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Korean EFL Students' Perceptions on Note-taking Strategy and Its Training in Academic English Listening Tests*

Junghyun Kim
(Seoul Theological University)

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The current study examined Korean college students' perceptions on the effects of note-taking and its training. A total 92 college students were randomly assigned to one of the three groups: (A) training group which was allowed to take notes during the test, (B) no-training group which was allowed to take notes during the test, and (C) no-training group which was not allowed to take notes during the test. Three different sets of mini iBT TOEFL tests, questionnaire surveys (before and after the training), strategy training (in three different periods), and interviews (9 students) were conducted. The results indicated that note-taking and note-taking strategy training did affect the trained group's test performance, and its effect was not statistically significant. Most students perceived the necessity or importance of note-taking and its training, whether they were allowed to take them or not. There was also some discrepancy between the students' perception of note-taking and their actual use of note-taking; the students did not take notes although they talked about the virtue of taking notes. The present study is significant in that it addressed the various perceptions and aspects of the note-taking and the training in an EFL context of Korea through quantitative and qualitative approaches.

[note-taking/note-taking strategy training/perception/listening comprehension/ iBT TOEFL]

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I. INTRODUCTION

For the past twenty-five years, many researchers have been interested in listening comprehension strategies (e.g., Berne, 2004; Lee, 2011; Maeng, 2006). Thomson and Rubin (1996) argued and empirically demonstrated that learners having received strategy instruction improved their listening comprehension. Numerous cognitive and metacognitive strategies were utilized in the research on the training. These strategies were also associated with the learning strategies proposed by O'Mally, Chamot, and Kupper (1989). Note-taking is a concrete manifestation of cognitive strategies in listening, as notes are made and used to organize, store, and retrieve information delivered through the spoken input. It is a crucial micro-skill (Flowerdew, 1994, p.13-14), and cognitively demanding (Kiewra, 1989, p.2). Therefore, researchers believed that it should be explicitly taught in school (Bakunas & Holley, 2001; Meyer, 2002; Ornstein, 1994, cited in Haghverdi, Biria, & Karimi, 2010; Field, 1998).

Since typical note-taking was viewed as an aid to students' learning in school achievement during the class hours, most previous studies on note-taking were conducted in learning situations, not in testing situations[1]. Although previous empirical studies in learning situations yielded conflicting results in regard to the facilitating effects of note-taking, their research design and theoretical frameworks in learning situations have become the bases or models of studies in testing situations.

Few studies on the note-taking in testing situations had been conducted with non-native speakers before the early 1980's. Then studies which differentiated effects on native and non-native speakers and on different proficiency levels in ESL settings began to appear (e.g., Cushing 1991; Dunkel 1985, 1988; Dunkel & Davy, 1989). And yet, not much research has been conducted on the note-taking strategy in EFL settings like in Korea, although a handful of researchers studied the relationship between the students' language proficiency and the use of note-taking strategy (Song; 2007, 2008, 2012; Yang, Kim, & Cha, 2010).

As many academic listening tests allow test-takers to take notes during the testing sessions (e.g., iBT TOEFL and IELTS), or use note-taking as a measure of listening ability (e.g., the Occupational English Test), the relationships between second language learners' note-taking and their subsequent listening performance have been important issues in language assessment (e.g., Carrell, 2007; Carrell, Dunkel, & Mollaun, 2004; Hale & Courtney, 1994, cited in Song 2012).

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[1] Learning situations of the current study mean the situations where students listen to the instructor's lectures or talks, whereas testing situations mean the ones in which the test-takers take the listening comprehension tests for evaluation.

The purpose of this study is therefore to look more closely at the effects of note-taking training in a testing situation, focusing Korean college students perceptions on note-taking strategy and its training. Therefore, the following research questions are posed for the study.

1) What is the effect of note-taking strategy training on students' test performance?
2) How do the students perceive the note-taking and its training in testing situation?

II. LITERATURE REVIEW

1. Studies on Note-taking and Note-taking Strategy Training in Testing Situations [2]

Although studies on note-taking in learning situations are found as early as in the 1930's (e.g., Corey, 1935), such studies in testing situations seem to have started in the 1980's (Dunkel, 1985, 1988; Dunkel, Mishra, & Berliner, 1989;), and after a few studies in the early 1990's (Chaudron, Loschky, & Cook, 1994; Cushing, 1991; Hale & Courtney, 1991, 1994), they flourished in the 2000's, especially in the second half of the first decade of the second millennium (Carell, 2007; Carrell, Dunkel, & Mollaun, 2002, 2004; D. Kim, 2008; Hayati & Jalilifar, 2009; Kilickaya & Cokal-karadas, 2009; J. Kim, 2012; Song, 2007, 2008, 2010, 2012; Yang, Kim, & Cha, 2010). This renaissance of the research on note-taking can be attributed to the new policy of iBT TOEFL, which allowed note-taking in 2006. Naturally, the majority of studies on note-taking dealt with test-taking situations of iBT TOEFL, as the high-stakes test allowed note-taking during all entire test-taking sessions such as listening, speaking, reading and writing.

