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The Effectiveness of Direct Instruction Model in Teaching Solfeggio for Beginners

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Abstract

The background of this study was rooting down from the students music learning circumstances, of which they have low skill and knowledge of solfeggio, low ability of transferring solfeggio automatically into a new context although they have learned it, unavailability of learning material, syllabus, and lesson plan, standardized method and media of learning. Based on the problems stated above, it is very important to design a research dealing with learning solfeggio which lasting and producing a complete, practical, reliable and valid curricula of solfeggio. The basis model of development is using ADDIE theory. This research belongs to R & D research. The subject of the research is the students of art and music department, FBS Padang State University. The instrumentation of data gathering was using interview, questionnaire, tryout, performance-test. To analyze the raw data to see the level of reliability and practicality the researcher used the formula of Rho Spearman Brown, and the result is that r-obtain 1.2 exceeds r-table within significance level of 95% (0.05) it is 0.349 or by (0,01) it is 0.449. To prove the effectiveness of the product of this research (the model of learning solfeggio), the writer distinguish the data of pre-test to post-test by accumulating the scores the students obtained by using match t-test, and the result is that t-obtain 9.311 exceeds t-table 1.697. It means that, the model of learning solfeggio as the product of this research is much more effective significantly since the result of the match t-test is so high exceeding the number of the t-tab. It can be concluded that this model is very useful for the lecturers and the students as well in learning solfeggio at the music department of FBS Padang State University.

Keywords: *Learning Model, Direct Instruction Model, Solfeggio in Music Curriculum*

INTRODUCTION

Learning activity design planning is known as *instructional design,* which places educators as the main actors providing information. Learning activities where educators play more of a facilitator role, managing various sources and facilities for students to learn, are called learning (*instruction)* (Sanjaya, 2008: 79). Thus, teaching and learning are assumed to be efforts to improve learning outcomes to be more effective, efficient, and attractive (Uno, 2006: 21).

Planning the learning process is developing a systematically organised strategy for learning. Teachers/lecturers must decide what and how to teach before they do it. With careful lesson planning, it is possible to avoid fortuitous success and predict how much success is achieved, serves as a tool for solving problems and makes learning take place systematically, which means that the process of learning is systematic. Which means that learning does not take place carelessly but takes place in a directed and organised manner. Planning learning is an ability that a teacher/lecturer must have before implementing learning in the classroom because learning is a system that has components that are interrelated with each other (Suprihatiningrum, 2013: 109; Santrock, 2014: 121).

Learning planning is followed up on development that aims to improve the quality of learning that guides four assumptions, including: (a) a type of system approach, (b) based on student knowledge, (c) making it easier for students to learn and form their own competencies, and (d) learning plans should not be made up or perfunctory, let alone just fulfilling administrative requirements (Suprihatiningrum, 2013: 111). Uno (2006: 2) further explains that the development of learning process planning is an effort to improve the quality of learning with the assumption: (a) improving learning design through learning planning, (b) using a systems approach,

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(c) referring to how a person learns, (d) referring to individual students, (e) leading to the achievement of direct learning objectives and accompanying objectives, and (f) helping make it easier for students to learn,

Designing an outline of learning activities and techniques and orienting students to new material, before the material is taught can be done by means of an *advanced organiser,* which is organising learning activities and techniques by creating a learning outline and orienting students to previous material. It is important to help students see the "big picture" of what is being taught and what the related information means. *Advanced organiser* can be achieved in two ways, namely: (a) *expository advanced* organiser*,* aims to provide students with new knowledge that will orientate them to future knowledge, and introduces new material by linking it to what students already know, (b) *comparative advanced organiser* aims to introduce new material by linking it to what students already know. *Expository advanced organiser* and *Comparative advanced organiser* are learning strategies to activate students in the learning process that becomes effective and fun.

As a learning strategy, teachers make a series of efforts so that prior knowledge (schemata) can be assimilated with new experiences (accommodation) to create balance (equilibration) in students. The way this is done is that students are directed to new material through several activities including: (a) review previous activities, (b) discuss learning objectives, (c) give clear and explicit instructions about the tasks to be performed, and (d) give a review of the current lesson. Orientation and structuring at the start of learning influence learning improvement, (Santrock, 2009: 474).

Related to the learning load in higher education is determined in the weight of semester credit units (SKS) per course. The determination of the amount of SKS is determined by the characteristics of the lesson unit, the depth of theoretical knowledge and general and special skills that students must have after completing learning activities. The implementation of learning for each unit of study, namely: (a) face-to-face activities 50 minutes per week per semester, (b) structured assignment activities 50 minutes per week per semester, and (c) independent activities 60 minutes per week per semester (Permenristekdikti number 49 of 2014).

The implication of the time division above is that the learning outcomes of each learning are at least mastering the theoretical concepts of certain fields of knowledge and skills in general and the concepts of specialised parts in the field of knowledge and skills in depth.

Solfeggio (*solfege*) is the basis for all courses for music expertise students, weighing 3 credits with details of 1 credit for theoretical knowledge and 2 credits for practice. The subject matter is rhythm, interval, and melody as well as the musical elements that construct them. The expected learning outcomes are skilful reading of 2, 3, 4, 6 meter songs in various keys (Sendratasik Curriculum 2015).

In relation to the characteristics of the course mentioned above, Sumaryanto (2005: 40) suggests that solfeggio learning is an exercise in reading scales, intervals, and melodic exercises with syllables (*sillaby zolmisation*) using solmisation (do, re, mi, fa, sol, la, ti, do) non-sequentially from low to high or vice versa, voicing them according to the arrangement of notes in musical scores.

In line with the above opinion, Florentinus (1997: 60) suggests that solfeggio is a term that refers to the activity of singing tones, intervals, and melodic exercises with *sillaby zolmisation,* namely singing musical notes using syllables. The abilities expected in solfeggio activities are: (a) the ability to read rhythms or rhythms, write down and re-voicing, (b) the ability to read melodies or series of tones, and (c) the ability to read the harmony of combined tones.

The two expert opinions above are similar in that they practice reading scales, intervals, and melodies using syllables: do-re-mi-fa-sol-la-si. However, it is not explained in more detail what about the notes that are raised or lowered by *half* a *step* - using kres/kreis (*sharp*) or mol (*flat)* - so that the syllables read the raised notes, for example, do becomes *di*, re becomes mol (*flat).*

ri, fa becomes *fi*, sol becomes *sil*, la becomes *li*; syllables for reading lowered tones, namely: si becomes *se*, la becomes *le,* sol becomes *sel,* mi becomes *ma,* re becomes *ra.*

Stanley (1980: 454) expressed a different opinion about solfeggio that the activity of hearing the sound of notes or tones is an important part of learning. This means that before practising reading rhythms, intervals and melodies, *ear-training is* done as a first step towards the next step, which is *sight-reading* or *sight-singing*.

Katie (2013: 70-87) describes three teaching approaches to improve melodic *sight-reading* skills and are particularly needed in piano playing, namely: (a) melody reading (includng pitch intervals), (b) rhythm training, and (c) collaboration of sight and hearing. The training starts with rhythmic reading which aims at the skill of identifying and practising the basic beats and note units that make up the rhythm. Melody reading training is done orally by reading a series of notes from songs that have been mastered to identify the duration, colour and intensity of the notes.

Kuo & Chuang (2013: 394-412) describe that learning a musical notation system can be done through understanding a single melodic line (main melody) using both the human voice and musical instruments which includes the musical elements: pitch, duration, range, intensity and the fusion of vision and hearing. Tone consists of 12 pitch systems (chromatic ascending or chromatic descending) that produce 12 different pitch levels; duration consists of full notes, per-two's, per-four's, per-eighth's, per-sixteenth's, and per-thirty-two's; range is the narrow width of the area of the human voice or musical instrument; intensity is the downbeat (strong) and upbeat (weak).

