The Impact of Implementation of Angklung Learning Application for SLB Part B Deaf using Multimedia-Based Coloring Method on User Satisfaction

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Abstract. This research is a continuation of previous research on Angklung Learning Application Program for SLB Part B of Deaf Using the Multimedia-Based Coloring Method in SLB N Part B Cicendo Bandung. The purpose of this study is to measure the effect of using this application program on the user's understanding of how to play angklung, the focus of the user. As it is known, deaf students rely on visuals in their daily lives, so that sometimes the focus of students is diverted to other things while playing angklung. This research used descriptive and quantitative methods. The number of respondents was 30 participants of angklung activities consisting of deaf elementary school students, deaf junior high school and deaf high school. From the results of the distribution of questionnaires conducted obtained, from 23 items raised questions obtained Cronbach's Alpha value of 0.755. All statement variables contained in the questionnaire (measuring instrument) are valid and can be trusted as a measure of respondents' understanding of the exposure to the implementation of the Angklung Learning Application program for SLB Part B Deaf using the Multimedia-Based Coloring Score Method in SLB N Cicendo.

1. Introduction
This research is a continuation of previous research on the Angklung Learning Application Program for SLB Part B of Deaf Using the Multimedia-Based Coloring Method in SLB N Part B Cicendo Bandung. This application helps teachers and students to practice and understand the notes in Angklung better. Previously, the teacher trained students by combining the Demonstration Method and the Reflective Maternal Method (MMR). The Maternal Reflective Method (MMR) is a language learning method introduced by A. van Uden which is based on the way a mother teaches language to her children through loving, natural, spontaneous, and everyday language conversations [1,2]. Here, the teacher directly practices how to hold and play angklung using sign language.

In practice, there are obstacles in the angklung teaching system notation. The lack of hand symbols representing certain notations is still limited to the main note. So that the participants cannot play songs in which there are up or down tones because they are not yet represented by the symbol of the hand. The limited-time for studying and practicing angklung is only 30 minutes, once a month makes students only know angklung as a medium of play that makes a unique sound and often they are not focused on playing it. This application comes as a solution to these problems, an interactive learning multimedia application that uses Unity 3d software based on mobile (by smartphone) and desktop applications. Students can
learn Angklung’s introduction material that is animative, practice playing songs using the coloring score method, and complete quizzes and games that can be accessed anywhere [2].

Furthermore, the application of this application certainly needs to be evaluated as an improvement of material in the future. Therefore, this study was made to find out how much influence the application of these applications on user satisfaction, in this case, is SLB N Part B students Cicendo Bandung.

2. Methods
The methods used in this research are descriptive and quantitative. This research used primary data by distributing questionnaires. Questionnaires were given to 30 respondents. The technique of data collection used is a survey method. Data analysis issues a simple regression analysis.

2.1. Descriptive Method
Type of research aims to provide an accurate profile of a situation, person or event [3]. The descriptive research approach is a basic research method that investigates the state, as it existing state. Descriptive research requires identification of aspects of a specific trend based on an observational base, or the discovery of relationship between two or more trends [4]. Descriptive method describes the variables that are distributed.

2.2. Quantitative Method
Quantitative methods can be used to verify which hypothesis is correct [5]. Quantitative methods require the activities of assembling, analyzing, understanding, and put in writing the results of a study [6]. Quantitative methods are methods that relate to collecting data in the form of numbers.

2.3. Descriptive Quantitative Analysis
Quantitative descriptive analysis characterizes the world or a phenomenon by identifying patterns in data to answer questions about who, what, where, when, and to what extent [7]. Quantitative descriptive research is an activity to gather broad information about an event or state of a variable as it is [8]. This research is a study that describes a situation that is measured by the numbers obtained from the collection of data which is then processed into numbers.

2.4. Survey Method
Methods for recruiting participants, collecting data, and utilizing various instrumentation methods. We can use quantitative research strategies, qualitative research strategies, or both strategies [9].

2.5. Simple Regression Analysis
It used to measure the strength of the relationship between two variables and show the direction of the relationship between the dependent variable and the independent variable [10]. Formulated as follows in Table 1.

| Table 1. Formula Simple Regression Analysis |
|--------------------------------------------|
| \( Y = a + bX \)                           |

Information:

| Y     | User Satisfaction |
|-------|-------------------|
| a     | Simple regression constant |
| b     | Regression coefficient |
| X     | Implementation of Angklung Learning Application |
3. Results and Discussion

3.1. Validity and Reliability Test

Table 2. Number of Respondents

|   | N   | %   |
|---|-----|-----|
| Valid Cases | 30  | 100,0 |
| Excluded a | 0   | 0,0  |
| Total Cases | 30  | 100,0 |

a. Listwise deletion based on all variables in the procedure.

