



## Cornell Not Alma Tekniğinin Lise Öğrencilerinin Dinleme Becerisi Üzerindeki Etkisi

### The Effects of Cornell Note-taking Method on High School Students' Listening Skill

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#### Öz

Not alma teknikleri dinleme anlama yeteneğini güçlendirmede en etkili bilişsel tekniklerden biri olduğu düşünülmektedir. Birçok not alma stilinin arasından, Cornell yöntemi bilgiyi geri alma ve elde etme konusunda en yaygın kabul gören teknik olmuştur. Dinleme becerisi yabancı dil öğrencileri için zorluk yaratan bir konu olarak algılandığından not alma bu soruna olası bir çözüm olarak görülmüştür. Bu nedenle, bu çalışma lise öğrencileri üzerinde zaman serisi tasarımı araştırma modelinde not alma etkisini keşfetmeyi amaçlamaktadır. 25 öğrencinin dinleme anlama yetenekleri müdahaleden önce 4 kez ve müdahaleden sonra 4 kez test edilmiştir. Yapılan istatistikler ve anket sorularına verilen yanıtlar, Cornell not alma yönteminin dinleme anlama seviyesini artırmadığını gösterdi. Anket sorularına verilen cevaplar, öğrencilerin düşük dil yeterliliğinden dolayı dikkatlerini not almaya ayırmadıklarını göstermiştir. Ayrıca bazı eğitimsel çıkarımlar ve araştırma önerileri de sunulmuştur.

**Keywords**  
English Language Teaching, Listening Comprehension, Cornell note-taking

#### Abstract

Note-taking is one of the most influential cognitive techniques to help strengthen listening comprehension. Out of many styles of note-taking, Cornell has been the most commonly accepted technique to retrieve and attain information. As listening comprehension is perceived to be problematic for learners in the EFL context, note-taking is a probable solution. Therefore, this study aimed to explore the effect of note-taking on listening comprehension in the case of high school students in the research design of time-series design. Twenty-five students' listening comprehension was tested four times before and four times after the intervention. The statistics and responses to the questionnaire showed that Cornell note-taking did not increase listening comprehension. On the grounds of the questionnaire items, students' low level of linguistic proficiency could not spare them some space to allocate their attention to note-taking. Some educational implications and research suggestions were also provided.

**Anahtar Kelimeler**  
İngiliz dili eğitimi, Dinleme becerisi, Cornell not tutma tekniği

**Başvuru Tarihi/Received**

02.05.2024

**Kabul Tarihi /Accepted**

24.05.2024

**|Araştırma Makalesi / Research Article|**

**Kaynakça Gösterimi:** Gökmen, M. F., Akyol, M. M. ve Sevinç, K. (2024). Cornell not alma tekniğinin lise öğrencilerinin dinleme becerisi üzerindeki etkisi. *Giresun Üniversitesi Eğitim Fakültesi Dergisi*, 1(1), 48-57.

**Citation Information:** Gökmen, M. F., Akyol, M. M. & Sevinç, K. (2024). The effects of cornell note-taking method on high school students' listening skill. *Giresun University Journal of Faculty of Education*, 1(1), 48-57.

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## INTRODUCTION

Language education is a comprehensive process involving four foundational skills: listening, speaking, reading, and writing. However, some educators underestimate and skip listening activities during the teaching process. Listening is an active skill and encompasses cognitive skills involving other functions related to thinking, reading, learning, remembering, reasoning, and so on. One of these functions is note-taking. Taking notes is an effective method for combining all of these abilities and tasks. Peper and Mayer (1978) state that taking notes is one of the generative skills that offers a valuable framework for improved learning and retention.