Earlier studies in testing situations produced negative or no effects of note-taking. Dunkel (1985) assessed the effects of note-taking, the quality of notes taken, and the impact of short-term memory by both native and non-native speakers of English. She found no positive effects of note-taking, and no significant relationship between test performance and the notes' quality. She discovered a considerable 'memory effect'. Listeners with good short-term memory of lecture concepts and details recalled more than those with poor short-term memory. She also found that English proficiency was strongly related with comprehension performance; native speakers of English recognized information presented in the lecture better than non-native speakers whether they took

[2] The present review confines the studies on note-taking in testing situations within the ones using the test batteries such as TOEFL and TOEIC.

notes or not. Hale and Courtney (1991, 1994) also found no positive functions of note-taking in TOEFL minitalks. Allowing students to take notes had little effect on their performance, and urging students to take notes even impaired their performance. They proposed that taking notes could be more beneficial if the listening texts are long and presented with a slow speech rate, or the question formats are different from the current minitalks (i.e., Paper-based Test). Chaurdron, Loschky, and Cook (1994) examined the relationships between various note quality measures and L2 learners' test performance and found no significant difference between note-taking allowed and note-taking not-allowed groups[3].

There are some later studies that did show positive effects of note-taking (Carrell et al., 2002, 2004; Kilicaya & Cokal-karadas, 2009; Dongkyoo Kim, 2008). Carrell, Dunkel, and Mollaun (2002, 2004) investigated the effects of note-taking between note-taking allowed and not-allowed groups with different lecture lengths (minitalks of 2.5 or 5 minutes) and topics (arts/humanities or physical science) with 234 ESL students in TOEFL listening tests. The results indicated a positive effect of allowing note-taking in combination with listening shorter lecture. There was also a significant correlation between length and overall English proficiency: higher proficiency learners performed better on shorter lectures but not on longer lectures.

Studies on the effects of note-taking strategy training in testing situations produced mixed results. Three studies done in testing situations are reviewed here. Carrell (2007), with a pre- and post-test experimental design in computer-based TOEFL tests, found treatment such as instructional intervention on note-taking strategies with written guidelines had no effect.

Unlike Carrell (2007), Hyati and Jalilifar (2009) showed positive effects of note-taking strategy training in an EFL context. The participants were randomly divided into three groups: an uninstructed note-takers' group (UNTG), a Cornell note-takers' group (CNTG), and a non-note-takers group (NNTG). Even though the instruction was informal through a pamphlet without any instruction within the class, the result showed a significant difference between UNTG and CNTG ($p=.034$)[4]. The first reason of showing a significant difference was that there was an achievement test with 30 multiple choice items to confirm the participants' understanding about the Cornell method[5]. The second reason was that there was a reviewing session of the students' notes between the first and

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[3] Their research design can be criticized because it did not have a pre-training test of the note-taking strategies.

[4] Insignificant differences were found between NNTG and UNTG ($p=.497$) and between NNTG and CNTG ($p=.16$).

[5] "Cornell method was developed by Pauk (1974) to assist Cornell students in their lecture classes to improve the organization of their notes. This system provides a systematic method for recording and reviewing notes" (Hyati & Jalilifar, 2009, p.102).

the second playback of the lectures. The current study adopted pre- and post-experiment design like Carrell's (2007), but used more specific contents and design of trainings, and language samples with some interactions between the trainer and the trainees[6].

2. Studies on Perceptions about Note-taking Strategies

Earlier studies, in learning situations, found cultural differences in the perceptions about note-taking strategies (Dunkel & Davy, 1989; Hartley & Davies, 1978). Hartley and Davies (1978) discovered some differences between American and British students in their perceived value and practice of note-taking. Based on the results of Hartley and Davies'(1978) study, Dunkel and Davy (1989) investigated perceptual differences between American students and international students. Half of the American students were satisfied with their level of note-taking skills whereas less than 10 percent of the international students felt so because of different language proficiency.

In testing situations, Hale and Courtney (1991, 1994) found a discrepancy between the perceptions about the helpfulness of note-taking strategies and actual test performance. Three-fourths of the students perceived that note-taking helped them remember the information better during the test sessions even though little benefit was actually obtained from taking notes in the TOEFL mini-talks.

Carrell (2007) investigated the students' perception changes about their note-taking strategies after a training in note-taking. The training had no statistically significant effects on their perception changes; students did not indicate that they increased the use of notes after training. Jung-hyun Kim (2012) found perception changes after note-taking strategy training. She also noted that the perceptions and behaviors of students in testing situations were different compared with those in learning situations. There were gaps between students' perceptions of note-taking strategies and the actual use of them. Among 71 participants, 35 students perceived that being allowed to take notes had helped them answer the questions better during the test; however only 17 students said that they had actually used notes during the test in her study. The current study used questionnaire data (surveys) like the previous studies and also used more interview data to analyze the students' perceptions on note-taking and its training.

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[6] Carrell's (2007) research had a good experimental design, but did not show the positive effects because of its small amount of the training time or unsuitable training method.

III. METHOD

1. Participants

The participants were 92 Korean university students from two universities, one in Incheon and the other in Seoul[7]. The students were freshmen taking English Conversation or English Composition classes during the spring semester of 2011. Of the 92 students, 22 were male and 70 female. Their English proficiency were intermediate or upper-intermediate (MATE[8]-moderate high or moderate mid). Among 92 students, 9 interviewees were selected after Test I according to the students' test results in Test I and their note-taking behaviors. The characteristics of 9 interviewees are summarized in Table 1.

