

Developing Two Instruments to Assess Note-taking Ability in Listening Activities

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Abstract

Note-taking is a useful strategy that might influence positively the academic performance of college students. Similarly, English second language learners must be trained to take and use notes to improve their listening performance. The assessment of notetaking ability and listening performance is crucial for the learning process. The purpose of this study was to design two instruments, a rubric and a multiple-choice test, to identify if there is a meaningful relationship between the ability to take and use notes and the listening performance of the students of level 6 at the PIE. Ratings to measure the ability to take notes were scored according to the rating rubric created for this study that includes three categories and a four-level scale. The results showed the students have a satisfactory level in the ability to take notes. However, the results to measure the ability to take notes are not reliable due the influence of factors such as time, length of the listening task, and number and difficulty of items. Therefore, there is no relationship between the students' listening skill and note-taking. The results indicated that the reliability needs to be increased, for this reason, the multiple-choice test needs to be revised. Further studies should be conducted to find reliable results regarding the influence of notetaking in the listening skill.

Key words: note-taking, listening performance, assessment, rubric, multiple-choice test

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Background

The Program in Intensive English (PIE) of Northern Arizona University prepares foreign language students to succeed in the university. PIE provides reading, writing, listening, and speaking classes that enhance students' proficiency in English and pursue the improvement of academic skills necessary for the university. One of the assessment needs is how to improve and make more valid and reliable the assessment of the note-taking by listening lectures.

Note-taking is an academic ability that must be improved by international students. Gilbert (1989, cited by Hayati & Jalilifar, 2009) state that note-taking is a challenging task for foreign learners. Indeed, some second language learners might find problematic taking notes while listening a lecture. In addition, Song (2012) explains the relevance of this type of studies because note taking may help to the comprehension of content and may improve the listening proficiency since taking notes occurs at the same moment that the listening activity.

The purpose of the project was to develop a rubric to assess the ability to take notes and the ability to use notes of the students of Level 6 Listening, Notetaking, and Speaking course of the PIE at Northern Arizona University.

The main objective was to assess the ability to take and use detailed notes while students listen to TED talks and academic lectures to improve content understanding in English. There were two subconstructs for this assessment project:

- 1) To assess the ability to take notes on medium length TED talks or academic lectures with emphasis in the completeness and accuracy of key points and details in students' notes.

- 2) To assess the ability to use the notes by answering content questions with the help of the notes by measuring how well students can answer comprehension questions using their notes.

Research Questions

The study sought to answer the following questions:

- 1) Is there a meaningful relationship between the students listening skill and note-taking strategies?
- 2) Are the instruments valid?
- 3) Are the instruments reliable?

Methods

Participants

The participants in this study were 7 international students of Level 6 Listening, Notetaking, and Speaking course of the PIE at Northern Arizona University. Most of the participants were from China, Japan, and Korea. The participants' academic interests were ICT and business. They took the advanced level class that seeks to prepare students for university readiness.

Materials

This section describes the development and design of materials created and used in the assessment. Besides the rubric, the multiple-choice test, and TED talk lecture, the researcher also made use of the classroom laptop and video beam and blank sheets to take notes.

Rubric. The rubric was designed to assess the ability to take notes of the participants regarding the efficiency, completeness, and accuracy of key points and details in students' notes. It was an analytical rubric organized in levels. For this study, a scale criterion was selected of

unsatisfactory (1), satisfactory (2), good (3), and excellent (4) to measure three sub-constructs: efficiency, relevance, and accuracy on key points.

Ted talk lecture. A Ted talk lecture of ten minutes was selected to use as the listening material for the task. The criteria to the selection was global health because is the topic they were reviewing in class. The name of the TED talk lecture selected was “The next outbreak? We’re not ready” by Bill Gates.

Multiple-choice test. The test was designed to assess the ability of the students to use notes to answer questions of the previous TED talk lecture. The test had eight questions and statements and three alternatives to select the correct answer. The total value of the test was 8. The design of the questions was made with the current topic the students were discussing in their regular classes: Global Health.

Description of scores reported. The analytical rubric had scores 1-4 in three sub-constructs: efficiency, relevance, and accuracy on key points. Scores from each sub-construct were combined to give each participant an overall score out of 12. The multiple choice-test had scores from 1 to 8 with an overall score of 8.