It is hard for learners to memorise or keep the key points in a listening text in their memory; therefore, they need to take notes for retention. Since every language learner has a unique set of cognitive abilities, there are numerous approaches to taking notes. Students can be taught a more methodical note-taking technique or take notes personally. Taking notes involves numerous mental processes simultaneously (Piolat et al., 2005). In addition to understanding the content and paying attention to the teacher, the students must also prioritise what needs to be written in their notes, how to plan out the actual writing, and how to recognise what needs to be noted. The fact that learners need to be able to retain the main ideas and go into further details while simultaneously listening to their teacher complicates the process of note-taking. Empirical evidence indicates that individuals generally speak at a speed higher than their writing or typing speed. As a result, retaining the lecture's content and jotting down relevant information before the instructor passes to the next topic becomes a formidable challenge. This could be best compensated for by taking lecture notes to remember and combine all the information.

The Cornell note-taking method provides students with a methodical approach to capture and review information. It is a widely embraced method for capturing, organising, and summarising notes, known to enhance overall comprehension. Originating in the 1950s, this approach was pioneered by Professor Walter Paul at Cornell University. According to this note-taking method, the steps are as follows: the central area is used for taking initial notes, while the left-hand section is used to name each concept and detail with a keyword or "cue." Because of the left margin on the page, there is more space to take notes on the right side. Notes are taken in the large right part during the listening activity. Students leave gaps to fill in later while the lecturer moves on to the next lesson. They do their best to fill in words and sentences after class. Students must provide a cue in the left margin for each significant piece of information. A card conceals the notes during the review, revealing only the cues and effort, but it can also be customised for any lecture type. Students try to remember as much information as possible by reading the cues, then remove the card to confirm their memory. Because of its easy-to-use style, which makes extracting key concepts and ideas more accessible, this method is efficient, time and effort-saving, and flexible enough to be used in any lecture setting. Given the rationale behind Cornell note-taking, this study aims to answer two research questions by delving into research in an educational context to examine the effect of this note-taking style:

1. To what extent does the utilisation of the Cornell note-taking method affect listening skills?
2. What do the participants reflect on their experience with Cornell note-taking?

## Literature Review

Listening is and should be the first and foremost input for language learners to match the written and spoken words in English and improve their linguistic proficiency by being exposed to the target language. This input could be most beneficial if the aural input is put into written form. There are many ways to take notes; one can use the individualised note-taking method, and others can use the Cornell note-taking method. Some researchers indicate that the Cornell note-taking method is more effective for students, although some emphasise the importance of individualised note-taking strategies. The Cornell Note-Taking Method is widely embraced for capturing, structuring, and summarising notes, improving

overall understanding. On the other hand, in some situations, taking personalised notes helps remember later. Individualised note-taking contains cognitive skills that help learners internalise and remember information for later use. Note-taking promotes critical thinking, communication, and creativity. Trying out different methods and determining which works best in different situations is helpful. So far, many investigations have been conducted on the effect of Cornell note-taking on students' listening comprehension.

Hayati and Jalilifar (2009) aimed to investigate the relationship between note-taking strategy and students' listening comprehension ability. Sixty participants majoring in the English Translation Department in Iran were divided into three groups: non-note takers, who did not take notes; uninstructed note-takers, who took notes in their styles; and Cornell note-takers, who were trained on how to take notes in an organised way with the help of Cornell note-taking method. The results showed a clear link between note-taking strategy and listening comprehension ability. Moreover, another important finding of this study was that Cornell note-takers were considerably better than the other two groups. In the South Asian context, to investigate the effects of the Cornell note-taking method and individualised note-taking language on Taiwanese college students' English listening comprehension of short conversations and long lectures, Tsai-Fu and Wu (2010) conducted an experimental study. The results unveiled that instruction and practice of the Cornell note-taking method positively influenced comprehension of both texts irrespective of note-taking language. On the other hand, taking notes in English was more effective than taking notes in students' mother tongue when perceiving both types of texts.

