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The Development Of Students' Activities Sheet With A Scientific Approach In Elementary School

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Abstract This study aims to develop students' activity sheets with a scientific approach to learn English. This research uses research and development (R & D), Van den Akker model covering three main aspects: substantive, procedural, and theoretical-empirical. Data collection techniques were conducted using questionnaires, observation sheets, and test data. Questionnaires were used to determine perceptions on the development of students' activity sheets, and observation sheets were used to obtain students' activity data, as well as tests used to obtain learning result data. The result of this research is a validation of students' activity sheets is good, this can be seen from the validation done by the validator, which gained from design expert validation obtained an average score of 3.53, validation from the material experts earned an average score of 3.93, whereas the expert validation of educational practitioners obtained an average score of 4.00. Thus, it can be concluded that the students' activity sheets with a scientific approach developed by researchers deserve to be used as a teaching material to support the fourth grade of primary school.

1. Introduction

English is a globally recognized language and hence becomes very important to master amid technological advances and the current era of globalization. In primary schools, students must be introduced to English, so they can follow advanced learning and eventually become part of this globalization society [1].

A learning process is a process of interaction reciprocal relationship between teachers and students in the learning unit. According to Simbolon [2], "Teachers are agents of renewal that acts as a facilitator of learning and are responsible for the achievement of learning outcomes of students. The success of students is determined by the strategy undertaken by the teacher." With learning tools, the active learning is achieved in the classroom, which will develop students' creativity and create a fun learning environment for the students [3]–[5]. One of the learning tools which can be used is the students' activity sheets.

The results of research conducted by Supriadi (2001-2002) concluded that textbooks contribute about 75% to the success rate of learning. Thus, the provision of books that is not just comply with the ability and potential of students but also be in accordance with the objectives of the applicable curriculum.

In addition to the above data, the result of the interview with the fourth-grade teacher in SD Negeri 101775 Sampali, describes the average value of daily English test is 58.5 with completeness 49%. This condition indicates that the students' understanding of the learning process is still low, causing the



students' learning outcomes tend to be low and thus the learning objectives cannot be achieved without the necessary supporting tools.

2. Research Method

This research was held during the period of February 2018 until April 2018, which include fourth-grade students as the subject consist of students of grade IV-A State Elementary School 101775 Sampali Jalan Irian Barat for trial I and students of grade IV-B SD Negeri 101775 Sampali Jalan Irian Barat for trial II.

To achieve this research objective that is to develop students' activity sheets using a scientific approach, Van den Akker research and development (R & D) model is employed [6]. Richey and Klein (1996) identify that existing studies on product development where the development process described as thoroughly as possible and the final product is evaluated [7]. Van den Akker states as a formative research in which research activities are conducted in a cyclic process and focus on optimizing the quality of the implementation particular products [6].

The model covers three main aspects: substantive, procedural, and theoretical - empirical. The first aspect includes validity, practicality, and effectiveness [8]. The second aspect involves procedure-related development activities, such as a front-end analysis to describe the starting situation (context, available theory, and research results), and a formative analysis to develop, evaluate, and revise the materials. The last aspect relates to the theory used and the resulting field data.

3. Result

The study produced a student activity sheet, which was specifically developed based on English material for fourth-grade elementary school students.

3.1. Development

3.1.1 Development Stage. In this research the development of learning material was based on Van den Akker development model that covers three main aspects: substantive, procedural, and theoretical-empirical [6] [9]. The substantive aspects are the stages used to build student activities, to verify some valid actions to be included in student activities, which will be analyzed through pre-test and post-test that was given to two groups of students.

3.1.2 Preliminary Analysis. Based on the results of the initial analysis conducted, the subject used to develop the learning tool sheet student activity is "Body and Face" with the subject of research that is the fourth grader, second semester. The topic was chosen because, in terms of the structure of the content, this topic has sub-related topics, in which one sub-subject may be a prerequisite for subsequent sub-topics. This topic is adapted to "Curriculum 2006."

3.1.3 Expert Judgement. The validation results on the student activity sheet showed that this learning tool got a good score, which was seen on average score 3.75 for aspect format, 3.70 for language aspect, and 3.83 for content aspect. From the data can be said this device is good for use in this research, although still need some revision to optimize it.

