
**The Measurement of Student's Achievement by
Applying Pre-Test & Post Test in Basic Listening
(A Comparative Analysis in Basic Listening Subject)**

Theodore Alexander Atmaja

English Language and Culture Study Program, Faculty of Economics and Business

University of Widya Dharma Pontianak

theodore@widyadharma.ac.id

Abstract

The main objective of this study is to conduct a comparative analysis between pre-test and post-test with the support of ICT media in deploying the test rather than a paper-based test. Infrastructure development and affordable price of computer appliances have supported the development of teaching material delivery in the digital era. The research covered 61 participants with 46 students from P1 and 17 students from M1; who are registered in the Basic Listening class. During the normal classroom activity, pre-test and post-test were conducted to get the data. The first data obtained from the pre-test consists of P1 and M1 classes in total numbers. 75.77 as the average score was obtained from the P1, with a maximum score of 93.75 in total. On the other hand, for the M1 class, the average score is 76.22, with a maximum score of 91.25. The conclusion of this study proves that the implementation of pre-tests is possible to continue in the future. The results supported by the application of ICT media in the test's delivery supported more administrative documentation, which eases more time and efficiency than paper-based tests. The conclusion of this study proves that pre-testing is possible to continue in the future.

Keywords: *pre-test, post-test, ICT media, listening, participants*

Introduction

Assessment is the primary goal of determining a student's achievement in acquiring teaching material from the beginning and the summary of each chapter or semester. Delivering the teaching materials requires some other few steps since students are purely individual, although they are commuted to a communal section from different backgrounds of local academic achievement. Teaching a subject that requires a reception process like listening, for instance, requires much more in both steps and processes, especially in planning the material. Delivering teaching material in the digital age is no longer obstructed by minimum infrastructure, although some obstructions still exist in certain areas.

Discussing digital ages in forwarding teaching material in social community in classroom, economic issue also surrounding the environment in additional to support the claim of economic issue in classroom are close to the student themselves as an individual who are participated in a condition instituted by either school or higher education. The correlation between the advance of digital ages and economic issue as mentioned by (Bates, 2019: 17) showing that every second in a year technology has led to the massive changes in human society and it shows no sign of slowing down instead invention of technological things evolved rapidly as it follows the implication by human in all aspect including education.

The curriculum in higher education seems not to have been widely affected by the curriculum in high school, but the implementation of material delivery has been partially affected, like teaching delivery using technological gadgets in conjunction to support both mentoring and self-learning of individuals in classroom activities. Teaching a foreign language to most non-English speakers also produce a barrier, and in addition to the mentioned barrier, the barrier has a varied effect on individuals in the classroom. Basically, either teacher or

lecturer shares the same competencies as the managerial skills in managing the classroom. The competencies, as mentioned before, are: (1) professional; (2) pedagogic; (3) personalities; and (4) social competencies.

In supporting the 4 competencies of executing the teaching-learning process as concurring with the railway of the 21st century era, the adaptation of technology in both material processing and delivery in either a conventional classroom environment or remote learning in an e-learning application. (Ghavifekr, 2015: 2) mentioned that students as individuals are slowly familiarizing themselves with technology and the advancement of technology, which is supported by the free trade commitments of most countries. By applying e-learning to teaching and learning activities, both the agent(s) and the student have more time to allocate for upgrading their material mastery. In addition to material mastery, each individual also has the possibility of trial and error to maximize their material mastery.

The aim of this study is to discover the effectiveness of post-test and pre-test in determining the effectiveness of material delivery in teaching basic listening. The participants of this research consist of 61 students registered in the Basic Listening subject. The data from this study was obtained from students' pre- and post-tests. The data obtained from participants will be classified into 4 categories of score, like (1) average score, (2) maximum score, (3) minimum score, and (4) median score. The obtained data will be processed in a statistical way to determine the outcome of this study, and then a conclusion of the implementation will be drawn.