The information in Table 2 above provides information about the number of samples or respondents (N) that were analyzed totaling 30 people. It is because there is no blank data (all filled in), then the valid amount is 100%.

Table 3. Reliability Statistics X

| Cronbach's Alpha | N of Items |
|------------------|------------|
| 0.877            | 12         |

From the output Table 3 data above, there are N of Items, there are 12 items with values of Cronbach’s Alpha 0.877. Therefore, the value 0.877 > 0.60, the basis for decision making in the reliability test above, it can be concluded that the 12th or all items of the questionnaire statement are reliable and consistent.

Table 4. Reliability Statistics Y

| Cronbach's Alpha | N of Items |
|------------------|------------|
| 0.855            | 11         |

From the output Table 4 data above, there are N of Items, there are 11 items with values of Cronbach’s Alpha 0.855. Therefore, the value 0.855 > 0.60, the basis for decision making in the reliability test above, it can be concluded that the 1th or all items of the questionnaire statement are reliable and consistent.

Table 5. Item Total Statistic

| Item | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item Total Correlation | Cronbach's Alpha if Item Deleted |
|------|-----------------------------|-------------------------------|---------------------------------|-------------------------------|
| X1   | 50.90                       | 13.059                        | .696                            | .859                          |
| X2   | 50.60                       | 15.007                        | .466                            | .873                          |
| X3   | 50.73                       | 13.857                        | .745                            | .857                          |
| X4   | 50.70                       | 14.631                        | .532                            | .869                          |
| X5   | 50.90                       | 13.059                        | .696                            | .859                          |
| X6   | 50.70                       | 14.355                        | .524                            | .870                          |
| X7   | 50.70                       | 14.631                        | .532                            | .869                          |
| X8   | 50.70                       | 14.355                        | .524                            | .870                          |
| X9   | 50.43                       | 15.564                        | .448                            | .874                          |
| X10  | 50.60                       | 15.007                        | .466                            | .873                          |
| X11  | 50.73                       | 13.857                        | .745                            | .857                          |
| X12  | 50.60                       | 15.007                        | .466                            | .873                          |
| Y13  | 46.13                       | 11.913                        | .483                            | .848                          |
| Y14  | 46.17                       | 12.764                        | .371                            | .854                          |
To find out whether each item in the questionnaire is valid or not, we can look at the corrected-item column. However, this value will be compared to the value of \( r \) table with a significance value of 5% with 30 respondents items that is equal to 0.306 (Table 5).

**Table 6. Result of Reliability and Validity Test**

| No | \( r \) | \( r \) Table | Validity Test | Cronbach’s Alpha | Reliability Test |
|----|--------|---------------|----------------|-----------------|-----------------|
| 1  | 0,696  | 0,306         | Valid          | 0,877 > 0,60    | Reliable        |
| 2  | 0,466  | 0,306         | Valid          | 0,877 > 0,60    | Reliable        |
| 3  | 0,745  | 0,306         | Valid          | 0,877 > 0,60    | Reliable        |
| 4  | 0,532  | 0,306         | Valid          | 0,877 > 0,60    | Reliable        |
| 5  | 0,696  | 0,306         | Valid          | 0,877 > 0,60    | Reliable        |
| 6  | 0,524  | 0,306         | Valid          | 0,877 > 0,60    | Reliable        |
| 7  | 0,532  | 0,306         | Valid          | 0,877 > 0,60    | Reliable        |
| 8  | 0,524  | 0,306         | Valid          | 0,877 > 0,60    | Reliable        |
| 9  | 0,448  | 0,306         | Valid          | 0,877 > 0,60    | Reliable        |
| 10 | 0,466  | 0,306         | Valid          | 0,877 > 0,60    | Reliable        |
| 11 | 0,745  | 0,306         | Valid          | 0,877 > 0,60    | Reliable        |
| 12 | 0,466  | 0,306         | Valid          | 0,877 > 0,60    | Reliable        |
| 13 | 0,483  | 0,306         | Valid          | 0,855 > 0,60    | Reliable        |
| 14 | 0,371  | 0,306         | Valid          | 0,855 > 0,60    | Reliable        |
| 15 | 0,608  | 0,306         | Valid          | 0,855 > 0,60    | Reliable        |
| 16 | 0,511  | 0,306         | Valid          | 0,855 > 0,60    | Reliable        |
| 17 | 0,609  | 0,306         | Valid          | 0,855 > 0,60    | Reliable        |
| 18 | 0,695  | 0,306         | Valid          | 0,855 > 0,60    | Reliable        |
| 19 | 0,652  | 0,306         | Valid          | 0,855 > 0,60    | Reliable        |
| 20 | 0,483  | 0,306         | Valid          | 0,855 > 0,60    | Reliable        |
| 21 | 0,637  | 0,306         | Valid          | 0,855 > 0,60    | Reliable        |
| 22 | 0,371  | 0,306         | Valid          | 0,855 > 0,60    | Reliable        |
| 23 | 0,652  | 0,306         | Valid          | 0,855 > 0,60    | Reliable        |

Based on the data from Table 6 above, all statement variables contained in the questionnaire are valid and reliable, then can be trusted as a measurement tool for the variables studied.