3.1.4 Trials. Based on the observations during the learning activities, it signified that the overall process of "Body and Face" learning material is reliable, which also align with the good teaching skills possessed by the teacher or researcher. Moreover, teachers showed good skills in opening the lesson, developing students' learning skills with the developed students' activity sheets, managing the classroom, questioning and collecting students' feedback, establishing communication with students, and motivating students in working on problems linked to the material.

3.2. Experiment Result

The experiment using the developed student activity sheets was aimed to see how far the students' understanding of "Body and Face" topic; it was conducted in two different schools, with pre-test and post-test activities.

3.2.1 Validity and Reliability of the Test Cases. Testing of test instruments conducted in class V in SD Negeri 101775 Sampali can be summarized validity and reliability there are 25 (twenty five) questions, of which 20 (twenty) valid questions and 5 (five) invalid questions, so it can be concluded that the item question on activity sheet of student with topic "Body and Face" can be used to measure student learning result 20 (twenty) problem because $r_{hitung} > r_{tabel}$ at significant level = 0,05, where r_{tabel} obtained 0,3610 (see table of critic price r , Product Moment).

3.2.2 Pre-test . The pre-test was done to grade IV-A State Elementary School 101775 Sampali with "Body and Face" material, and the result showed that the students were in the good category of 8.4. Of the 30 students, 10 students (33.33%) were included in the excellent category, 16 students (53.33%) included in the good category, 4 students (13.34%) included in the good-enough category. For more details, the results of pre-test can be seen in Figure 1.

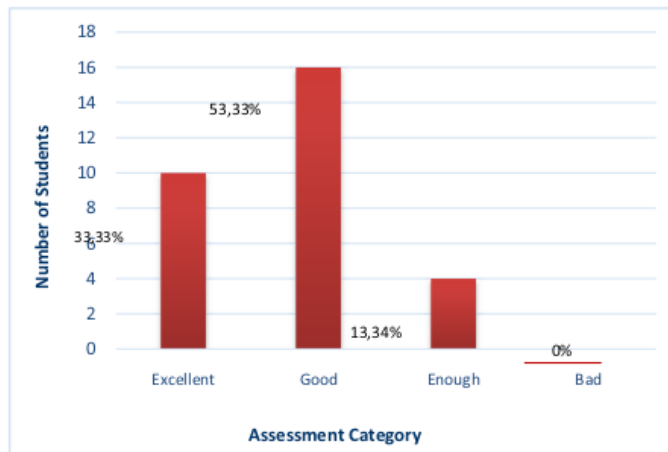


Figure 1. Pre-test result on "Body and Face" materials – IV A Class of SD Negeri 101775 Sampali

Table 1 is a pre-test result conducted in IV-B Class, SD Negeri 101775 Sampali for "Body and Face" topic.

Table 1 Pre-Test Results on "Body and Face" of IV-B Class, SD Negeri 101775 Sampali

No	Category	Grade Range	Frequency	Scor	Percentage	Average
1	Excellent	9 – 10	0	0	0	
2	Good	7 – 8	12	96	40.00	
3	Enough	5 – 6	11	66	36.67	190

No	Category	Grade Range	Frequency	Scor	Percentage	Average
4	Bad	0 – 4	7	28	23,33	30
	Sum		30	190	100	6,33

Figure 2 depicted the pre-test results in chart.

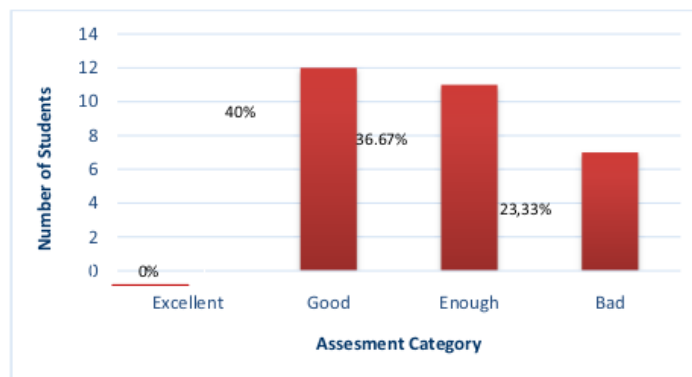


Figure 2. Pre-test result on “Body and Face” materials – IV B Class of SD Negeri 101775 Sampali

3.2.3. *Pos-test.* From the pre-test results can be seen increasing the ability of students in the material Body and Face after using the student activity sheet developed by researchers. The result of post test can be seen in Table 2.