There are several results of the author's survey related to the implementation of the solfeggio learning process, the initial ability of solfeggio, and the final ability of students after taking solfeggio learning. The implementation of the learning process carried out by the lecturer teaching the solfeggio course so far is an exercise or practice of reading song scores accompanied by rhythm, interval, and melody practice with a small volume. The initial ability of solfeggio students of music expertise in the Department of Sendratasik to read rhythm, interval, and melody is very weak. There is a tendency for music students to be less positive when learning solfeggio, namely memorising songs by listening, not reading.

The ability to read songs (*sight-singing*) of music expertise students after taking solfeggio courses for one semester has not been significantly changed. This information was obtained from several lecturers who teach music practice courses that require solfeggio skills. For example, in Choir courses, fluent *sight-reading* or *sight- singing* skills are needed; in Music Transcription and Analysis courses, transcription skills are needed; in Instrumental Practice courses - violin, guitar, piano, traditional music - *sight-reading skills* also require solfeggio skills.

The impact of these conditions is that the implementation of the learning process of music practice is more nuanced in non-formal activities such as in music studios rather than formal learning or education activities. This means that the solfeggio skills of students after attending lessons for one semester have not been able to help them in learning music practice.

Lumbantoruan (2013: 83) found facts in the field and confessions from students interviewed during the research that arts and crafts teachers in elementary schools, cultural arts teachers in junior high and senior high schools in Padang city never taught rhythm and melody. Cultural arts teachers also admitted that they do not teach rhythm and melody but teach music (singing) by imitating from cassette tapes. One of the contributing factors i s that the professional knowledge of reading and modelling rhythm and melody is inadequate.

Based on observations in the field, the solfeggio learning activity is to provide practical learning of reading melodies through the imitation method, the lecturer exemplifies the melody then the students imitate back. With this approach/strategy/method, there is a less positive behaviour, namely students tend to memorise melodies, not read according to the rhythm. When a beat error occurs on a certain note or tone, students find it difficult to continue until the end of the song because they have to repeat it from the beginning.

The gaps in solfeggio learning process planning identified that: (a) the syllabus design that contains learning objectives, planned learning experiences, and lesson content structure has not described the target learning outcomes, (b) the design of the lecture event unit has not clearly described the learning mechanism carried out,

(c) the design of solfeggio teaching materials has not been balanced between rhythm, interval, and melody, (d) the learning model applies a conventional approach, and (e) the support system in the form of module books for lecturers, modules for students, and model books does not exist.

The gaps in the solfeggio learning implementation process identified are: (a) that the implementation of learning is dominated by melodic *sight-reading exercises* without first practising rhythm and tone intervals as "steps" to be able to *sight-read* melodies, (b) solfeggio learning has not been balanced with *ear-training* as the initial key to smooth melodic reading, (c) applying conventional models because approaches, strategies, methods and learning techniques are less varied, and (d) the mechanism and volume of practice are less than optimal.

Based on the above problems - solfeggio learning that tends to be done with a conventional approach - it is important to make changes through the development of learning models that are relevant to the expectations: (1) minimise the problems faced, (2) develop learning experiences by providing the widest possible learning opportunities, (3) have declarative and procedural knowledge, (4) have practical and intellectual abilities, and

improve the ability to automate and transfer to new contexts.

Therefore, creating a learning process that enables student involvement in activities is done by selecting and developing relevant learning models.

In an effort to overcome the problems faced by music expertise students, the author is interested in developing a solfeggio learning model based on *direct instruction* by referring to several expert opinions. Trianto (2009: 41) explains that *direct instruction* is a learning approach specifically designed to support the learning process related to declarative knowledge and well-structured procedural knowledge that can be taught with a gradual, step-by-step pattern of activities.

In this case, the components of the research problem can be expressed as follows.

How is solfeggio learning carried out for music expertise students in the Department of Sendratasik FBS Universitas Negeri Padang?

How is the development of solfeggio learning based on *direct instruction* for music expertise students in the Department of Sendratasik FBS Universitas Negeri Padang?

METHOD

The type of research used is research and development or known as research and development, abbreviated as R&D.

Borg and Gall (in Sugiyono, 2011: 298) state that R & D is pursued in ten steps, as follows.

Research and information collecting (conducting preliminary research or presurvey)

Planning

Develop preliminary form and product.

Preliminary field testing.

Main product revision (revising the main product)

Main field testing.

Operational product revision.

Operational field testing.

Final product revision (revise the final product)

Dissemination and implementation of the product.

Furthermore, Borg and Gall simplified the ten steps into five main steps, namely: (a) analyzing the product to be developed, (b) developing the initial product, (c) expert validation and revision, (d) limited-scale field trial and product revision, and (e) wide-scale field trial and final product.

The ten steps are then simplified into five steps that can be matched with common learning design procedures based on the ADDIE flow, namely: analysis, design, development, implementation and evaluation. The analysis stage in ADDIE is the same as the first step in Borg and Gall, which is to analize the product being developed; the design stage in ADDIE can be matched with the second step in Borg and Gall, which is to develop the initial product; the development stage in ADDIE is equivalent to the second step in Borg and Gall. The implementation stage in ADDIE is equivalent to the fourth step in Borg and Gall, namely limited-scale field trials and product revision; and the evaluation stage in ADDIE is equivalent to the fifth step of Borg and Gall, namely wide-scale field trials and final products.

The population of the study was all first semester students in the music study program of Padang State University with a total of 150 students. The sample selected from the population as respondents to the questionnaire on satisfaction with the use of the model as a product of the research was class I-C of the first semester of the music study program of UNP Padang, taken using random sampling technique, with amount of 31 students.

The research procedure includes five stages, namely: (a) identification and analysis, (b) design of learning tools, (c) development and validation of learning tools, (d) implementation or trial, and (e) evaluation.

Analysis Stage

At this stage the author first identifies and analizes students who refer to aspects:

number, age, gender or sex, education unit, (b) learning materials or tools, (c) task analysis that refers to learning activities, (d) environment that refers to the environment and learning resources, and (e) analysis of students' initial abilities, and (f) student needs. The form of activities carried out, namely conducting interviews with solfeggio lecturers, conducting interviews with music expertise students, and identifying and analysing documents related to solfeggio learning.

Design Stage

The purpose of this design stage is to prepare solfego learning tools based on the results of the data at the analysis stage. The initial products designed include syllabus design, which is the formulation of learning objectives, desired learning experiences, material or subject matter, learning methods/strategies, assessment criteria. In addition, lecture units, teaching materials, learning activities, solfeggio learning media were also designed. The five designs are based on the basic competencies and expected learning outcomes.

Development Stage

Research activities carried out at the development stage, namely developing solfeggio learning tools that have been designed previously, followed by testing the validity of the development that has been carried out to find out the level of validity of solfeggio learning tools. The validation results from the validator are immediately followed up, namely revising and perfecting the learning device design according to the notes given by the validator. Validation and revision of solfeggio learning tools involve promoters, experts or experts including lecturers who teach solfeggio courses at the Department of Sendratasik, Faculty of Language and Arts, Universitas Negeri Padang.

Implementation Stage

Research activities at the implementation stage are testing solfeggio learning devices to music expertise students as planned, from meeting one to the final meeting. This implementation stage is a product trial in three stages, namely: (1) conducting a pre-test to review initial abilities, (2) implementing learning according to the lesson topic and model steps, and (3) conducting a post-test to determine student learning outcomes.