Results

Table 1 shows the descriptive statistics analysis of both tests. The values for skewedness and kurtosis are within the parameters of -2 and +2 in both instruments. These values indicate there is relatively normal distribution despite the fact that the distribution of the scores show negative skewness for the ability to take notes (i.e., the rubric). As presented in Table 1, the descriptive statistics show that overall, students averaged about 75%; the mean scores of the rubric were 9.5, and the mean scores on the multiple-choice test were a little over 6. As can be

seen in Figure 1, the majority of students scored 6 on the multiple choice test of using notes, and 10 on the rubric used to measure the ability to take notes.

Table 1

Descriptive Statistics of Both Tests

Instrument	N	Min	Max	Mean	SD	Skewness	Kurtosis
Multiple-Choice Test	7	5	8	6.28	0.95	0.86	1.24
Rubric	7	6.5	12	9.5	1.73	-0.51	0.94

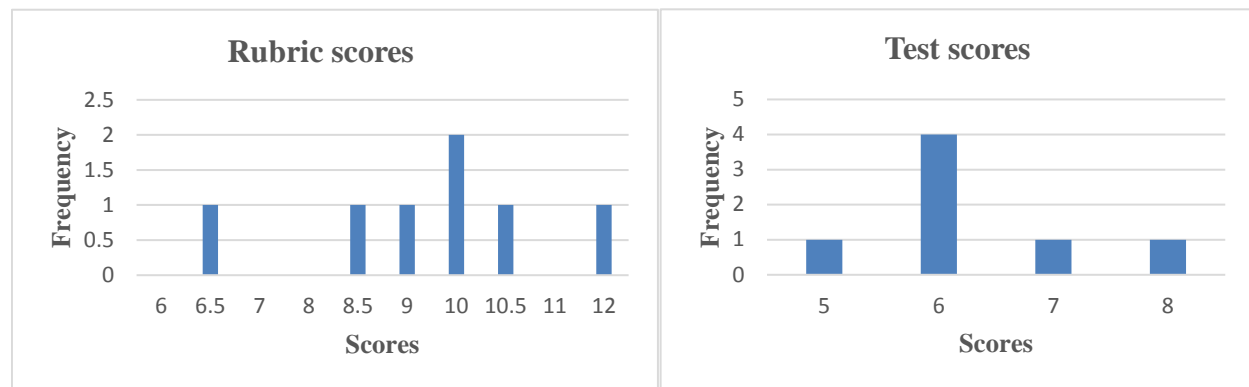


Figure 1. Distributions of scores.

To determine the reliability of the scores of the rubric, Person's correlation was calculated obtaining a value of $r = 0.89$ which indicates reliability. On the other hand, KR-20 was calculated to know the reliability of the multiple-choice test, $KR-20 = 0.11$ which indicates the test is not reliable because the value is below 0.50.

Correlation

A Pearson's Correlation test was computed to assess the relationship between the ability to take notes (measured by the rubric) and the ability to use notes (measured by the test). The result in Table 2 indicates there is no correlation between the two variables, $r = 0.000$, $n = 7$, $p = 1.000$.

Table 2

Correlation

		Ability to use notes (measured with test)
Ability to take notes (measured with rubric)	Pearson Correlation	0.000
	Sig. (2- tailed)	1.000
	N	7

In addition, the scatterplot shown in Figure 2 indicates there is no linear distribution of the scores which indicates there is no correlation.

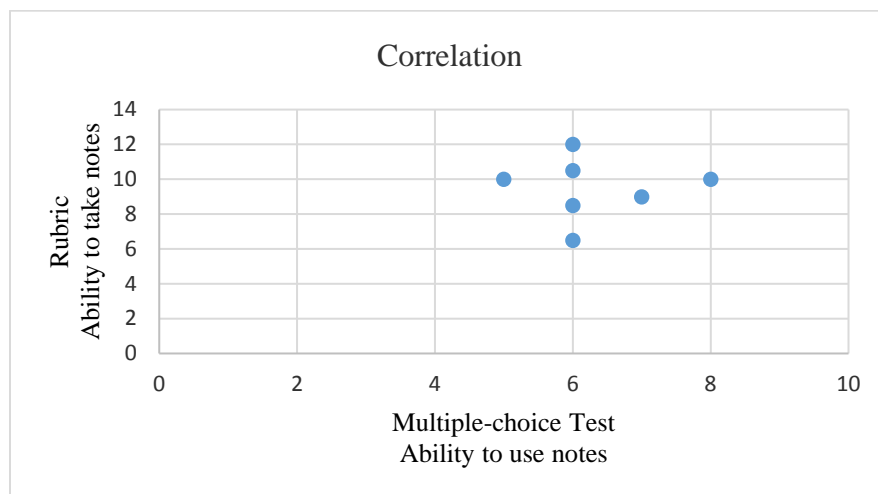


Figure 2. Correlation.