TABLE 1
Characteristics of the Interviewees

Group	Student	PreT Score	Test I #notes	Test II # notes	Characteristics
C	C1(female)	4	6	5	- Perceived the necessity or desire to take notes if the listening texts are long.
	C2(female)	0	7	4	- Felt uneasy when note-taking was not allowed.
B	B1(female)	0	6 79	2 10	- Performed better under a note-taking allowed condition. - Performed better when taking more notes.
	B2(female)	4	7 0	6 2	- Took few notes because talks were too fast and the listening texts were too difficult.
A	A1(male)	1	8 0	7 21	- Showed relatively good test scores regardless of the quantity of notes.
	A2(female)	2	5 15	7 1	- Gave up taking notes in the middle of the test. - Took notes when the topic was familiar to her, but did not when she needed to concentrate more.
	A3(male)	2	7 27	3 0	- Performed better taking many notes. - Talked about uselessness of the note-taking strategy training without sufficient proficiency.
	A4(female)	5	11 98	7 9	- Had experience of living in English speaking countries.- Prepared iBT TOEFL before.
	A5(female)	0	6 3	5 31	- Had positive perceptions after the note-taking strategy training. - Showed personal efforts to practice specific note-taking strategies.

[7] The researcher had to conduct the experiment in two universities to collect the minimum optimal number of the participants with various different academic backgrounds.
[8] MATE (Multimedia Assisted Test of English developed by Sookmyung Women's University) is an English proficiency test to assess speaking and writing abilities.

2. Instruments

The present study used three kinds of instruments: tests (pretest, Tests I and II), questionnaires, and training materials (including handouts and PowerPoint slides).

1) Tests

(1) Pretests

A pretest was designed to check the homogeneity of the listening abilities of the participants. All the students took this test without note-taking. It consisted of 6 items related to one lecture topic (*Nacre*- Biology). The lecture was delivered in 5 minutes and 5 seconds, with the delivery rate of 159.1 words per minutes. All of the six items in the pretest were in a multiple-choice type, with four options to choose from.

(2) Test I

Test I was designed to see the note-taking behaviors of the students as well as their testing performance without a prior training on note-taking. It consisted of 12 items related to two lecture topics. The lecture topics were *Gold Rush* (History-5 minutes and 35 seconds, 807 words) and *Permafrost* (Geology-5 minutes and 21 seconds, 741 words). The deliberates of each lecture were 114.5 and 138.5 words per minutes. Ten of the 12 items were multiple choice, with four different options to choose from, and the other two items were MSMC (multiple selection multiple choice), with four options that can be selected in any number from one to four.

(3) Test II

Test II was designed to see the effects of note-taking training. Test specifications of Test II were basically the same, as those for Test I except for the topics of the lectures. The lecture topics for Test II were *K-T extinction* (Earth Science-5 minutes and 42 seconds, 807 words, 141 words a minute) and *Guild* (Social Science- 5 minutes and 19 seconds, 799 words, 150.2 words a minute).

2) Questionnaires

Two questionnaires were developed to tap into the students' perceptions and perception changes. Questionnaire I was devised to explore the students' perception before the training (right after Test I), and Questionnaire II was made to assess the students' perception after the training (right after Test II). The two questionnaires were patterned after the one by Hale and Courtney (1994) with 5-point Likert-type scales,

Yes/No questions, and open-ended questions. An example of the questionnaire items is given below (see Appendix).

I had enough time to take notes during the test.
1. Strongly disagree /2. Disagree/ 3. Neutral /4. Agree/ 5. Strongly agree

3) Training Materials

(1) Handouts

The note-taking principles and techniques presented in the handouts were adapted from the note-taking guidelines proposed in Soriclub (2004), and the script for hands-on practice of note-taking in the handouts was the script for the lecture on *Permafrost* which was used in Test I. Figure 1 below shows the part of the content of the guidelines in the handout given to the students (J. Kim, 2113, p.33-35).

FIGURE 1
Guideline for Taking Notes

I. Basics of Note-taking
II. The Structure of English Lectures
III. Specific Note-taking Techniques
A. Summarize
B. Main Points
C. Key Words
D. Topic and Subtopics
E. Projecting the Whole Content with the Beginning
F. Supporting Points
G. Signal Words
1. Signal Words for Core Contents
* Time Sequence: There are three reasons/ Initially~, Subsequently, /Let's go back to
* Change of topics: First/ Second/ Third
2. Signal Words for Explanation
* Example: For example/For instance
* Continuation: Also~/ And In addition~ Further~/Another~
* Contrast: On the other hand/On the contrary//In contrast/ In spite of/However/But
3. Symbols and Abbreviations
= equals; to be, ≠ not to be, + and; plus, > more than / < less than/↑increase/↓decrease
number/~approximately/$ money /% percent/Cf. compare
* Omission later parts of words: United Kingdom : UK/ United States : US / page: p. /summary : sum.
* Omission vowels: tomorrow : tmrw / background :bkgd
* Omission some spelling: government :gov't
* Others: to go : 2go/ for you: 4U/ How are you: how r u / learning : lrng

(2) PowerPoint Slides

PowerPoints slides were the examples of notes made by the researcher from the one of the lecture topic texts used in Test I (i.e., the lecture on *Permafrost*) as well as the lecture contents on the training.