Table 2 Pos-test Results of Students Class IV-A, SD Negeri 101775 Sampali

No	Category	Grade Range	Frequency	Scor	Percentage	Average
1	Excellent	9 – 10	18	180	60,00	
2	Good	7 – 8	10	80	33,33	<u>272</u>
3	Enough	5 – 6	2	12	6,67	30
4	Bad	0 – 4	0	0	0	
	Sum		30	272	100	9,067

The table above shows the result of the post-test conducted in SD Negeri 101775 Sampali for the English lesson of Body and Face material after the learning activity by using student activity sheet is implemented. For more details acquisition of post-test result value can be seen in Figure 3.



Figure 3. Pos-test Results of Students Class IV-A, SD Negeri 101775 Sampali

Table 3 shows the results of the post-test conducted at SD Negeri 101775 Sampali for “Body and Face” material after the learning activities were conducted using the student activity sheet developed by the researcher. With this result can be said that the learning by using student activity sheet can be said successful.

Table 3 Pos-test Results of Students Class IV-B, SD Negeri 101775 Sampali

No	Category	Grade Range	Frequency	Scor	Percentage	Average
1	Excellent	9 – 10	4	40	13,33	
2	Good	7 – 8	15	120	50,00	<u>226</u>
3	Enough	5 – 6	11	66	36,67	30
4	Bad	0 – 4				
	Sum		30	226	100	7,53

Figure 4 depicted the pos-test results in chart.

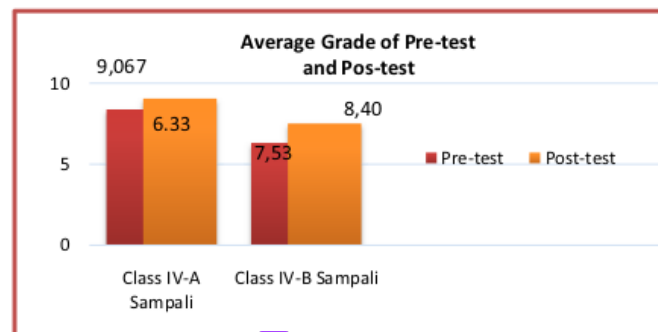


Figure 4. Pos-test of Students Class IV-B, SD Negeri 101775 Sampali

Table 4 Average of Pre-test and Pos-test SD Negeri 101775 Sampali

Class	Average		Improvement	
	Pre-test	Pos-test	Pos-test – Pre-test	%
IV-A	8.40	9.067	0.667	7.67
IV-B	6.33	7.53	1.2	18.96

From this result, there is an increase in State Element 101775 Sampali Class IV-A of 7.67%, while SD Negeri 101775 Sampali Class IV-B is 18.96%. The improvement of students' understanding on English lessons, especially "Body and Face" topic, can be seen from the Figure. 5

**Figure 5.** Results of Pre-test and Post-test

4. Discussion

The final product of the development undertaken in this study is the students' activity sheet, which is expected to comply with the Education Unit Level Curriculum. The activity sheets developed is designed to contain the components: (a) the necessary tools, (b) the objectives, (c) the tasks, and (d) the steps of the activity.

In the development stage, validation was done by an expert, a lecturer in English subject, and an English teacher; the validation results which are shown in the table given by the validator, obtained a very good score. For the format aspect obtained an average score of 3.92, the language aspect earned an average score of 3.67, while the content aspect earned an average score of 3.89. Thus, it can be said that the developed activity sheet is good.

Students' understanding of the learning material has increased, which can be seen from the results of pre-test and post-test conducted in two different classes. In pre-test result before learning using the developed activity sheet was employed, the average score of SD Negeri 101775 Sampali Class IV-A reached 8.40, while for SD Negeri 101775 Sampali Class IV-B, the average score was 6.33. The post-test obtained average score both for SD Negeri 101775 Sampali Class IV-A and SD Negeri 101775 Sampali Class IV-B is 9.067 and 7.53, accordingly.

11 Conclusion

Based on the discussion, the researcher concludes as follows: The validation of student activity sheet is good, with the mean value 3.92, the language aspect got the average score 3.67, while the content aspect got the average score 3.89. The usage of student activity sheet as learning materials in English subject is said to be very high, 80%. This can be seen from the results of pre-test and post-test conducted by researchers in two different classes, which show learning achievement improvement in both student

groups: State Element 101775 Sampali Class IV-A by 7.67% and SD Negeri 101775 Sampali Class IV-B by 18.96%.

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