Theoretical Review

1. Comparative Analysis

A comparative analysis involves evaluating and comparing two or more entities, objects, processes, or situations to identify similarities, differences, strengths, weaknesses, opportunities, and threats. The goal is to gain a deeper understanding of the subject matter and make informed decisions based on the analysis. According to Drobnič (2014), another goal of comparative analysis is to explain the similarities and differences of conditions or the outcome of certain issues. The purpose of the comparison in this study is to compare the results of the pre-test and post-test with the support of ICT media during implementation.

2. Pre-test

A pre-test in the context of teaching and learning refers to an assessment or evaluation that is administered to students before they start a new unit, course, or instructional program. The purpose of a pre-test is to gauge students' existing knowledge, skills, and understanding of the subject matter. This information helps educators understand the baseline level of each student's proficiency in the topic. Pre-tests are also possible to be applied in the pre-stages of material delivery, like before entering the chapter in the subject. The role of the pre-test in the pre-stages is to assess the basic knowledge presented by the participants, and then the outcome of the pre-stages is used to form a short evaluation.

3. Post-test

A post-test in teaching refers to an assessment or evaluation that is administered to students after they have received instruction or training on a particular topic. The primary purpose of a post-test is to measure the extent to which students have acquired knowledge, skills, and understanding of the material covered in a specific educational unit or course. The post-test stage is to assess the participant's mastery of the material's achievement; this stage is the conclusive stage, where either the participant's or implementation's policy is to be proven valid or invalid in the future for policy making.

4. Pedagogical Skills

A skill that focused on content expertise for further enhancement towards classroom management in material delivery. (Gregory et al., 2020: 6) mentioned that in

exercising the situation in order to match the pupil requirement, by delivering a balanced teaching atmosphere, both educator and pupil must seek to coexist together in order to develop the balanced knowledge to reinforce the cognitive skills in both educator(s) and student. Pedagogical skills concern not only agent-centered activities but also students' independent ways of learning in other activities away from conventional environments on their daily schedule.

Methodology

The method selected to conduct and complete this research was a comparative study. The comparative study applied in this study is to compare the effectiveness of the pre-test and post-test in the basic listening subject. (Gul Malik & Alam, 2019: 2) mentioned that outcomes in learning have a broad meaning and concern not only the agent (educator) themselves but also other aspects of assessment that are crucial in determining the learning outcomes for further study in developing teaching material.

According to Arikunto, as cited by Kesuma (2021: 2), there are at least 3 types of measuring devices or instruments that can be used to determine the development of the teaching-learning process as the advancement of measuring both students' achievement and learning outcome. The measuring instruments mentioned by Arikunto are: (1) test selection (2) initial test or pre-test; (3) final test or post-test. Each of the instruments mentioned has its own function, and later the outcome of each instrument will be interpreted as actual data for the final determination of developing teaching-learning materials.

The pre-test material applied in this study was prepared by the agent (the educator) in electronic form using Google. In the pre-test, the audio control was fully occupied by the student in order to assess individual achievement in preparation for test development, while on the post-test or final exam, the form of the test was carried out in physical form or paper-based form. Both tests material consists of 30 numbers with the same condition of time duration in the real test.

The participants of this study consist of 61 students registered in the Basic Listening subject, and the 61 participants were registered in morning classes and afternoon classes. The steps prepared in this study consisted of two different steps in application. For the pre-test, the author prepared the question along with the audio embedded in a Google Form so the student could freely control the audio broadcast individually in order to obtain the best score. Meanwhile, for the post-test, the assessment will be in the form of a physical copy or paper-based test. In this condition, the audio control is under the control of the agent, and the limitation of audio broadcast is also applied to measure the synchronization of the pre-test score.

Comparative analysis is determined to pursue other steps further to justify the sustainable way to prepare and assess students' achievement in material delivery until individual mastery itself. According to Rosset, as cited by Morrison et al. (2019: 31), there are four opportunities for identifying performance problems. The four problems identified by Rosset are: (1) the introduction or rollout of a new product; (2) responding to an existing performance problem; (3) recognizing the need to develop; and (4) strategy development, which proceeds to analysis for strategic planning for decision-making. The four opportunities mentioned before, seem related to technical matters. However, the concept of the four mentioned opportunities also existed in a teaching-learning environment. Based on the opportunities justified by Rosset, the data from this study will be classified into 4 different categories: (1) maximum score, (2) minimum score, (3) average score, and (4) median score.