3. The Experimental Design and Procedures

The participants were first divided into three different groups. The participants were randomly assigned to one of the three groups: (1) an experimental group that would be trained and allowed to take notes during the listening tests (i.e., Group A: [+TR, +NT]), (2) an experimental group that would not be trained but allowed to take notes during the tests (i.e., Group B: [-TR, +NT]), and (3) a control group that would be neither trained nor allowed to take notes (i.e., Group C:[-TR, -NT]). Table 2 shows the overall experimental design for this study.

The overall procedures of data collection were composed of seven different activities: (1) pretest, (2) Test I, (3) questionnaire survey I, (4) strategy training (in three periods: 30 minutes, 15 minutes, and 15 minutes), (5) Test II, (6) interviews, and (7) questionnaire survey II. Although these activities were conducted in sequence, interviews overlapped with some other activities, as they were conducted over an extended period of time.

TABLE 2
The Experimental Design

Group	Pretest	Pre-experiment	Training	Post-experiment
Group A (32 Students)	Yes (Note-taking: No)	Listening Test I (Note-taking: Yes) Survey I	Yes	Listening Test II (Note-taking: Yes) Survey II
Group B (30 Students)	Yes (Note-taking: No)	Listening Test I (Note-taking: Yes) Survey I	No	Listening Test II (Note-taking: Yes) Survey II
Group C (30 Students)	Yes (Note-taking: No)	Listening Test I (Note-taking: No) Survey I	No	Listening Test II (Note-taking: No) No Survey

With regard to the training, one week after Test I, training sessions on note-taking started. The training was given to Group A on three occasion over two months, with about one-month intervals between the sessions. The first session, which was the most important in our research, lasted for 30 minutes. In the first session, the researcher

distributed the written guidelines of some basic, general, and specific strategies of note-taking. The content of the list was also presented to the students with a PowerPoint projection, and explanations of the items were given by the researcher. The students were also provided with the script of one of the lectures that was used in Test I (i.e., the lecture on the *Permafros*t), with which they could practice note-taking on their own.

The second session of training was held about three weeks after the first session. The second session lasted for 15 minutes. The researcher reviewed the content of the first session training, and added explanations on certain points that the students felt difficult to understand. The PowerPoint slides that were used in the first session were printed out and distributed among the students to that they could refer to them for clearer understanding and memorization.

The third session of note-taking training was held five weeks after the second session. In this session, the lecture which was used in Test I was used as an illustration of note samples that could be made out of the lecture. Although the students did not have hands-on practice, the students could have clearer ideas about what to write and how to write when taking notes. The third session also lasted for 15 minutes. Although the actual time for note-taking strategy training amounted to only one hour, the effects of the three sessions should be different from those of a one-session, one-hour training because the students were exposed to the content of the note-taking strategies repeatedly three times for an extended period of time of two months. Besides, in the intervals of the training sessions, students were advised to practice specific note-taking strategies in class, while taking lessons from the researcher, and outside of the classroom individually using the handouts if necessary.

IV. RESULTS AND DISCUSSION

1. Effects of Note-taking Strategy Training on Test Performance

Although the effects of students' perceptions on the note-taking and the training are important, it might be the effect of the training on test performance itself that attracts our attention the most, because the students and teachers are mostly concerned with good performance on the test. If anything helps with test performance, then it should be studied and applied, and evaluated in the area of testing. In that sense, the result of this section will be a first part for the current study. The following Table 3 shows the results of the descriptive statistics of the three different tests for the study.

TABLE 3

Descriptive of the Tests

Test	Group	# of Students	Mean	SD	Min.	Max
Pretest	A	32	2.13 (4.26[9])	1.66	0	6
	B	30	2.63 (5.26)	1.67	0	6
	C	30	2.13 (4.26)	1.25	0	4
	Total	92	2.29	1.54	0	6
Test I	A	32	6.09	2.19	1	11
	B	30	6.27	2.38	1	11
	C	30	5.27	1.93	2	9
	Total	92	5.88	2.19	1	11
Test II	A	32	5.41	1.90	3	10
	B	30	4.63	1.79	0	8
	C	30	4.13	1.55	1	7
	Total	92	4.74	1.82	0	10

An interesting trend of score change is seen in the Figure 2. That is, the group rank of scores changed from the Pretest to Test I , and to Test II. On the Pretest, Group B (M=2.63) scored higher than Group A (M=2.13), which scored the same as Group C. This superior performance of Group B continued in Test I, on which Group B (M=6.27) once again scored higher than Group A (M=6.09) and Group C (M=5.27), although the ANOVA indicated that the difference was not significant. So, the initial state of Group B, before the training, was slightly higher than Group A.

Then, on Test II, the superiority of Group B over A was reversed. Group A (M=5.41) scored higher than Group B (M=4.63) by 0.773 points on the 12-point maximum score test. Then, the question is whether this difference was statistically significant. An ANOVA summary is given in Table 4.