Another study was conducted by Al-Ghazo (2023), who investigated the impact of note-taking strategy on listening comprehension in an experimental design by having an experimental and control group of 40 participants each in Jordan. The results proved the effectiveness of note-taking, especially in favour of female students. Stahl et al. (1991) state that the Cornell Method is among the most effective methods, and it has proven helpful in training students to encode and then study large amounts of complex and unfamiliar content. According to Stahl et al. (1991), lecture note-taking influences the academic success of the high school and college students. Eidson (1984) believes general note-taking procedures may be more effective than specific methods because they consider individual student differences. Dembo (1994; cited in Haghverdi et al., 2010, p. 87) emphasises that notes are helpful to learners if they add some personal expressions by stating that "take brief notes in your own words so that the main points be included, organised, and meaningful to you". Foos et al. (1994) found that students retain self-generated materials longer than those created by others after performing two studies with 260 university students to examine the impact of self-generated materials. According to a study by Ramadhani et al. (2020) with first-grader students, implementing the Cornell note-taking strategy proved more efficacious in enhancing students' listening comprehension than those instructed without employing the Cornell note-taking method. This research suggests a conclusive finding that students taught using the Cornell note-taking strategy exhibit higher scores than their counterparts who did not use the Cornell note-taking method.

The efficacy of the Cornell Note-taking Method as a valuable study tool in listening classes is substantiated by research conducted by Syafi'i (2019). This finding aligns with the research conducted by Faber et al. (2000), which demonstrated that students instructed using the Cornell method achieved markedly higher scores than their counterparts who did not receive instruction using this method. While most of the studies were conducted in higher education institutions, it is also essential to make students acquire note-taking skills in lower-level educational institutions to prepare them for the lectures at the universities (Aydın, 2022). Furthermore, most studies were conducted using summative assessment by administering pre-tests and post-tests, but listening needs to be assessed in a formative way. The research was conducted by Bayat et al. (2017) on the persistent effect of formative assessment on EFL learners' anxiety and listening proficiency. After conducting the post-test and analysing the data using a t-test, the researchers discovered that formative assessment improved learners' listening skills.

Additionally, the results demonstrated that incorporating this approach positively influenced the improvement of the learners' listening skills. Implementing formative assessment revitalises training and teaching methods, enhancing the learning experience. Therefore, this study collected Cornell note-taking students' test scores weekly to meet the formative assessment requirements.

In the Turkish context, a study was implemented through a pre-test/post-test design with a control group by Şahin, Aydın, and Sevim (2015) to reveal the effect of the Cornell note-taking method on twenty-two undergraduate Turkish Language Teaching university students' listening and retention ability. Researchers indicated that note-taking while listening immensely impacts understanding and retaining information. In addition, the results showed a definite difference between the two groups in listening comprehension according to statistical analyses. A recent study in a similar context was conducted by İpek (2018) to determine the perceptions of sixty-one English Language Teaching first-year students' note-taking and listening skills. The results ascertained that most students improved their success rate in listening tasks with the help of note-taking strategies taught to them during the experimental study. On the other hand, they were observed to have improved some sub-skills, such as pronunciation, and noticed different accents not in the course syllabus at the beginning of the study. Karatay and Uzun (2019) investigated the effect of a selective listening strategy on twenty-three 5th-grade bilingual students' note-taking and summarising skills using an in-class action research design. Results disclosed that students improved their comprehension skills, and no regression in students' note-taking and summarisation skills was observed even four weeks after the post-test. Furthermore, increased students' attention and interest was another significant study finding, as indicated by the teachers who worked with the students. Şahin et al. (2015) suggest that students should learn note-taking, especially The Cornell Note-taking Method, beginning from their early years of education to gain better listening habits, improving their academic success in understanding and retaining information. Karadağ et al. (2022) found that the Cornell Note-Taking Technique allowed students to organize information, and they experienced the most convenience in identifying keywords without having to write a full sentence. However, it was observed that 10 students could not write the summary part. According to their study, fifteen students successfully utilized the summary, notes, and tips components of the Cornell Note-taking Method, and seventeen students took brief notes using their own words. Effectively applying the method meant that one student with the highest score summarized, used keywords, and showed understanding, while another student who received the lowest score didn't use all the sections; instead, they just provided a summary. Some students found it difficult to keep their notes organized while they were listening, making it challenging to apply the Cornell Note-Taking Method correctly. Based on a quantitative study conducted in 2021 by Maulidia et al. with students in the English Department at Syiah Kuala University, the researchers concluded that the Cornell Note-Taking Method can address the problems encountered by the students. It has been noted that following this strategy's implementation, students could produce more listening comprehension responses. Quintus et al. (2012) conducted an action research study in a high school Family and Consumer Sciences class to examine the effects of the Cornell Note-Taking Method. The study found no statistically significant differences in student performance between the intervention and non-intervention groups. Learning styles, note-taking resistance, and the lesson's nature were all possible barriers.