Findings and Discussion

Findings

The average score between 2 classes was discovered after the study, and the average score was obtained from P1 and M1 classes registered in the Basic Listening subject. The data was obtained from the same medium as the test's administration and time duration. There are slight differences between points from both P1 and M1 classes in the pre-test; the slight difference between classes is numbered at 0.45 points. During the pre-test administration, there were 2 participants reported absent from the total of 62 participants registered in the subject. On the other hand, the post-test resulted in quite a number of differences. According to the data obtained from different classes under post-test administration, there are 9.66 points in differentiating the score from each class. The other data findings in four different score categories will be discussed further in the discussion.

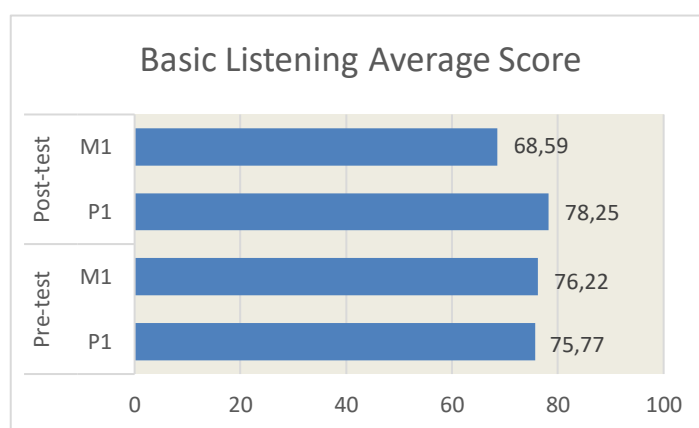


Figure 1 Average Score in Basic Listening

The maximum score obtained from the pre-test in both P1 and M1 classes has a difference of 2.50 points. The number of differences is still considered minor, with the score numbered from P1 with 93.75 to M1 with 91.25 as their maximum score. The P1 class, on the other hand, showed a slight improvement from the pre-test, with a score of 95.00 as their improvement point and a score of 1.25; this scored high as the maximum score in the P1 class. The score for the post-test from P1 and M1 classes has resulted in many differences. For P1, the maximum score for the post-test was 95, while for M1, the maximum score was 81.67. Both scores from 2 different classes have a difference of 13.33 in score differences.

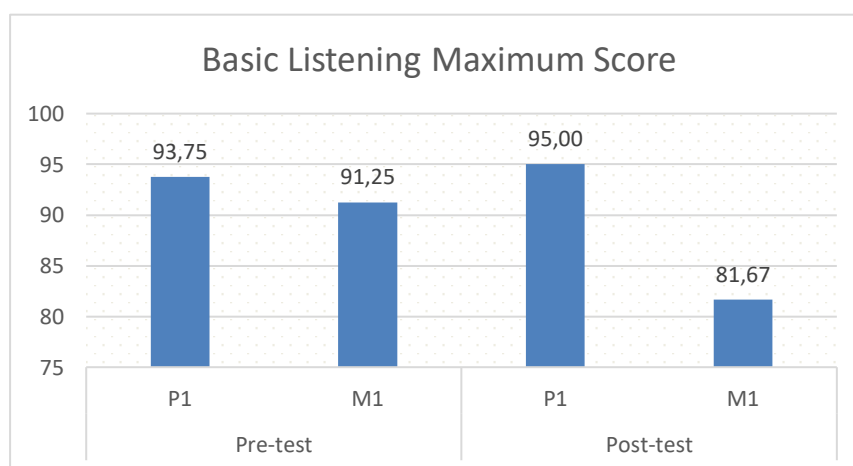


Figure 2 Maximum Score in Basic Listening

For the minimum score obtained from the pre-test, both P1 and M1 classes resulted in no differences in score since both classes scored 60. The post-test shared a minor contrast between the classes. There are 2.50 points in the post-test, although they are considered minor differences. The score is still considered the scaling instrument to determine the outcome of material development and delivery. The minimum score obtained from the study does not represent the conclusion that will guide policymaking in the future, although there are slight significant discoveries in the post-test's score.