The pre-test was conducted on three areas, namely: (a) rhythm reading, (b) interval reading, and (c) melody reading. After the pre-test, solfeggio learning was continued with listening and reading exercises. At the end of the learning, a post-test was given to review the level of solfeggio learning achievement that had been done. If the implementation of the first stage of learning achievement has not increased significantly, then the author identifies and analizes the causal factors, then the results of the identification are discussed with experts and course teachers to make revisions to the learning activities implemented. The results of the discussion and revision are then tested and the post-test is conducted again. If the learning outcomes of the revised trial improved significantly from the first trial, then the revised trial was not conducted again.

Evaluation Stage

The evaluation stage is carried out to evaluate the design of learning tools and the implementation of solfeggio learning. If the comparison of the pre-test data with the post-test results of the first trial and the post-test results of the revised trial has improved significantly, the final product can be packaged syllabus, lecture units, teaching materials, learning activities, and solfeggio learning media. Developing the final product packaging of solfeggio learning tools, the author collaborates with solfeggio lecturers, promoters and solfeggio learning experts.

Product Trial

The product trial aims to collect data that can be used as a basis for determining the level of reliability and practicality of solfeggio learning tools. The first trial was conducted on a limited scale in class M-1 accompanied by a solfeggio lecturer to observe the learning implementation. The products tested were related to the validated syllabus, lecture units, teaching materials, learning activities, and solfeggio learning media.

Subjects Trial

The subjects in this study were all music expertise students in the Department of Sendratasik, Faculty of Languages and Arts, State University of Padang in the 2015/2016 academic year, in amount of 58 people divided into two study groups, namely music class one (M-1) in amount of 26 people and music class two (M-2) in amount of 32 people, and who became research informants were lecturers chosen by researchers and at the same time as lecturers teaching solfeggio courses where this research was taking place.

Data and Data Sources

There are two types of data processed in this research, namely quantitative data and qualitative data, because this research is designed using mixed research methods. The data sources are music expertise students, lecturers, documentation related to solfeggio learning.

Data for Product Development Purposes

The data required in analysing the developed product are three, namely: (a) learning design documents including: syllabus, lecture units, teaching materials, learning activities, and solfeggio learning media, (b) interviews with solfeggio lecturers about the implementation of solfeggio learning, and (c) interview results with music expertise students about the problems faced in solfeggio learning that have been followed. Thus, the required data sources include: (a) solfeggio learning tool documents, (b) information from lecturers, and (c) information from music students.

Field Trial Data and Product Revision

The data required at this stage are: (a) assessment of the initial products of the syllabus, lecture units, teaching materials, learning activities, and learning media, (b) assessment of the results of solfeggio learning implementation, (c) interview results, (d) student questionnaire processing results, (e) reliability analysis data based on pre-test and post-test results, and (f) practicality analysis data based on pre-test and post-test results. Thus, the sources of research data are lecturers who teach solfeggio courses and students of M-1 and M-2 music expertise classes.

Field Trial Data and Final Product

The data required at this stage are: (a) assessment of the final product of the syllabus, lecture units, teaching materials, learning activities, and learning media, (b) assessment of the results of the implementation of solfeggio learning, (c) results of interviews, (d) results of student questionnaire processing on the application of solfeggio learning, (e) results of reliability analysis of solfeggio learning, (f) results of analysis of the practicality of solfeggio learning tools based on pre-test and post-test. Thus, the research data sources are: (a) lecturers teaching solfeggio courses, and (b) students of class M-1 and class M-2 music expertise.

Data Collection Instruments

The instruments used for data collection in this study were: (a) interview, (b) questionnaire, (c) practical test, and (d) documentation study. The four types of instruments above were used comprehensively to obtain empirical data related to solfeggio learning.

Product Development Needs

Interviews are used by researchers to explore data directly through face to face with the aim that the data obtained is empirical or pure data, which is what it is in accordance with events in the field (natural issues) which can help researchers get findings in accordance with the formulation of existing problems in this study.

Data sources are music expertise students, lecturers, and documentation related to solfeggio learning tools. The way to obtain the data is by conducting interviews with students, lecturers, and documentation studies. Furthermore, the data will be collected by researchers to serve as a source of learning development intended in this study.

Next is a questionnaire instrument designed by the researcher and validated by a validator determined by the researcher together with the researcher's promoter to measure the effectiveness and practicality of the direct instruction-based learning development developed by the researcher in relation to solfeggio learning for music expertise students.

The questionnaire instrument that has been prepared then applies weighting based on the Rating Scale system (Sugiyono, 2010: 98), where there are a series of numerical weights as a quantitative form of qualitative statements from each respondent. In the questionnaire, there are a series of statement items and respondents are asked to respond with the following weighting: very good (weight 4), good (weight 3), sufficient (weight 2), and less good (weight 1). This scale is intended to measure individual attitudes in the same dimension and individuals place themselves towards one continuity of items (Sugiyono, 2010: 93).

Furthermore, the questionnaire was distributed to research subjects and informants for the purpose of extracting data which is expected to increase the effectiveness value and practicality value of this research product.

All of the above instruments produced data that the researcher used for product development after being implemented, as follows.

a. Validity test, which uses content validity test.

b. Reliability test, which uses the rho-Spearman Brown test

c. Practicality test, effectiveness that has been directly tested in the reliability test.

Analysis Needs

The instrument for the majority analysis purposes is in the form of quantitative data which is sharpened by the results of qualitative data. The instrument used to explore this data is by using performance tests, both pre-test and post-test, where the scores of all research subjects are tabulated and then accumulated to find a comparison of abilities before and after using the model developed then to determine whether or not the development of direct instruction-based solfeggio learning developed in this study is effective.

Interview instruments and questionnaires were also used for analysis purposes in the form of numerical data, namely the percentage of each response from research subjects and informants. The data extracted with this instrument which is useful for analysis purposes, the researcher implements it, as follows.

1) Validity test

The validity test, namely using the content validity test, needs to be done so that the instrument can be used for data collection, so as to produce data that is not in doubt. A valid instrument is an instrument that is able to measure what should be measured (Sugiyono, 2014: 72). To get valid data, a valid instrument is needed, therefore it is necessary to test the validity of the instrument that is able to measure what is measured in the study (Arikunto, 2003: 219). In this study, instrument validity testing was carried out related to learning devices, namely: Dr Indrayuda,

M. Pd, Erfan Lubis, M. Pd, and Dr Erizal Gani, M. Pd. The results of the trial from the three validators obtained input or suggestions for translating terminology implicitly, compiling material systematically, and integrated. The validated instrument was then tested.

2) Reliability test

After the validity test was carried out on the instrument in this study, the reliability test used rho-Spearmen Brown. The reliability test aims to see the consistency of the test results of a research instrument to the same object and material at different times.

3) Practicality or effectiveness test

By conducting a reliability test on the instrument in the study, the level of practicality or effectiveness is automatically known.

4) Matched t-test

Matched t-test was used to analize the research results to determine whether the model developed by the researcher (ARTS model) was effective or not in learning solfeggio for music expertise students in the Department of Sendratasik FBS, Universitas Negeri Padang.