### 3.2. Descriptive Analysis

**Table 7. Result of Questionnaire**

| Statement | STS Amount | % | STS Amount | % | N Amount | % | S Amount | % | SS Amount | % | Total Amount | % |
|-----------|-----------|---|------------|---|----------|---|----------|---|-----------|---|--------------|---|
| 1         | 0         | 0 | 0          | 0 | 3        | 10| 12       | 40| 15        | 50| 30           | 100|
| 2         | 0         | 0 | 0          | 0 | 0        | 0 | 0        | 0 | 0         | 0 | 0             | 0 |
| 3         | 0         | 0 | 0          | 0 | 0        | 0 | 0        | 0 | 0         | 0 | 0             | 0 |
| 4         | 0         | 0 | 0          | 0 | 0        | 0 | 0        | 0 | 0         | 0 | 0             | 0 |
| 5         | 0         | 0 | 0          | 0 | 0        | 0 | 0        | 0 | 0         | 0 | 0             | 0 |
| 6         | 0         | 0 | 0          | 0 | 0        | 0 | 0        | 0 | 0         | 0 | 0             | 0 |
| 7         | 0         | 0 | 0          | 0 | 0        | 0 | 0        | 0 | 0         | 0 | 0             | 0 |
Based on the data from Table 7, we can see that there are no respondents who disagree that the Implementation of Angklung Learning Application affects User Satisfaction. Most of them assume that Implementation of Angklung Learning Application has a good effect which certainly brings satisfaction and convenience for its users.

3.3. Simple Regression Analysis

| Table 8. Variable Name Variables Entered/Removed<sup>a</sup> |
|-----------------|-----------------|-----------------|-----------------|-----------------|
| Model | Variables Entered | Variables Removed | Method |
| 1 | Implementation of Angklung Learning Application<sup>b</sup> | . | Enter |

<sup>a</sup> Dependent Variable: User Satisfaction
<sup>b</sup> All requested variables entered.

The Table 8 above explains the variables entered as well as the method used in the regression analysis.

| Table 9. Regression Analysis |
|-----------------------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .946<sup>a</sup> | .896 | .892 | 1.243 |

<sup>a</sup> Predictors: (Constant), Implementation of Angklung Learning Application

Based on output from Table 9 above, we can see the R square value of 89.6%. That value means that the effect of Implementation of Angklung Learning Application(X) on User Satisfaction (Y) is equal to 89.6%. while the rest of 10.4% is influenced by other variables not examined in this study.
Table 1. Regression Coefficients

| Model                                | Unstandardized Coefficients | Standardized Coefficients | t       | Sig.  |
|--------------------------------------|-----------------------------|---------------------------|---------|-------|
| (Constant)                           |                             |                           |         |       |
| Implementation of Angklung Learning Application | .870                        | .946                      | 15.504  | .000  |
| a. Dependent Variable: User Satisfaction |                             |                           |         |       |

From the Table 10 above, we know that the constant number in this study is equal to 2,662. This value implies that if there is no Implementation of Angklung Learning Application (X) then the consistent value of User Satisfaction (Y) is 2,662.

The value of the regression coefficient is 0,870. this number implies that every 1% increase in Implementation of Angklung Learning Application (X) then User Satisfaction (Y) will increase by 0,870. Because the value of the regression coefficient is positive, it can be agreed that Implementation of Angklung Learning Application (X) produces a positive effect User Satisfaction (Y) so the regression equation Y = 2,662 + 0,870X

4. Conclusion
This research is focuses on how to help by finding solutions to problems that occur in SLB, where deaf students find it difficult to learn and practice angklung because of limited time and human resources (trainers). This application was made in the hope that it can help resolve the issue. Furthermore, this study was made to find out how much effect of the implementation of Angklung Learning Application for deaf students on the satisfaction of its users in SLB N Part B Cicendo Bandung. In the end, this research gave results that Implementation of Angklung Learning Application (X) has a positive effect on User Satisfaction (Y) is equal to 89,6%, and the rest of 10,4% is influenced by other variables not examined in this study.

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