### **Theoretical Framework**

The rationale of this study lies within cognitive theory, which highlights cognitive strategies to manage learning. Vandergrift (1997) proposed a set of cognitive strategies for enhancing listening comprehension. One of those strategies is note-taking to help listeners remember and combine the information received from listening texts. Britton et al. (1982) state that note-taking involves cognitive processes that enhance the development of various skills such as copying text, learning incidentally, intentional learning, reading sentences and texts, note-taking during lectures, composing written content, translating, revising, and planning. One of the most suggested note-taking models is Cornell note-taking. Note-taking is not a skill that can be achieved all at once; on the contrary, it needs practice

and experience that should start from the high school years to prepare students to listen and comprehend the lectures at the university level. However, there is a scarcity of research conducted at the high school level, as Aydın (2022) found. Therefore, this study aims to see the effect of Cornell note-taking methods on high school students in listening activities. Only one study was found to have studied Cornell note-taking in listening skills in Turkish high schools (Karadağ et al., 2022).

## **METHODOLOGY**

The research design is a time-series design (Fraenkel & Wallen (1990), which involves recurrent measurements over a period of time before and after an intervention, taking one-group pre-test and post-test design one level beyond. Therefore, learners' listening comprehension was tested weekly for four weeks before and after the treatment. The rationale behind adopting formative multiple-time testing lies in the suspects regarding the credibility of one-shot pre-tests or post-tests (Goh, 2023). The study was conducted with second grader high school students in Türkiye in the academic year of 2023-2024 in the case of a listening course.

### **Setting and Participants**

Twenty-five 10th-grade high school students voluntarily participated in this study to meet the convenient sampling. All participants were between 13-15 years old. Out of 23 participants, 15 were females and 8 were males. They received necessary instructions from one of the researchers for taking notes utilising the Cornell note-taking method after the fourth week of the study when the first treatment started. They had 4 hours of English classes per week and 1 hour out of 4 hours was exclusively separated for listening skills, as suggested to be one of the main principles in teaching listening in the classroom (Brown & Lee, 2015).

This study began with listening comprehension tasks from the Skills Based Activity Book created by the Turkish Ministry of Education for 10th-grade high school students. All of the students did the same tasks for the whole study. Listening comprehension tasks mainly consisted of intensive, selective, and extensive listening tasks that were added in two parts. Before the audio started, the students analysed each item in the pre-task with the teacher's help and translated it into Turkish, if needed, so that the students could clearly understand what they were supposed to do. Furthermore, instructions were also given in students' first language when needed. Participants were asked not to take notes for the first four weeks while listening to the audio. They were allowed to listen to the audio only once and were given some time to complete the tasks.

In the fifth week, the group was introduced to the Cornell note-taking method with the help of PowerPoint slides and video clips. An example template of Cornell note-taking was also diagrammed on the whiteboard, highlighting the benefits of the method for listening tasks in English courses and lectures from other courses. After being taught how to use the Cornell note-taking method, they were given listening tasks for another four weeks and asked to take notes using Cornell. The hand-outs given to the students were collected each week and checked by the teacher because the study was based on formative assessment. At the end of the eighth week, students were given a questionnaire consisting of 8 questions to check their perceptions of note-taking before and after this research study.

### **Data Analysis Procedures**

The single group's pre-and post-test results were examined and contrasted in terms of how well the pupils performed on listening comprehension assignments. Descriptive statistics such as mean, frequency, and standard deviation and inferential statistics such as paired sample t-tests were used. Students' opinions regarding note-taking methods were also consulted by examining the means of each item. The ethical committee of Siirt University approved the administration of this study with the approval number of 6347 at 01.02.2024.