DATA ANALYSIS

1. Qualitative Data Analysis

Qualitative data obtained through interviews were analized in the stages of data reduction, data presentation, and data verification. Before further analysis, data validation techniques were developed through triangulation or check-recheck.

a. Presentation of data

Data presentation or display is the organisation of data in accordance with the stages or focuses of research based on the results of data reduction. Data presentation is intended to obtain conclusions or an overview and a more in-depth picture related to the research stage.

b. Data reduction

At the data reduction stage, selecting, simplifying, abstracting and transferring the raw data obtained into the field note matrix as a vehicle for summarising the data was carried out. The summary data was analized to find important things by grouping and selecting the data needed, organising the data, and grouping it according to the theme or focus of the research.

c. Conclusion drawing and verification

Based on the data presentation, conclusions were drawn. These conclusions are used for planning further research stages and the final conclusion of the research. Before drawing conclusions, triangulation is again held so that the conclusions are meaningful and fundamental.

2. Quantitative Data Analysis

a. Validity test

In this study, researchers conducted content validity tests for all research instruments on the grounds that this research is part of mixed research so that the level of validity should be measured in detail and directly based on descriptions. According to Popham (1995: 120) "Another way of looking at content validity is to think of it as a way of estimating how adequately the content of the test samples the behaviour or content domain about which inferences are to be made".

a. Reliability Test

In this study, the test given was in the form of instructions (actions), so to test the level of instrument reliability, researchers used inter-rater reliability with the Split half formula (Spearman Brown in Sugiyono, 2010: 131; Fraenkle & Wallen, 1995: 149), as follows;

$$Rw = 2rh/1+rh$$

where: rw = reliability and rh = correlation of all t e s t s

The calculation will begin with calculating the correlation (rh) using the formula:

$$r_{xy} = \frac{N(\Sigma XY) - (\Sigma X)(\Sigma Y)}{\sqrt{\{N(\Sigma X^2) - (\Sigma X)^2\}\{N(\Sigma Y^2) - (\Sigma Y)^2\}}}$$

where: $r_{xy}=$ Correlation of all tests

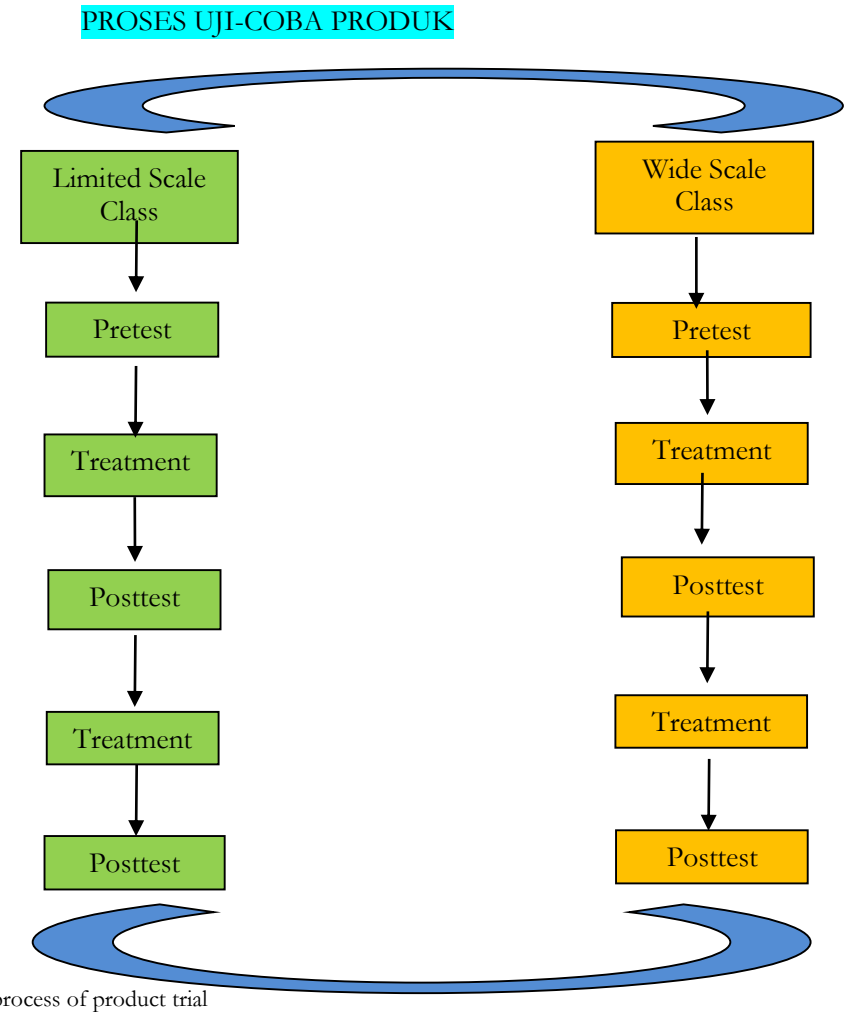
X = Student score from rater-1 and Y= Student score from rater-2; N =Number of students

b. Product Practicality Test

To test the practicality of the product, the researcher proves it from the processing results of the match t-test formula, and the reliability test, as well as the validity test, where with the proof of the match t-test results, it means that if it has been proven that this research product is effective and even very significantly effective, it certainly m e a n s t h a t t h e p r o d u c t i s also automatically practical to use. In addition, if the reliability test proves that the product is reliable (trustworthy) there is also a segment of trustworthiness on whether something is practical to use in general. Furthermore, if the validity test results are declared valid (valid), there is also contained that the practicality segment is also reliable to use.

Quantitative data analysis was conducted to assess the validity, reliability, and practicality of the solfeggio learning tool development. Quantitative data was obtained through the use of assessment sheets and questionnaires.

Analysis of the practicality of solfeggio learning devices through experimental research. To find out whether or not the application of solfeggio learning tools is practical, learning is carried out in two homogeneous classes, namely class M-1 and M-2 music expertise Department of Sendratasik FBS Padang State University. Class M-1 as a limited scale class and class M-2 as a wide scale class, as shown in the following framework.



Pic.-1 The process of product trial

RESULTS AND DISCUSSION

A. Small Scale Class Trial-2 Data (M-1)

Based on the analysis of solfeggio learning outcomes that were less than optimal in the initial trial, revisions were made and then tested. The actions taken, namely adding reproduction or improvisation exercises and sight-reading practice of rhythm, interval, and melody. In the following, the author presents the results of the improvement trial of the development of solfeggio learning materials in class M-1.

a. Sight-Reading Rhythm

Based on the data in table 12, the average score of the initial learning achievement of M-1 class students on sight-reading rhythm increased from the pre-test score, namely: 48.65 to 77.88 which is equivalent to 37.53%. After trial-2 with the development of solfeggio learning materials, the final learning achievement score of students increased to 86.88 or equivalent to 10.35%.

b. Sight-Reading Interval

Based on the data in Table 13, the average value of the initial learning outcomes of M-1 class students on sight-reading intervals, increased from the pre-test score of 44.42 to 75.23 which is equivalent to 40.95%. After trial-2, the students' final learning achievement score increased to 83.69 or equivalent to 10.10%.

Comparison between the results of the post-test trial-1 on intervals with the results of the post-test trial-2, the learning outcomes increased. This shows that the efforts and actions taken in the development of solfeggio learning materials are very relevant so that learning outcomes increase.

c. Sight-Reading Melodies

Based on the data in Table 14, the average value of the initial learning achievement of M-1 class students on sight-reading song melodies, increased from the pre-test score of 42.12 to 72.69 which is equivalent to 42.05%. After

After the trial-2 of solfeggio learning, the students' final learning achievement score increased to 78.85, equivalent to 7.81%, categorised as practical.

Comparison between the results of the post-test trial-1 on melody with the results of the post-test trial-2, the learning outcomes increased. This shows that the efforts and actions taken in learning solfeggio are very relevant so that the results increase and are categorised as very practical.