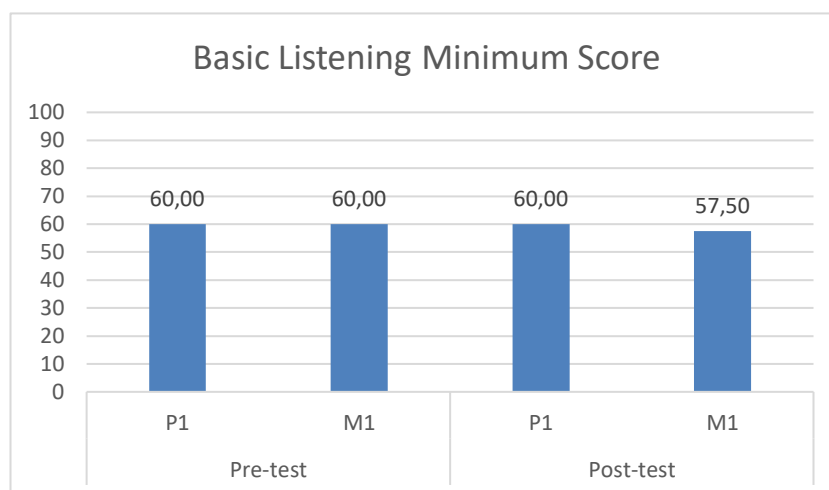


Figure 3 Minimum Score in Basic Listening

The median score resulting in both the pre-test and post-test has been approved as a number that is considered safe in scoring. There are 0.63 points of difference taken from the pre-test as their median score. The 0.63 points resulted from P1 and M1 classes; for M1 class, the median pre-test score is 75.00, and for P1 class, the median score is 74.38. For the post-test, the points numbered in 9.66 from both P1 and M1 classes, the significant points in different are taken from P1 class with a median score of 78.25 and 68.59 from M1 class.

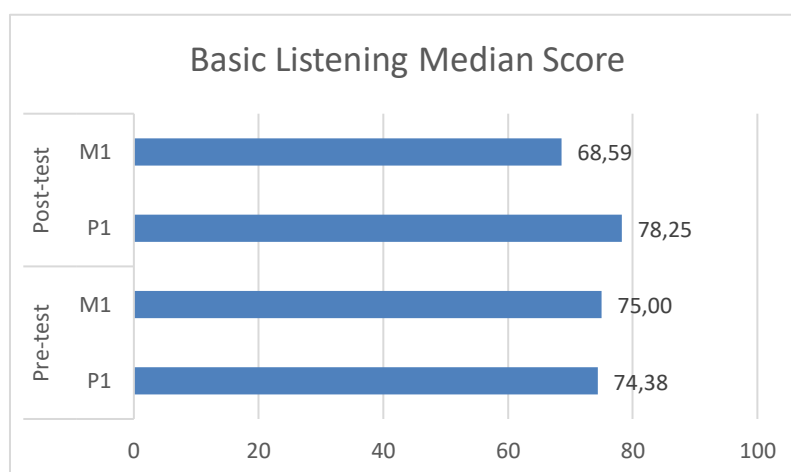


Figure 4 Median Score in Basic Listening

Discussion

The main function of a pre-test is to justify and determine the efficiency of material delivery by using certain media. Teaching-learning media delivery in the 21st century is usually carried out in both conventional and digital ways. Digital media delivery is still a small portion since the case of digital teaching delivery is mostly concerned with infrastructure issues due to

economic considerations for each school, and another problem discovered is technology literacy, which may also be encountered in either minor or major accidents during activity.

Delivering media in the teaching-learning process requires a conditional term called "knowledge society." (Shah, 2022:2) mentioned that the integration of ICT in education has gone through a widespread transformation in a wide range of societies, including classroom activity. The implementation refers not only to both the agent (the educator) and the client (the student). In adapting ICT, pedagogical teaching doesn't go through in simple ways; the process requires several ways of implementation, like videos, stimulation, data storage, mind mapping, and brainstorming. The implementation of ICT will affect not only the agent itself but also the individual, the client (student), who will also be affected by the process of implementation, especially in pedagogical manners.