TABLE 4

ANOVA Summary Table of the Scores for Three Tests

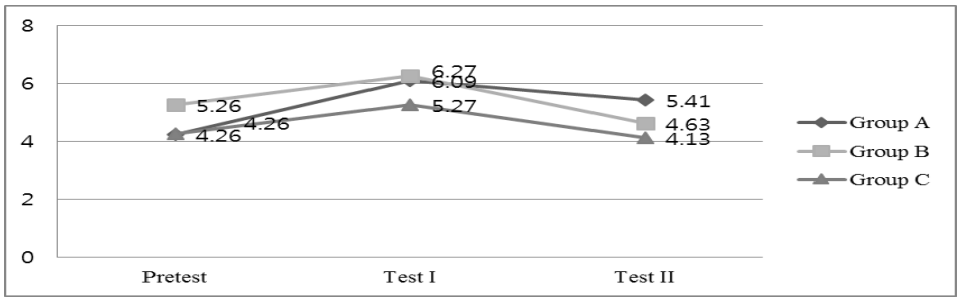
		S. S.	df	M. S.	F	Sig.
Pretest	Between Groups	5.143	2	2.572	1.080	.344
	Within Groups	211.933	89	2.381		
	Total	217.076	91			
Test I	Between Groups	17.233	2	8.616	1.824	.167
	Within Groups	420.452	89	4.724		
	Total					
Test II	Between Groups	25.587	2	12.794	4.153	.019*
	Within Groups	274.152	89	3.080		
	Total	299.739	91			

*The mean difference is significant at the .05 level.

[9] Pretest has 6 items, and Tests I and II have 12 items, so the scores of the Pretest had to be doubled for the easy comparison. The ANOVA results of Pretest scores indicate that the three groups were not different in their listening abilities.

FIGURE 2

Trends of Score Change on the Pretest, Test I, and Test II



Since Table 4 in Test II indicated that the score difference among the three groups was significant, a post-hoc test was run to see where the significant difference lies. Table 5 is the result of the LSD (Least Significant Difference, multiple comparison) test.

The difference, according to Table 5, is significant only between Groups A and C (p=.005), not between Groups A and B (p=.087). Although the significance level (p=.087) between Groups A and B was fairly low, it did not satisfy the significance level of p=.05 set for the present study. In other words, the trained group outperformed the untrained group only when the group was not allowed to take notes. Therefore, it should be concluded that the note-taking strategy training alone did not have a meaningful effect on the students' performance in the present study.

TABLE 5

LSD Results

Dependent Variable	(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.
Test II	A	B	.773	.446	.087
		C	1.273*	.446	.005*
	B	C	.500	.453	.273

* The mean difference is significant at the .05 level.

What can account for this lack of training effect in the present study? One possible reason may lie in the relatively poor performances of all three groups on Test II compared to Test I. The overall mean for the entire groups on Test I was 5.88 out of 12; however, it dropped to 4.74 on Test II, a drop by 0.86 on the 12 point test. The fact that the students' performance did not elicit their full potential proficiency on Test II might

have confounded any meaningful results that the training could have produced. In other words, the result might have been different if the students had scored about the same on Test II as they had done on Test I. A future study may need to explore this possibility.

Then a question rises as to why there were sharp declines of scores, in all three groups, from Test I to Test II. The lecture texts for Test II were easier than those for Test I[10]. In a normal condition, students should have scored higher on Test II than on Test I, especially with some practice effects gained from two previous tests (i.e., the Pretest and Test I), but they did not.

A couple of reasons can be offered to explain this result. First, it might be the sincerity condition of the participants that demotivated them in their test performance. As Figure 1 demonstrates, all three groups scored higher on Test I than on Test II. Considering the fact that the lecture texts used in Test I were more difficult than those used in Test II (see Tables 3.3 and 3.4), the overall low scores on Test II imply that the students did not take the test as seriously as they had done on Test I. When they took Test I, they might have taken it with the usual seriousness that people generally have for any type of test. However, by the time they took Test II, they might have realized that this particular test was not in the least related to their school work or evaluation and therefore took it rather haphazardly. Besides, a fatigue factor might have played a role, too.

Another possible reason can be found in the special situation in which the participants were put at the time of Test II administration. Test II was administered to Groups A and B on June 13th, and to Group C on June 15th. This was the time of final examinations for college students. The students were occupied with the ongoing or imminent school examinations and term papers as well. In such a tight and stressful situation, taking a test that had nothing to do with their school grades might have been a nuisance and an unwelcome burden. Then the students might have decided to exert minimal effort to this task of test taking. Thus, this inappropriate timing seems to be a critical weakness of the present research. If Test II had been administered at some other time when the students were free of the agonies and toils of the semester-end exams and papers and could take the test in a more peaceful state of mind, the result might have been different, showing an improvement in their scores. Future research could take this issue into consideration.

In short, with regard to the first research question, although note-taking and note-taking strategy training did affect the trained group's test performance, its effect was not statistically significant

[10] The lecture text of Test I has 52% of Flesh Reading Ease readability and the one of Test II is 62.9%. (The higher the Flesh Reading Ease readability, the easier to understand document. http://rfptemplates.technologyevaluation.com/readability-scores/flesch-reading-ease-readability-score.html)

2. Perceptions on Note-taking and Its Training

For the second research question, the personal interviews and the questionnaire surveys were carried out to obtain more in-depth information and insights about the students' perceptions.