Based on the data of the average value of trial-1 learning in class M-1, namely: 75,26. After trial-2 learning solfeggio, the average value of students' final test increased to 83.14 or equivalent to 7.9%, categorised as practical. The sight-reading rhythm indicator increased from 77.88 to 86.88 or equivalent to 9%. The interval sight-reading indicator increased from 75.23 to 83.69 or equivalent to 8.5%. The melody/song sight-reading indicator increased from 72.69 to 78.85 or equivalent to 6.2%.

The comparison between the results of the pre-test with trial-1 looks quite significant which is then continued with the results of the post-test trial-2, also still increasing after the revision. This means that since the beginning of the design of this model has been classified as practical, and effective, seen from the magnitude of the change in pre-test scores to the results of the achievements in trial-1 to the results of trial-2 achievements which are still increasing. The increase in score achievement proves that the development of solfeggio learning materials has reliability, validity, and accountability. Comparison of pre-test, trial-1, trial-2 sight-reading rhythm results can be seen in the following diagram.

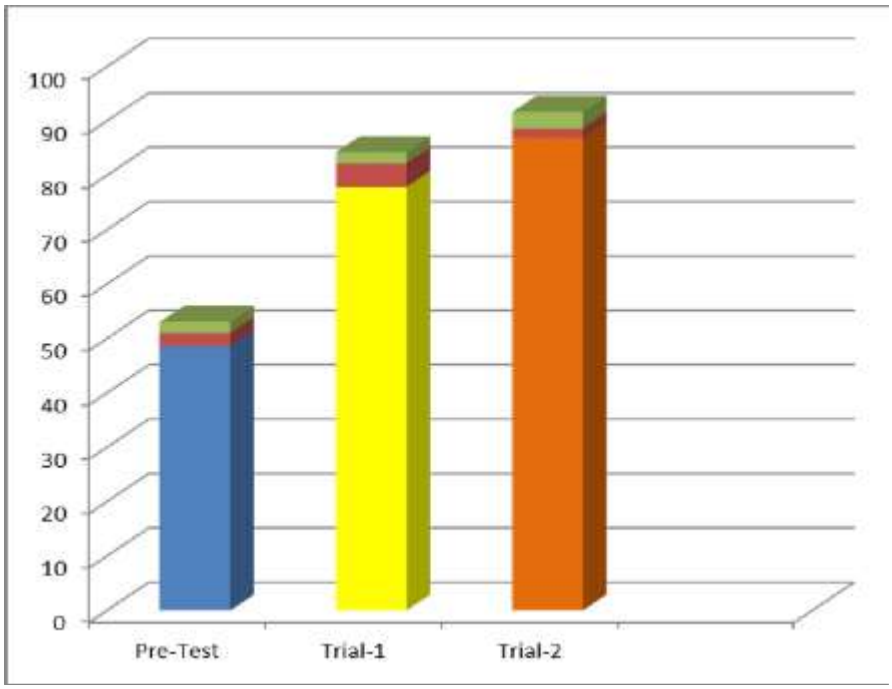


Diagram-1 Comparison of Sight-Reading Rhythm Score of Class M-1

Observing the learning results starting from the first treatment with revision or improvement, it can be concluded that: (a) students' understanding of rhythm is faster because the transformation of rhythm using the development of solfeggio learning materials can help make it easier to read, (b) students' understanding of intervals is slightly slower than that of rhythm, because the nuances of tone for students are more difficult material than rhythm, (c) students' understanding of melody is slightly slower than mastery of intervals, because in addition to aiming for the tone according to the interval, melody must be read according to the right rhythm and tone. Therefore, it is very logical and rational if the learning outcomes of the three indicators are different.

Guided by the learning outcomes, it was tested before improvement or development, then the initial trials have improved but not significantly. The next stage was revised and tested again, the results improved. Thus, the final trial was not conducted because the learning outcomes were not significant.

solfeggio learning through solfeggio learning increases and is categorised as practical. The following a r e t h e results of the average score before development, the results of trial-1, and the results of trial-2 solfeggio learning.

Table 1 Achievement of *Sight-reading* Rhythm Score of Class M-1

No.	Indicators	Score average Pre-test	Score average Trial-1	Score average Trial-2
1	*Sight-reading* Rhythm	48,65	77,88	86,88
Presentation		29,2%	9 %	

Based on the data in table above, it can be seen that the increase in student learning outcomes in *sight-reading* rhythm is the average score of learning achievements before the development of the model 48.65 increased to 77.88 on the average score of trial-1, the percentage of increase is 29.2%. Then learning improvements were made so that the average score of 77.88 increased to 86.88 on the trial-2 average score, the percentage increase was 09%. The percentage increase was also the end of the trial.

Table 2 *Sight-reading* Score Interval Class M-1

No.	Sub variable	Pre-test average score	Score average Trial-1	Score average Trial-2
1	*Sight-reading* Interval	44,42	75,23	83,69
Percentage		31%	8,5%	

Based on the data in table above, it can be seen that the increase in student learning outcomes in

sight- reading intervals, namely the average score of learning outcomes before the development of the model

44.42 increased to 75.23 or equivalent to 30.81%. Then the learning improvement was carried out so that the average score of 75.23 increased to 83.69 on the trial-2 average score, the percentage of improvement, namely: 8,5%. This means that the design of the development of learning tools from the beginning of the design can be said to have been good as evidenced by a fairly good increase in scores in the trial-1 phase, and then proven its feasibility, practicability, reliability and validity through trial-2 by increasing the class average from 44.42 to

75.23 and then to 83.69**.** Thus, the continuous increase in class average from the trial-1 phase to the trial-2 phase was 31% + 8.5% = 39.5%. Comparison of pre-test, trial-1, trial-2 *sight-reading* interval results can be seen in the following diagram.

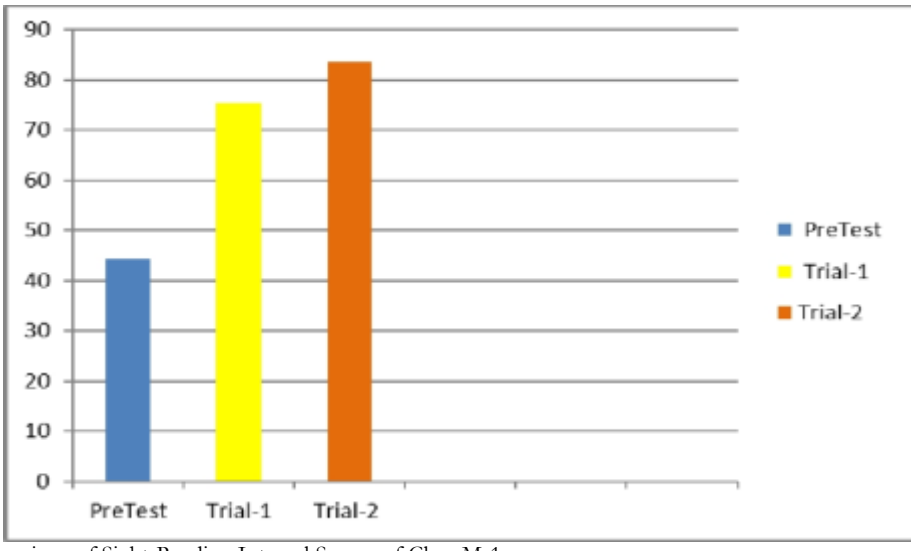


Diagram-2 Comparison of Sight-Reading Interval Scores of Class M-1

Table 3 Achievement of *Sight-reading* Melody Score of Class M-1

No.	Indicators	Pre-test average score	Average score Trial- 1	Score average Trial-2
1	*Sight-reading* Melody	42,12	72,69	78,85
Percentage		30,6%	6%	

Based on the data in table above, it can be seen that the increase in student learning outcomes in sight-reading melodies, namely the average score of learning outcomes before model development 42.12 increased to 72.69 trial-1 average score, the percentage of improvement, namely: 30,6%. Furthermore, learning improvements were made so that the average score of 72.69 increased to 78.85 on the average score of the improvement trial, the percentage of improvement, namely: 6.2% Thus it can be concluded that after the initial trial was revised and retested, the average learning of class M-1 had increased and was categorised as practical. Comparison of pre-test, trial-1, trial-2 sight-reading melody results can be seen in the following diagram.

