



## Analyzing Speech Rate in CSAT Listening Comprehension: From the Perspectives of Washback Effects and Learning Transfer

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\* This study is an updated and extended study based on the author's master's thesis.

### ABSTRACT

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This study aims at investigating the speech rate of CSAT (College Scholastic Ability Test) listening comprehension part, a national university entrance exam. In fact, it is not hard to find Korean EFL learners having difficulties in comprehending authentic speeches, although they learn English in schools for ten years. Among many factors that cause the difficulties, speech rate has been known a factor that affects L2 listening comprehension and CSAT listening comprehension part tends not to reflect the authentic speech rates. Therefore, this study analyzed the speech rate of CSAT listening comprehension. As a result, it was found that CSAT has exposed Korean EFL learners to listening input of which speech rate is comparatively slow, which makes it hard for Korean EFL to develop their ability to comprehend speeches in authentic listening situations. The results suggest that varying the degree of speech rate in CSAT listening comprehension can be a possible solution with the consideration of learning transfer and washback effects of CSAT. Varying degrees of the speech rate in CSAT is expected to provide Korean EFL learners with chances to be exposed to speech rates that they are expected to face in authentic listening situations with washback effects of CSAT. In addition, it will lead Korean EFL learners to be able to comprehend authentic speeches through learning transfer.

### KEYWORDS

CSAT listening comprehension, L2 listening comprehension, speech rate, learning transfer, washback effects, L2 listening assessment

## 1. Introduction

'English fever' is an expression which describes Koreans' passion for learning English. It was reported that more than 4.9 billion U.S. dollars were spent on private English education in 2018 (H.-S. Lee 2019). In fact, CSAT (College Scholastic Ability Test) English, a university entrance exam in Korea, has been administered in a criterion-referenced way since 2017 with the purpose of lessening competition among students and burden of much spending on private English education. It was from the consideration of the importance that CSAT has in Korean education. However, the spending on private English education did not stop increasing (Shin 2020). The worse problem is that Korean students still have problems in English communication despite the astronomical amount of spending. It is not hard to find Korean people who cannot understand authentic utterances by English speakers. Considering that one of the purposes of English teaching suggested in the Korean national curriculum is to make students able to communicate with English speakers, this fact shows bigger problems of Korean English education. In other words, learning English for 10 years in schools might not be enough to achieve the goal of English education.

Additionally, CSAT is well known for its strong washback effects (Kim 2014, Park 2016). In other words, many Korean EFL learners tend to learn English with the purpose of getting a high grade in CSAT in order to enter so-called "good universities". Although studying to test cannot be always helpful for students' genuine development, it is undeniable that CSAT is one of the main target of English learning among Korean EFL students and teachers by using CSAT preparation materials (Jung 2006).

Given that communication cannot be accomplished without understanding, listening and reading skills are a starting point of communication. Therefore, the current CSAT focusing on assessing receptive skills seems plausible. However, how CSAT assesses receptive skills does not seem to reflect authentic communicative abilities appropriately. For example, speech rates of CSAT listening materials are not reflecting speech rates of authentic communications properly, which can threaten validity of CSAT (Song 2013). Also, it was found in Choi (2010) that students perceive the speech rates of CSAT listening comprehension part are slow. In addition, CSAT English listening comprehension part has been in the same format for a long time (Lee 2016). With this background, this paper will analyze how the speech rates of the CSAT English listening part have been changed over 21 years and show what categories the speech rates belong to. Then, based on the results, possible solutions for the situation will be suggested.

## 2. Literature Review

Listening has been regarded as a less important skill to teach and learn and even neglected in language learning (G. Brown 1987, Osada 2004), although it accounts for a bigger portion of communication and is used more often than other language skills (Field 2009, Morley 2001). This kind of indifference to listening is also found in the Korean English education situation.

In CSAT, which consists of a listening section and a reading section, listening comprehension questions take only about 37% of the entire exam (Lee 2016). Because of the small portion listening comprehension questions take, both teachers and students tend to refrain from endeavoring for listening comprehension. Given that the CSAT's strong washback effect (i.e., the impact of testing on teaching practices and learning behaviors) (Choi 2008), it seems natural that listening comprehension in secondary school is done to prepare students for the CSAT listening comprehension part with a limited time. In addition, despite the small amount of time and effort for listening comprehension, students

consider the listening comprehension part easy (Choi 2010). Therefore, the limited attention to listening comprehension in Korea's English education system may be seen as unproblematic. However, both as a student and a teacher, I have seen Korean EFL learners facing difficulties in authentic listening situations even after learning English in schools for 10 years and it leads us to think about CSAT listening comprehension again.