1) Perceptions about Note-taking

In Survey I (before the training), the questionnaire asked the students if they usually take notes during the class hour or testing. As Table 6 shows, students seem to be on the positive side of the scale as far as note-taking is concerned. If we compare the positive side and the negative side of the scale, while 37.4% of the students indicated that they take notes during the class, only 18.5% responded that they do not. In testing situations, while 43.4% of the students said that they take notes, 22.9% said no. It is notable that more students tend to take notes in testing situations than in conventional learning situations (43.4% vs. 36.9%)

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TABLE 6
Students' Use of Notes in School (Before the Training)

	N	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean (Std.)
1.Usually take notes during the class.							
	91 (100%)	3 (3.3)	14 (15.4)	40 (44)	28 (30.8)	6 (6.6)	3.22 (.90)
2.Usually take notes during the test.							
	91 (100%)	3 (3.3)	18 (19.8)	30 (33)	28 (30.8)	12 (13.2)	3.31 (1.04)

SD= strongly disagree, D= disagree, N=neutral, A=agree, SA=strongly agree

(1) Positive Perceptions on the Use of Note-taking

The following are some of the positive comments on taking notes during the test. In a nutshell, the students saw the benefits of taking notes in terms of assistance with identifying the main ideas and important parts, storing and retaining the information, recalling, and solving problems.

1) Taking notes helped me remember longer.
2) Taking notes during the test was helpful to solve the questions.
3) Taking notes helped find important parts or key words of lectures.
4) I could find necessary information from the notes later.
5) Taking notes helped recall during the test.

6) Reviewing notes helped recall what was said during the test.
7) By taking notes, I could reify the themes of the lectures.
8) Taking notes gave me the sense of stability during the test.

These perceptions of the students are reminiscent of the comments made by the students in Haghverdi, Biria, and Karimi's (2010) study, who reported that note-taking can extend attention spans, help them to keep focusing on the subjects, remember what they read or heard, organize ideas, record, and write to increase their understanding.

Like many students in all the groups, many of the interviewees perceived the necessity of taking notes during the test, whether they were allowed to take them or not (see TABLE 1 in p.6-7). We will first discuss the responses of the students who were not allowed to take notes. Two were selected from Group C. During the interviews, the two students from Group C learned that there were groups that had been taught and allowed to take notes during the tests. Both Students C1 and C2 said that they had felt bad because they had not been allowed to take notes. They felt that they would do better if note-taking was allowed. The following are excerpts from the interviews with C1 and C2, who were interviewed separately.

C1: *Yes, I felt frustrated since the lecture was about science. Because I am not a native speaker, it was difficult to catch the main ideas immediately. If taking notes were allowed, I could understand the lectures. And then I could find the answers for the questions easily. However, I could not take notes during the test, so it was hard for me to recollect the contents of lectures. I felt uneasy. I could not even perceive what the lecture was about.*

Researcher: *How did you feel because you could not take notes during the test this time?*
C2: *I felt choky. Then I could not think anymore. Without taking notes, it was difficult to concentrate on the listening texts. It was like just listening to popular songs without understanding.*

Student B1 said, notes were helpful because she could use the information in the notes to solve problems. Like Students C1 and C2, she indicated that she feels uncomfortable if taking notes is not allowed (i.e., during the Pretest), but comfortable during Tests I, as she was allowed to take notes. An excerpt from her interview illustrates this.

B1: *I cannot concentrate on the tests when taking notes is not allowed. Then, I have a tendency to answer the questions thoughtlessly as I did during the Pretest. The test I took recently (i.e., Test I) made me comfortable, because I could take notes. I could refer to the information to answer the questions later. Therefore, taking notes was more comfortable and better for me to answer the questions rather than not taking notes.*

Two students also reported that they could do better on the test when note-taking was allowed. Their beliefs were confirmed by their scores. B1 scored 0 point (out of 6) on the Pretest, when note-taking was not allowed. She scored 6 (out of 12) on Test I, when she could take notes. Likewise, A5 scored 0 point on the Pretest, but scored 6 and 5 on Tests I and II, respectively.

In contrast, there were some students who endorsed note-taking conditionally. The topic familiarities, the contents and the length of the lecture were the main factors that made the students continue to take notes during the test. Student C1, who had felt frustrated at the science topic lecture, thought that note-taking would be especially helpful when the texts were long. A similar opinion was expressed by Student A2, who felt that note-taking would be helpful for this iBT TOEFL type of test, which had long lectures. She also said, however, when the lecture was difficult, she gave up taking notes. The following is the excerpt from the interview with A2.

> **Researcher:** *You just listened to what was said?*
> **A2:** *Yes, because the second part of Test I was difficult; it had many difficult words and signs, and the listening texts were too fast. For those reasons, I gave up taking notes, and just listened to what was said.*
> **A2:** *I take notes if the themes of the subjects are easier. If not, I try to concentrate on listening itself without taking notes.*
> **Researcher:** *You don't take any notes when you concentrate on listening? What do you think of taking notes during the test? Do you think note-taking during the test is helpful, or not?*
> **A2:** *I think that this test (i.e., iBT TOEFL) is somewhat different from TOEIC. It was necessary to take notes for this kind of test. The listening texts were too long, so it was difficult for me to recollect the main points during the test.*

Summing up, most students perceived the necessity of taking notes during the test, whether they are allowed to take them or not. The students had their own individual reasons for taking notes during the test.