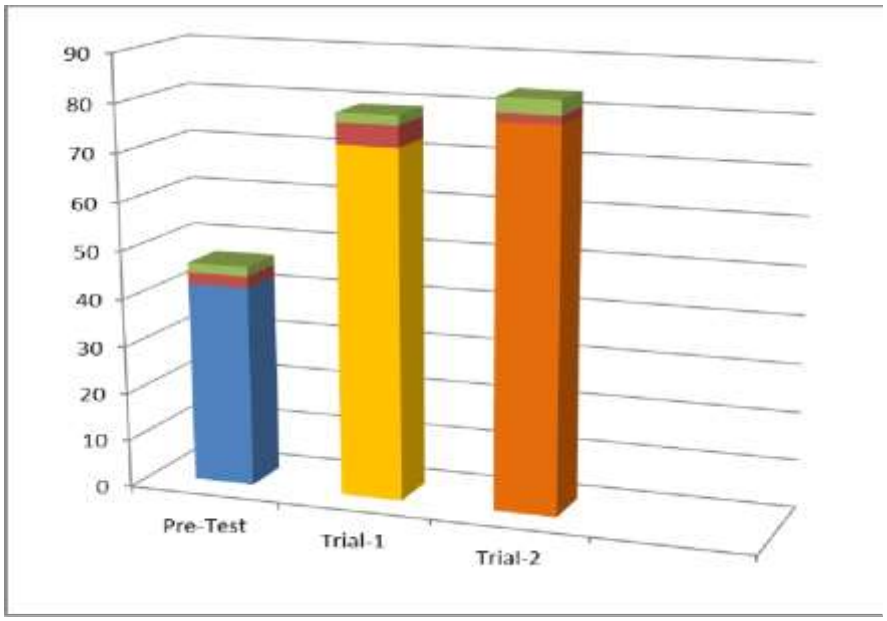
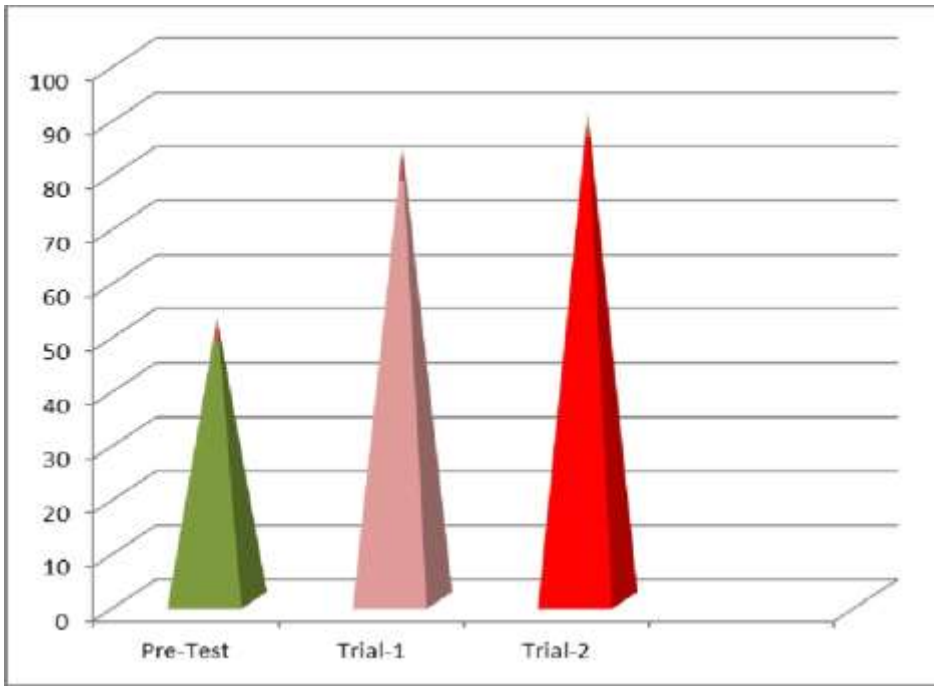


Diagram-3 Comparison of Sight-Reading Melody Score of Class M-1

Broad-Scale Class Trial-2 Data (M-2)

A. Sight-Reading Rhythm

Based on the data in Table 24, the average value of the initial learning achievement of M-2 class students on sight-reading rhythm is: 77,66. After the solfeggio learning improvement trial, the students' final learning achievement score increased to 85.63 or equivalent to 7.97%. This increase (although slight) illustrates that after the revision process of the model developed by the researcher, it can be said that the model from the initial design has indeed been seen as valid, reliable, practical and accountable, as evidenced by the large increase in numbers from pre-test to trial-1 and continued with the achievement of scores on trial-2. Comparison of learning outcomes: pre-test, trial-1, trial-2 sight-reading rhythm can be seen in the following diagram.



b. Sight-Reading Interval

Based on the data in Table 25, the average value of the final learning outcomes of M-2 class students in the *sight-reading* interval, namely: 74,45. After trial-2 of solfeggio learning, the students' final learning achievement score increased to 80.94 or equivalent to 07.19%. This figure illustrates that there is still an increase in the score from trial-1 to trial-2, but not as big as the change from pre-test to trial-1. Comparison of learning achievement results: pre-test, trial-1, trial-2 *sight-reading* interval can be seen in the following diagram.

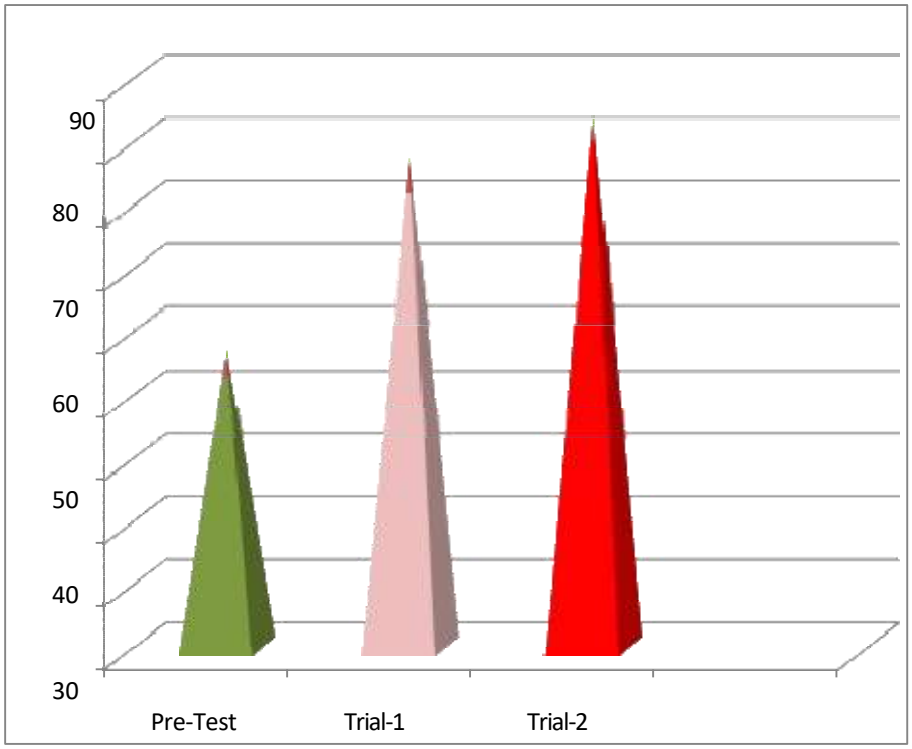


Diagram-5 Comparison of *Sight-reading* Interval Scores of Class M-2

c. Sight-Reading Melodies

Based on the data in Table above, the average value of the final learning outcomes of M-2 class students with melodic material, namely: 71,88. After the solfeggio learning improvement trial, the students' final learning achievement score increased to 80.00 which is equivalent to 08.12%. Comparison of learning achievement results: pre-test, trial-1, trial-2 *sight-reading* melody can be seen in the following diagram.