## FINDINGS

To find an answer to the question of the extent of the effect of Cornell note-taking on listening skills, we consulted descriptive statistics, including mean scores and standard deviations and inferential statistics for the significance of the results. Twenty-two students answered the listening activity test questions for eight weeks during data-gathering. Students did not use the Cornell Note-taking Method in the first four weeks. After being introduced to the Cornell Note-taking Method, they used it for four weeks. The results of the tests were analysed in terms of means, frequency, and standard deviation scores. The pre-test and post-test scores obtained by the same group were analysed using the SPSS software 21<sup>st</sup> package using the paired samples test to establish whether there were significant differences between the pre-test and post-test scores of participants in the same group at the 0.05 alpha level (see Table1).

**Table 1.** Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Post-test	200.27	22	68.71	14.64
	Pre-test	187.40	22	60.85	12.97

The results demonstrated no meaningful difference between the group's pre-test and post-test scores. It is revealed that the participants' test scores did not improve after using the Cornell Note-Taking Method.

**Table 2.** Pre-test and Post-test Results

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	posttest - pretest	12.86	73.25	15.61	-19.61	45.34	.824	21	.419

The mean scores of 22 high school students' pre-tests and post-tests were compared in a matched samples test to determine whether or not The Cornell Note-Taking method improves students' listening abilities. Pre-test and post-test scores were positively correlated ( $r = 0.366$ ,  $p < 0.419$ ) (see Table 2). There is not a statistically significant difference between the pre-test ( $M=200.2$ ,  $SD=68.71$ ) and post-test ( $M=187.4$ ,  $SD=60.85$ ) results with regard to Cornell Note-Taking method ( $t(21) = 0.824$ ,  $p > .005$ ). The positive mean of paired differences ( $M=12.86364$ ) indicates that, on average, the post-test scores are higher than the pre-test scores, but there is not a significant difference ( $p > 0.05$ ).

**Table 3.** Participants' Opinions Regarding Note-Taking Practice in a Survey

	N	Sum	Mean	Std. Deviation
2. Taking notes made it easier to remember the lecture information.	21	58.00	2.76	1.13
4. Taking notes helped me listen carefully to the lectures.	21	60.00	2.85	1.23
1. Taking notes helped me to answer the questions better than if I had not been able to take notes.	21	61.00	2.90	1.04

7. I wanted more time to review my notes before answering the test questions.	21	63.00	3.00	1.30
8. I used my notes when answering the test questions.	21	68.00	3.23	1.33
3. I felt more at ease when I could take notes than when I could not.	21	68.00	3.23	1.17
6. Taking notes distracted me from paying close attention to the information in the lectures.	20	65.00	3.25	1.20
5. Taking notes helped me to understand the lectures.	21	72.00	3.42	.81
9. I remembered enough of the lecture to answer the test questions without taking notes.	21	73.00	3.47	.98
Total scores	20	567.00	28.35	5.15

The descriptive statistics obtained by the participants in the survey received from Kılıçkaya and Çokal-Karadaş(2009) are shown in Table 3. Participants were asked to rate statements on a survey. Participants generally felt that taking notes improved their comprehension of the lectures and made it easier for them to respond to exam questions.

"Taking notes made it easier to remember the lecture information" is the statement with the lowest mean score ( $M=2.7619$ ). Most claims were marginally agreed with or neutrally accepted by participants on average. According to the survey, participants needed more time to review their notes before answering the test. The answers to the survey's second, fourth, and first questions indicated that the participants disagreed that taking notes made it easier to remember the lecture information. The participants stated in the 7<sup>th</sup> question that they needed more time to review their notes before answering the test questions. The answers to the 8<sup>th</sup> question of the survey showed that most of the participants used their notes to answer the test questions. According to the third question of the survey, the participants felt more at ease when they could take notes than when they could not. Taking notes distracted them from paying close attention to the information in the lectures according to the answers to the 6<sup>th</sup> question. The higher mean scores for those statements suggest that taking notes is often helpful for understanding lectures and answering exam questions. According to the statement with the lowest mean score, participants are not as likely to think that taking notes helps them recall what they learned in a lecture.