(2) Negative Perceptions on the Use of Note-taking

However, the picture is not absolutely in favor of note-taking in testing situations. As there were some studies that noted the negative effects of note-taking (see Hale and Courtney, 1991, 1994, for example), some students in the present study - although a minority - also expressed a negative side of taking notes during test taking. Their complaints are listed below.

> *1) I missed the important parts while taking notes during the test.*

2) I was not accustomed to taking notes.
3) I felt uneasy about taking notes during the test because I might miss the contents of lectures.
4) It was difficult to understand the lectures because the talks were too fast or difficult.

One notable point is that there was some discrepancy between the students' perception of note-taking and their actual use of note-taking. In short, they did not take notes even though they praised the virtue of taking notes. Of the students in the note-taking allowed groups (i.e., A and B), about 30% answered that they did not take any notes during the tests (in Test I, 32 students (32.5%); in Test II, 27 students (29.7%)). Considering the fact that most students in the current study admitted the benefits of taking notes during the test, this discrepancy seems to serve as an excellent example of people not practicing what they preach.

In this respect, it seems necessary to think about the reasons why the students did not take notes during the testing. One of the important reasons may be the lack of skills or linguistic proficiency in taking proper notes. Although the students in the trained group were aware of the techniques of making notes, they may not be fully equipped with the automatized, or semi-automatized skills to make notes quickly and effectively under the pressure of listening, comprehending, and solving the problems. The following three students reported that they couldn't take notes because of their inability to take notes. Student B2 said that she could not take notes because the lecture was too fast for her to take notes. Student A1 said that listening and writing at the same time was too difficult for her. Student A3 confessed that insufficient language proficiency was the obstacle to her note-taking acts.

B2: *When I was in high school, I could understand the words and had enough time to take notes while testing. However, today I could not take notes because the listening texts were too fast. I did not have enough time to take notes during the test. Because I am not good at English, I need time to translate English into Korean to understand the lectures. It was impossible for me to do it this time because the listening texts were too fast to understand.*

A1: *It was impossible for me to take notes during the test. I was so busy listening to what was said. Listening and writing at the same time was hard and uneasy, so I did not take any notes during the test.*

A3: *At first, I think, I need to be more accustomed to listening. I might miss the important information to answer the questions if I did not have sufficient language proficiency to take notes. In that case, taking notes is not necessary.*

Another reason for the reluctance of generating notes in the testing situation may have to do with the nature of the tests. Majority of the test items in the present study were in a multiple choice format, with four options. In ordinary situations of listening tests, students usually try to quickly go over the printed options before or while listening to the message in order to spot or focus on the piece of information that they should pay attention to in the message. Then, busy with the scanning act over the options, the students may not have time or cognitive energy to make notes. More research is needed to exactly pinpoint this kind of obstacle to taking notes in testing situations.

2) Perceptions about the Training

(1) Positive Perceptions on the Training

As for the usefulness of the training, many students in Group A (the trained group) acknowledged its benefit. In Survey II, out of 26 students who responded to Questionnaire II, 20 students (76.9%) commented positively on the benefits of note-taking strategy training as follows.

1) *After taking classes on note-taking strategies, I could remember better during the test.*
2) *After taking lessons on note-taking strategies, I could learn and practice specific note-taking skills such as abbreviations.*
3) *After taking lessons on note-taking strategies, I could learn more effective ways of finding necessary information to answer the questions.*

In the same way, three interviewed students, B1, A1, and A4, also thought that the training on note-taking was necessary. The statements of B1 and A5 are quoted below.

> **B1:** *You mean, listening training like that? I think that it is necessary. Right now, note-taking means that I jot down something when I hear it and I only catch main ideas without any strategies. Those were about all note-taking skills I was using. Therefore, I am not always confident in listening. For me, taking lessons on note-taking strategies is good.*
> **A5:** *You mean the training about the note-taking strategies? I read the handout about permafrost you gave me. I had practiced continuously some signs and abbreviations such as "=" or "↔" since then. Using "ex" instead of "for example" was also useful during the test. I also used some abbreviations. The skills you taught me were very helpful.*

So far, many students confessed the necessity and usefulness of taking notes during the test whey they had had the training or not.

(2) Negative Perceptions on the Training

However, not all the students showed the positive opinions on the note-taking training. One of the interviewees expressed her doubt about the necessity of formal strategy training. She had lived in an English speaking country (i.e., Canada) for more than one and a half year during the fifth and the sixth grades and scored the highest on Test I. During her high-school days, she studied for iBT TOEFL. She thought that a quick, brief introduction to the tips of note-taking would be better than formal training. This is what she said:

> **A4:** *For me, I did not take official classes on note-taking skills. I was taught those skills right after completing iBT TOEFL listening as tips for just one minute. I think that kind of practice is better than taking official lessons on the note-taking strategies.*

As expected, students in general saw the usefulness of notes and note-taking strategy training. What was additionally revealed in the interviews was that the students can have different hidden reasons for their preference or reluctance to use notes or like the training. More extensive research on this psychological aspect of note-taking and its training would shed more light upon our understanding of the issue.