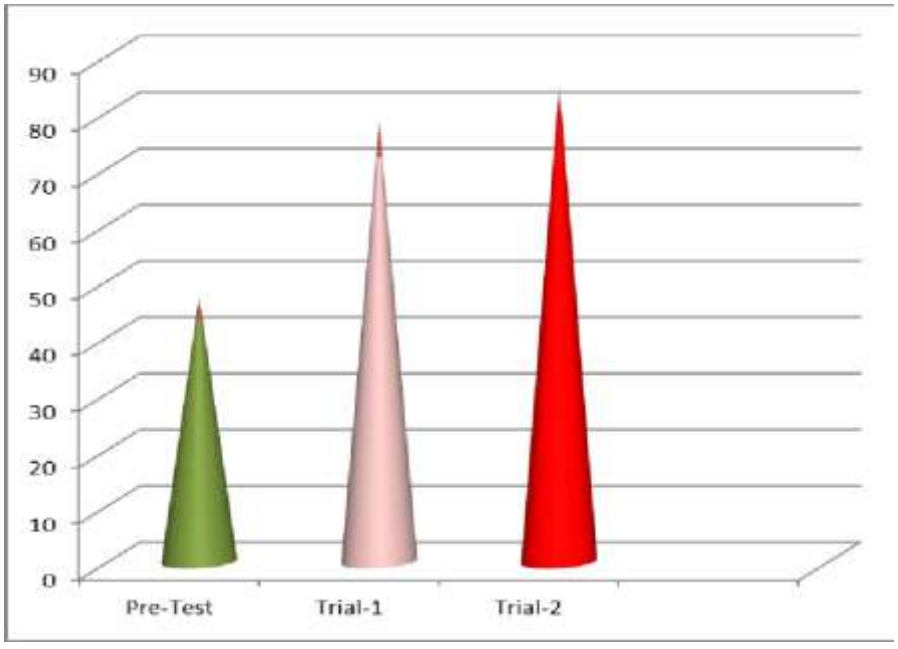


Diagram-6 Comparison of Sight-reading Melody Score of Class M-2

Based on the data description above, the average value of the final learning outcomes of M-2 class students, namely: 74,45. After the trial of solfeggio learning improvement, the average score of students' final learning achievement increased to 82.19 in the practical category. So the flow of score improvement in class M- 2, from pre-test to trial-1, then to trial-2 is, from 45.10 → 74.45 up to 82.19, equivalent to an increase from pre-test to trial-1 of 29.35%, and from trial-1 to trial-2 of 7.74%, with details per skill as follows.

The rhythm *sight-reading* indicator increased from 47.97 to 77.66 to 85.63 which is equivalent to 28.69% to 7.97%; the interval *sight-reading* indicator increased from 44.53 to 74.45 then t o 80.94 or equivalent to 28.22% to 7.19%, and the melody/song *sight-reading* indicator increased from 42.81 to 71.88 then to 80.00 or equivalent to 29.07% to 8.12%.

Observing the increase in the score achievement of the three skills mentioned above starting from the pre-test, then trial-1, followed by trial-2, it can be concluded that: (a) students' understanding of *sight-reading* melodies/songs is higher because the transformation of melodies using solfeggio learning can help make it easier to read them, (b) students' understanding of rhythm is slightly slower than melodies, because the nuances of rhythm for students are more difficult material than melodies, (c) students' understanding of intervals is slightly slower than interval mastery, because in addition to aiming for notes according to intervals, melodies/songs must be read according to the right rhythm and tone. Therefore, it is very logical and rational if the learning outcomes of the three indicators are different.

Derived from the learning outcomes, it was tested before improvement or development, then the initial trials have improved but not significantly. The next stage was revised and tested again, the results increased. Thus, the final trial was not conducted because the solfeggio learning outcomes through solfeggio learning increased and were categorised as practical.

Seeing from the learning outcomes, trials began before improvement or development, then trial-1 has improved but not significantly. The next stage held revisions or improvements as trial-2, the results increased. Thus, revision and trial-3 trials were not carried out because solfeggio learning outcomes had improved and were categorised as practical. The following describes the learning outcomes and the percentage of improvement in trial-1 and trial-2.

Table 4 *Sight-reading* Rhythm Score of Class M-2

No.	Indicators	Pre-test average score	Score average Trial-1	Score average Trial-2
1	*Sight-reading* Rhythm	47,97	77,66	85,63
Percentage		30%	8%	

Based on the data in table 30 above, it can be seen that the increase in student learning achievements in sight-reading rhythm, namely the average score of learning achievements before the development of the solfeggio learning model, namely: 47.97 increased to 77.66 trial-1 average score, the percentage of improvement, namely: 30%. Then improvements were made to learning activities so that the average score of 77.66 increased to 85.63, the percentage of improvement, namely: 08%. The average achievement of trial-2 is also the final trial.

Table 5 *Sight-reading* Score Outcomes Class Interval M-2

No.	Indicators	Pre-test average score	Score average Trial-1	Score average Trial-2
1	*Sight-reading* Interval	44,53	74,45	80,94
Percentage		31,83%	7%	

Based on the data in Table above, it can be seen that the increase in student learning achievements at sight-reading intervals, namely the average score of learning achievements before the development of the solfeggio learning model, namely: 44.53 increased to 74.45 the average score of the initial trial, the percentage of achievement, namely: 31,83%. Furthermore, learning improvements were made so that the average score of

74.45 increased to 80.94, the percentage of achievement, namely: 07%. The average achievement results of the improvement trial as the final trial.

Table 6 *Sight-reading* Melody Score of Class M-2

No.	Indicators	Pre-test average score	Score average Trial-1	Score average Trial-2
1	*Sight-reading* Melody	42,81	71,88	80,00
Percentage		29,07%	8%	

Based on the data in table above, it can be seen that the increase in student learning achievements in *sight-reading* melodies, namely the average score of learning achievements before the development of the solfeggio learning model, namely: 42.81 increased to 71.88 the average score of the initial trial, the percentage of improvement is: 29,07%. Furthermore, learning improvements were made so that the average score of 71.88 increased to 80.00 on the average score of the improvement trial, the percentage of improvement was: 08%. Thus it can be concluded that after the initial trial and the improvement trial, solfeggio learning using the *direct instruction* approach became the final trial because the learning achievement of class M-2 increased and was categorised as practical.

Guided by the learning outcomes, testing began before improvement or development, then the initial trial improved but not significantly. The next stage was revised and tested again, the results increased. Thus, the final trial was not conducted because the learning outcomes of solfeggio through solfeggio learning increased and were categorised as practical.

