations and multiplying the material, not just two materials and increasing practice questions to support the ability of students.

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AUTHOR CONTRIBUTION STATEMENT

All authors have worked in a shared roles in conducting and research report. There is no any conflicting in managing project.

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Wawancara deangan Gilang Syah Reza (siswa kelas tujuh SMP Taruna Jaya) Tulang Bawang, Lampung, 23 Desember 2021

Wawancara dengan ibu Tya Selviana, (guru bahasa inggris SMP Taruna Jaya) Tulang Bawang, Lampung, 23-Desember 2021


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