VI. CONCLUSION AND IMPLICATION

The Purpose of the study is to investigate the effects of the effects of note-taking and the students' perceptions in a testing situation. The significance of the present study can be claimed with two different aspects. First, as mentioned above, the present study uses more direct and concrete training on taking notes during listening. Second, the present study provides a better understanding of the students' perception through an in-depth analysis of the students' perceptions with detailed descriptions of their responses to the questionnaire surveys and interviews.

Major findings of the present study can be summarized as follows. Although note-taking and note-taking strategy training did affect the trained group's test performance, its effect was not statistically significant. However, most students generally perceived the necessity or importance of note-taking and its training, whether they were allowed to them or not. Some of the students discussed their various thoughts and reasons for the

preference or reluctance to use of notes and the training. There was also some discrepancy between the students' perception of note-taking and their actual use of note-taking; the students did not take notes although they talked about the virtue of taking notes.

Although the current study tried to comply with the general principles and rules for academic research, there are some inherent and structural factors that could affect the results of the current study. Therefore, it is necessary to identify them for the future research.

First, the small number of test items might have been insufficient to find any significant relationships or differences. The pretest had only 6 items, and Listening Tests I and II had only 12 items each. Such small numbers may not establish the reliability of the tests, which is prerequisite to the validity of the tests. The test results might have been quite different if there had been more than 20 or 30 items in each test.

Second, the practicing time was relatively short even though there were three sessions of note-taking strategy training. For a successful acquisition of the note-taking strategies, the training should be long and continuous. Winne and Mark (1980) proposed that increased instructional time and increased practicing time for note-taking strategies might make treatments powerful. Thus, many ESL programs in universities in the U.S. allow more than one week of practicing time for note-taking strategy training. Therefore, future research with additional practice time is desired to confirm this effect.

Third, the interviews should be carried out with longitudinal perspective to make the qualitative results to be more convincing, and get in-depth perceptions on the note-taking and the training. However, under some restrictions of the experimental procedures, it was difficult to execute more interviews with the participants.

The current study also shed some light on English testing and testing research. As such high-stakes tests as iBT TOEFL and IELTS have already allowed the test takers to take notes, training in note-taking strategies will deepen the test developers' understanding of the test characteristics and enable them to develop better tests. A teacher who has experience in training students in taking notes will be able to anticipate the problems that his/her students may encounter while they take listening (or reading) tests. Testing researchers will also learn more about the students' testing behaviors through the research on note-taking in testing situations.

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APPENDIX

Questionnaire I

1.이름: 2. 전공 3. 성별 4. 나이
5. 평소에 수업을 할 때 note-taking을 한다.
(1. 전혀 그렇지 않다 2. 그렇지 않다 3. 보통이다 4. 그렇다 5.매우 그렇다)
6. 평소에 영어듣기 시험을 볼 때 note-taking을 한다.
(1. 전혀 그렇지 않다 2. 그렇지 않다 3. 보통이다 4. 그렇다 5.매우 그렇다)
7. note-taking 전반에 관한 개인적인 의견이 있다면 간단하게 기술해 주세요.
8. 오늘 시험에서 실제로 note-taking을 했다.
(1. 그렇다 2. 그렇지 않다)
8-1. 오늘 시험에서 note-taking을 하지 않았다면 그 이유는 무엇입니까?

Questionnaire II

1.이름 2. 전공 3. 성별 4. 나이
5. 이전에 note-taking에 관한 강의를 들은 적이 있습니까?
(1. 있다 2. 없다)
6. 시험을 보면서 note-taking하는 것은 도움이 된다.
(1. 도움이 된다 2. 도움이 되지 않는다.)
7. 오늘 시험에서 실제로 note-taking을 했다.
(1. 그렇다 2. 그렇지 않다.)

다음은 오늘 시험을 볼 때 note-taking을 한 경우에만 답하세요.
8. 오늘 시험 보면서 note-taking 자료를 사용했다.
(1. 전혀 그렇지 않다 2. 그렇지 않다 3. 보통이다 4. 그렇다 5.매우 그렇다)
9. 오늘 시험을 보면서 note-taking을 허용하는 것이 기억하지 좋게 했다.
(1. 전혀 그렇지 않다 2. 그렇지 않다 3. 보통이다 4. 그렇다 5.매우 그렇다)
9-1. 도움이 된다면, 어떤 면에서 도움이 된다고 생각하십니까?
9-2. 도움이 되지 않는 다면, 그 이유는 무엇입니까?
아래 사항은 note-taking 강의를 들은 경우에면 답하세요.
10. Note-taking전략에 관한 강의를 들은 후에 시험을 보는 것은
(1. 도움이 된다 2. 도움이 되지 않는다)
10-1. 도움이 된다면, 어떤 면에서 도움이 된다고 생각하십니까?
10-1. 도움이 되지 않는 다면, 그 이유는 무엇입니까?

Examples in: English
Applicable Languages: English
Applicable Levels: College

Junghyun Kim
Seoul Theological University
52 489th St. Hoyhyun-ro Sosa-gu Bucheon-si
Gyeonggi-do, 422-742, S. Korea
Tel: 032, 340-9574
Mobile: 010-9085-9444
Email: selinainse@stu.ac.kr

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