## DISCUSSION

This study aims to determine whether high school students' pre-test and post-test scores differed significantly regarding their use of the Cornell Note-Taking Method in listening skills. Furthermore, the results aim to clarify significant differences in the note-taking methodologies of high school pupils who employ the Cornell Note-Taking Method vs those who do not while doing listening exercises, as well as the participants' perspectives regarding their note-taking practices.

The findings showed no significant difference in the pre-test and post-test scores of the students. It means that the Cornell Note-Taking Method did not contribute to their listening skill and comprehension of listening texts. There can be different factors causing this weak correlation between the Cornell Note-Taking Method and listening proficiency. Students' notes on their test papers showed that this method could be effective in different fields of study but not in English since students' attention

is directed towards decoding aural words, not comprehension, due to their low linguistic proficiency. In addition, young learners' background knowledge, dialect and accent differences, pronunciation of the speaker, speed of the listening text, lack of exposure, limited interactive practice, and low level of motivation may be some of the other intervening factors.

Information attained from aural texts can be reformed in an organised manner with the Cornell note-taking method. This style may facilitate the process of encoding and remembering essential details by helping pupils make sense of the material they are hearing. Practical listening skills require focus and concentration to actively listen and summarise information in real-time using the Cornell Note-Taking Method in listening texts. However, memory limitations constitute a significant issue with this kind of test, particularly since L2 listeners frequently have to focus so much on understanding what is said. Some academics suggest taking notes to help the listener remember what they have understood to solve this issue (Dunkel & Davis, 1994). However, some scholars contend that the psychomotor process of taking notes can lead to the listener missing out on important details of the text (Alderson & Banerjee, 2002; Vogely, 1995). The notes written by the students on the text papers supported Alderson and Banerjee's idea. Some students wrote that they missed the critical parts of the listening text while trying to write notes in an organised manner. They stated that they had more confidence if they saw the questions directly. Due to their inadequate second language proficiency, students in this study found it difficult to take notes synchronously while listening to audio. According to a study by Karadağ et al. (2022), students would take notes while listening to the audio on a different page and then arrange the data using the Cornell note-taking technique. While Maulidia et al. (2021) showed that the Cornell note-taking strategy improved students' hearing comprehension, Gur et al. (2013) indicated that taking notes while listening to audio had a favourable effect on students' listening comprehension. It's important to keep in mind, though, that the participant demographics of prior studies differ from those of the current research because those participants were either native speakers or had a higher degree of linguistic proficiency.

## CONCLUSION

In this study, we presented the Cornell Note-taking Method to see whether it is effective or not on the listening comprehension skills of high school students. By testing the effect of this method, this study established that students' test scores did not increase with the Cornell Note-taking Method, although they stated in the final survey that taking notes helped them understand the lectures.

The listening task types used in this study, the speed of the speaker, and the difficulty level of the vocabulary may be some challenging factors for high school students. Group size, students' background knowledge of the target language, and using a new method for a skill that is hard for them may be some limitations of this study. Although most of the students indicated that the Cornell note-taking method helped them to understand lectures in their L1, the results show that the Cornell Note-taking Method might be useful for higher proficiency level students, while it is likely to be more challenging for lower proficiency students since they have to focus on both listening and taking notes at the same time as second language learners. According to the findings, further research is suggested that the efficacy of the Cornell Note-taking method can be evaluated by examining whether a bigger sample size might reveal a statistically significant correlation. Additionally, the study could be improved by adding control and experimental groups. More longitudinal studies could be conducted as four weeks of note-taking practice might not have sufficed to improve students' listening comprehension.

For educational implications, it is essential to note that students should be provided with practical listening training and then introduced to note-taking methods. Educators should provide practical listening training to students to enhance their efficiency in adopting new note-taking techniques. In the ELT programs, teacher candidates could also be equipped with note-taking methodologies for their teaching practice.



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