Additionally, item analysis was carried out for the multiple-choice test to see the discrimination of the items. B-index was calculated considering it is an achievement test. For the cut-point it was considered a value of 5 for fail. The results show that some items, such as item 5,

do not discriminate well due the negative value. On the other hand, other items seem to be easy because all participants had a correct answer (items 1, 2, and 6).

Table 3

B-Index Multiple-choice Listening Test

Examinee	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8
1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	0	1
3	1	1	0	1	1	1	0	1
4	1	1	0	1	0	1	1	1
5	1	1	0	1	1	1	0	1
6	1	1	0	1	1	1	0	1
7	1	1	1	0	1	1	0	0
IF	1.00	1.00	0.43	0.86	0.86	1.00	0.29	0.86
IF pass	1.17	1.17	0.50	1.00	1.00	1.17	0.33	1.00
IF fail	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
B-Index	0.17	0.17	-0.50	1.00	0.00	0.17	0.33	1.00

The findings suggested most test takers performed well taking notes, which means they have developed their ability to take notes with the instruction they have received during the semester. However, it cannot be affirmed the same with the ability to use notes and the performance in the test. The analysis of the results showed the multiple-choice test is not reliable. This might be due many factors. One factor is the number of items, the test only had 8 items. Another factor is the number of participants, 7 participants is not a large sample. In addition, the administration of the multiple-choice test was made immediately after the TED talk, there was no gap time, subsequently, the answers of the participants might be influenced by their short-term memory instead of using the notes. Similarly, the item analysis revealed some irregular items that might need to be revised to modify alternatives and distractors to make the items more difficult. Another factor that might have affected the results is the length of the TED talk, for a future and

similar study it can be suggested to improve the length of the TED talk. Surprisingly, there is no meaningful relationship between the students listening skill and note-taking strategies. This might be due the interference of the factors already mentioned. In addition, items need to be revised and modified to make more reliable the test.

Relevance to PIE and Second Language learning

Most of tests focus on listening and speaking skills, while there are other academic abilities such as note-taking that international students need to achieve to have a successful academic performance in college. This project has significance because L2 learners can improve their lecture attention by taking notes as well as retention on content. In addition, training in note taking strategies is beneficial for the academic performance of the students. According to Carrell (2007) “the relationship between note-taking and lecture comprehension is relevant for assessment” (p.1). Indeed, learners’ successful performance might be influenced for the appropriate use of note-taking strategies.

References

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Appendices

Appendix A

Multiple Choice Test

Select the correct answer. Use your notes.

- 1) According to Bill Gates, the greatest risk of a global catastrophe is _____.
 - a) a nuclear war
 - b) an infectious virus
 - c) the killing of 10 million people
- 2) Why would a global risk occur?
 - a) There is not a good system to stop epidemics
 - b) The huge amount of money invested in nuclear preventions
 - c) There were not case analysis tools
- 3) The Ebola epidemic was devastating because _____.
 - a) there was no monitoring process of the epidemic
 - b) there were not enough work experts in epidemiology
 - c) it occurred in African countries
- 4) A good response system against epidemics can be built _____.
 - a) with the use of satellites
 - b) with research and technology
 - c) with donations of food
- 5) The Medical reserve corps are _____.
 - a) soldiers in duty
 - b) hazardous viruses
 - c) trained and qualified people

6) When Bill Gates says “Wake-up call”, he means _____.

- a) be prepared for
- b) Have money
- c) answer the phone

7) What is one key piece when dealing with an epidemic?

- a) secure areas
- b) germ games
- c) vaccination of all children

8) The lecture is mainly about _____

- a) Bill Gates’ worries when he was a kid
- b) A good response system in case of epidemic alarm
- c) The Ebola epidemic

Appendix B**Note-taking ability rubric****Level 6 Listening, Notetaking, and Speaking course****PIE at Northern Arizona University**

CATEGORY	Unsatisfactory 1 pt.	Satisfactory 2 pts.	Good 3 pts.	Excellent 4 pts.
Efficiency	Notes do not have detail and offer too general information	Notes have some details, but some information is missing	Notes have details and are useful but some areas need attention	Notes address the given topic in a thorough manner
Relevance	Notes are not related to the topic. They have little main ideas	Some notes relate to the topic, but others do not, few main ideas	Notes primarily relate to the topic, some main ideas	Notes relate to the topic and show the main ideas
Accuracy on key points	The information is inaccurate and/or entirely off topic.	The information is accurate but not entirely on topic.	The information is accurate and on topic.	The information is accurate, focused, and on topic.