The implementation of pre-tests is essential to determining the steps of decision-making, not only materially but also in assessments. The comparative study conducted in this study has delivered a considerate result for material delivery in the future, with a score of 9.21 points on average. The role of comparative study in teaching listening is to determine the suitable material that is considered justifiable for students to learn. Teaching listening cannot be done instantly since individual skills vary. According to Puspita & Suswanto (2023:2), listening tends to not be easily mastered by non-English major students. The definition also shares the same meaning when learning other subjects than English, like math, for instance.

The maximum score resulted in a post-test, which justified another case in the test's implementation. The number of 13.33 points from two different classes didn't show much significance. Delivering an ELT atmosphere, especially in teaching listening comprehension, does not completely rely on the agent (educator) themselves. Instead, self-learning or independence is also crucial to development. Menggo (2022:1-2) mentioned that in common classroom activities, an agent must perform two competencies, like professional and pedagogical competencies. The competencies performed by the agent are also possible to consider as a placebo effect to discover the learner's mastery achievement in advance of the material's delivery.

The minimum score in the post-test is also proof of a small number of considerations. For P1 class, the minimum score is 60.00, while in M1 class, the minimum score is 57.50 and the number of differences is only 2.50. The number of pre-tests showed a similar number in total, although there are a slight number of differences in the post-test. The results don't produce significant backlash in ICT media implementation in teaching listening. (Gul Malik & Alam, 2019) mentioned that in previous studies, the main essence of pre- and post-tests was to determine the baseline knowledge of participants at the beginning of the activity in attaining and obtaining material delivered by the agent (educator), and then the outcome of their achievement would be measured by the post-test results.



Figure 5 The flow of pre-test & post-test (Gul Malik & Alam, 2019:2)

The total median score presented from both the P1 and M1 classes is 74.69 in total from the pre-test and post-test. Based on the median scores obtained from two different classes under the same program, the number of median scores resulted in a positive conclusion. It is

proven that the implementation of ICT media in the pre-test and post-test makes it possible to go ahead in other steps of implementation.

Conclusion and Suggestion

Conclusion

Based on the results and findings related to the study, the implementation of pre- and post-tests alongside ICT media is possible to go further in another step in material development and delivery. By implementing pre- and post-tests to assess participants' mastery of material, it is also crucial to implement ICT as a substitute for paper-based tests as a continuation of administrative ease and time efficiency.

Paper-based testing has indeed served a long time in test deployment as the event of post-test, but the lack of time's efficiency will have to do more on the test's correction, not to mention the answer's correction, which will also affect the agent's durability. ICT media for teaching, learning, and teaching activities has a lot of variety, from simple usage to complex usage, for each usage of ICT has a lot of user interfaces, and local financial management for each institution may also be served based on terms and conditions.

The comparative study applied in this study remains not only for pre-test implementation but also in the pre-stages of material development since the goal of each test's implementation is to assess the individual achievement of each chapter and sub-chapter in every activity in the subject. Despite the independent control of audio broadcast during the test, some participants still achieve a lower score. This matter also concerns the implementation of independent study for participants in other schedules to enhance their material understanding and mastery.

Suggestion

The implementation of pre- and post-tests is not only concerned with specific subjects in either orthodox or unorthodox activities in the teaching and learning environment. It is crucial to exercise more assessing individual mastery of language in a receptive way, like listening skills, for instance. Listening skills concern the receptive in almost all aspects of language, while the production from the receptive itself goes through in the form of writing.

The adaptation ICT media in pre-test and post-test implementation have constructed a pavement for the next generation of classroom activity. The pavement of ICT media has gone all the way to the metropolitan environment, and it has also reached the segmentation of other socio-economic regions in rural regions with the help of digital infrastructure construction, resulting in rapid growth and supporting economic development.

Teaching listening cannot just remain in a conventional way, such as audio-centered broadcasts by the agent (educator); instead, individual training should go through in a digital fashion by letting the participant access the material without any burden, like time limitations, which will drive the participant into a panic-room condition, which will slowly drive their comfortability away from active senses.

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