Data Analysis of Research Informants

To see the validity and validity of the research instrument, the author needs to test the validity and reliability of the instrument used to explore data about the quality of the use of the solfeggio learning model designed by the researcher. From the results of the analysis used, the following are the findings obtained by the researcher, including: (a) language, (b) syllabus, (c) lecture programme unit, (c) teaching materials, (d) learning activities, and (e) learning media.

Language. The value of the validation results of the feasibility of the language of solfeggio learning teaching materials consisting of 7 statement items with a total score of 27. The average and level of validity are: 3.85. Thus the language of solfeggio learning teaching materials is categorised as very valid.

Syllabus-SAP. The value of the validation results of the Syllabus-SAP for solfeggio learning consisting of 20 statement items with a total score of 78. The average and level of validity is: 3.90. Thus the syllabus-SAP of solfeggio learning is categorised as very valid.

Teaching Materials. The value of the validation results of the solfeggio learning teaching materials consisting of 11 statement items with a total score of 43. The average and level of validity are: 3.90. Thus the solfeggio learning teaching material is categorised as very valid.

Learning Activities. The results of the validation of solfeggio learning activities consisting of 14 statement items with a total score of 53. The average and level of validity is: 3.78. Thus the solfeggio learning Learning Activity is categorised as very valid.

Learning Media. The value of the results of the validation of solfeggio learning learning media consisting of 10 statement items with a total score of 33. The average and level of validity are: 3.33. Thus the solfeggio learning Learning Media is categorised as very valid.

Hypothesis Test Results

Based on the calculation results of the *match t-test* above, it can be said that the t-obtained result, namely: **9.311 is much greater than t-tab (1.697).** This indicates that quantitatively, the active hypothesis *of* the research

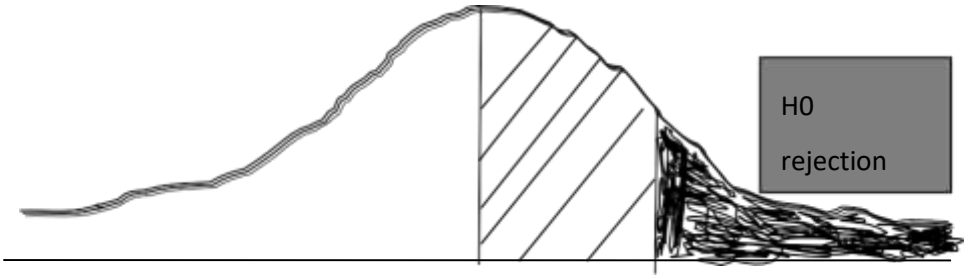
(Ha) has been accepted and automatically the null hypothesis has been rejected because the t-gain is higher than the t-table, with *degrees of freedom* 31 (32-1), and an error rate of 0.05 (significant 95%) for a *one- tailed test*.

In the following table we can see that the critical value for a free-rate of 31 and an error rate of 0.05 for a one-way test is 1.697. Thus it can be concluded that it is significantly effective to use the solfeggio learning model in learning sofegio for music expertise students in the Department of Sendratasik FBS, Universitas Negeri Padang.

Table 7 Differences between Pre-Test and Post-Test Values

Respondent Number	Pre-test X_2	Post-test X_1	D	D^2
1	45	90	45	2025
2	50	85	35	1225
3	50	90	40	1600
4	40	90	50	2500
5	45	85	40	1600
6	40	80	40	1600
7	55	90	35	1225
8	40	85	45	2025
9	40	90	50	2500
10	55	85	30	900
11	35	80	45	2025
12	50	90	40	1600
13	40	90	50	2500
14	35	80	45	2025
15	40	85	45	2025
16	55	85	30	900
17	35	85	50	2500

STANDARDISED NORMAL DISTRIBUTION



Alternative Hypothesis Acceptance Area (Ha)

CONCLUSIONS

Solfeggio learning for music expertise students in the Department of Sendratasik FBS Universitas Negeri Padang

in the first semester only. Learning activities are carried out referring to the existing syllabus and lecture units. Teaching materials and solfeggio learning media do not yet exist. Topics or subject matter focus on melody reading exercises. The impact of solfeggio learning has caused several weaknesses, namely: (a) students tend to memorise, not read melodies, (b) students are not yet skilled in hearing and reading rhythms, intervals, and melodies, (c) students are not yet able to transfer to new contexts.

The development process of solfeggio learning based on *direct instruction* was carried out using general learning design procedures based on ADDIE theory (analysis, design, development, implementation, and evaluation) and the following results were found. (a) 2.9% of music expertise students come from music high schools, and 79.1% from non-music schools, which is very high.

weak musicality ability. (b) Solfeggio learning tools used by lecturers, namely syllabus that is not in accordance with KKNI. (c) Solfeggio learning activities that have been carried out focus on the practice of reading songs. (d) The solfeggio learning environment is not conducive because it has not been able to create social and interpersonal interactions. (e) The initial solfeggio ability of music expertise students is very weak because solfeggio lessons are new. (f) The learning needed by music students is understanding the framework of learning solfeggio.

The product development of solfeggio learning tools fulfils the aspects of validity, reliability, and practicality, as follows.

The level of linguistic validity **is very good, as** evidenced by the reliability and practicality tests, namely: 96,43.

The level of validity of the syllabus-SAP **is very good, as** evidenced by the reliability and practicality tests, viz: 97,5.

The level of validity of teaching materials **is very good, as** evidenced **by the** reliability and practicality tests, namely: 97,7.

The level of validity of learning activities **is very good, as** evidenced by the reliability and practicality tests, namely: 94, 6.

The validity level of the learning media is **very good**, proven by the reliability and practicality test, which is 82.5.

1. The level of practicality of solfeggio learning is measured based on the pre-test average score, trial-1 average score, and trial-2 average score of *sight-reading* rhythm, interval, and melody variables of class M-1, as follows.

The average pre-test score of the *sight-reading* rhythm indicator was: 48.65 increased to 77.88 in

post-test trial-1, equivalent to 29.2%. The average value of trial-1 which is 77.88 increased to 86.88 in the post-test trial-2, equivalent to 9%.

The pre-test mean score of the *sight-reading* interval indicator, viz: 44.42 increased to 75.23 in the post-test trial-1, equivalent to 31%. The mean score of trial-1, 75.23, increased to 83.69 in the post- test of trial-2, equivalent to 8.5%.

The pre-test means score of the melody *sight-reading* indicator, viz: 42.12 increased to 72.69 in post- test trial-1, equivalent to 30.6%. The trial-1 mean score of 72.69 increased to 78.85 in the trial-2 post- test, equivalent to 06%.

The level of practicality of solfeggio learning is measured based on the pre-test average score, trial-1 average score, and trial-2 average score of the *sight-reading* interval indicator, class M-2, as follows.

The average pre-test score of the *sight-reading* rhythm indicator was: 47.97 increased to 77.66 in the post-test trial-1, equivalent to 30%. The average value of trial-1 is 77.66 increased to 85.63 in the post- test trial-2, equivalent to 08%.

The pre-test mean score of the *sight-reading* interval indicator, viz: 44.53 increased to 73.75 in post-test trial-1, equivalent to 31.83%. The trial-1 mean score of 73.75 increased to 80.94 in the trial-2 post-test, equivalent to 07%.

The pre-test mean score of the melody *sight-reading* indicator, viz: 42.81 increased to 71.88 in post- test trial-1, equivalent to 30.6%. The trial-1 mean score of 80.00 increased to 78.85 in the trial-2 post- test, equivalent to 08%. Thus it can be concluded that student learning outcomes through solfeggio learning increased significantly.

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