One way to re-focus attention on listening comprehension is to ask what makes Korean EFL learners, even those who are good at CSAT listening comprehension, feel authentic listening difficult (Choi 2008). Although there are obstacles that make learners find it difficult in authentic communication situations, speech rate might be the most challenging factor in real-life communication (Goh 1999). In fact, previous studies pointed out speech rate as a factor which affects listening comprehension considerably.

A fundamental feature of listening is that it is a transient and ephemeral phenomenon happening in real time. Therefore, listening is nearly impossible to repeat and listeners usually cannot control what they are listening (Underwood 1989). That is why "listeners must process the text at a speed determined by speakers, which is generally quite fast" (Osada 2004, p. 58), in order to communicate fluently. That is, speech rate is a factor which definitely affects listening (Bloomfield et al. 2010, Shohamy and Inbar 1991). For example, Choi (2010) reports that students tend to find listening tests easy when listening to slower listening materials and vice versa. In addition, Zeng (2007) reports that speech rate is a source of listening problems for Chinese EFL students. Furthermore, there is some previous research that show how speech rate affects listening comprehension. Although Blau (1990) shows a case that intermediate and advanced L2 learners were not affected by speech rate much, L2 learners comprehended better with slower materials and worse with faster materials (Griffiths 1992, Rader 1990, Zhao 1997). For instance, Griffiths (1992) found that texts spoken at a slower speech rate (about 100 words per minute (WPM, henceforward)) was more comprehensible than texts with a fast rate (about 200WPM). In addition, Zhao (1997) showed that the participants performed better when they could control the speech rate of the input with a tendency of making speech rate slower from the original speed. In other words, faster speech rates make learners have difficulties in understanding oral input. Therefore, in order to be proficient L2 listeners, EFL learners should prepare themselves for speech rates which they cannot control.

Until now, previous studies about L2 listening comprehension and speech rate are introduced. From the next section, based on the literature review, the status of speech rate of the CSAT listening materials and how to deal with the current status from the perspective of learning transfer and washback effect would be suggested.

### **3. Research Method**

#### **3.1 Research Question**

As mentioned, speech rate is regarded as an important aspect that affects students' listening comprehension. Therefore, it is important to analyze speech rate implemented in CSAT considering the possibility of learning transfer related to speech rate and strong washback effects of CSAT in Korea. Therefore, this study investigated how speech rate is reflected in CSAT listening comprehension. The research question was as follows:

RQ: What is the speech rate of CSAT's listening material?

Along with the calculated data for speech rate of CSAT, the criteria provided by Pimsleur et al. (1977) were used in order to categorize speech rate.

**TABLE 1. WPM Criteria for Deciding the Degree of Speed**

Degree of Speed	Words Per Minute (WPM)
Fast	Above 220 WPM
Moderately fast	190-220 WPM
Average	160-190 WPM
Moderately slow	130-160 WPM
Slow	Below 130 WPM

Table 1 presents WPM criteria for natural speeches by native speakers of English. That is, when a native speaker speaks 190 words per minute, listeners would consider the speech is ‘moderately fast’. The rationale of using the criteria in the current study is from the consideration of the target listening situations. Korean national curriculum describes that one of the goals of English education is to develop students’ communicative ability. In other words, once Korean EFL learners finish taking English classes in schools, they are expected to be able to communicate in English. Therefore, they should be able to comprehend speeches that might reflect the criteria above. Additionally, the survey in Choi (2010) suggests that test takers think that the speech rate of CSAT listening material is slow. Therefore, this study investigated the status of speech rate included in CSAT listening materials by comparing the speech rates of CSAT listening materials with the criteria.

### 3.2 Materials

To investigate the speech rate used for CSAT listening comprehension part, listening materials for the actual CSAT listening comprehension were analyzed. As a brief explanation about CSAT English, it consists of two different parts, a listening comprehension part and a reading comprehension part. The listening comprehension part includes 17 items, except for the CSAT for school year 2014 with 22 items. Korea Institute of Curriculum and Evaluation (KICE, henceforward), which is in charge of developing and administering the test, provides test materials for the previous tests online, such as exam papers, listening materials and listening comprehension scripts. Although the first CSAT was administered for the school year 1994, KICE provides the audio files and the scripts from the test for school year 2001. Therefore, listening materials of previous 21 CSATs from CSAT for 2001 to 2021, 362 items in total, were analyzed in terms of speech rate.

### 3.3 Analysis for Speech Rate

For the analysis for speech rate, WPM was used as a way to show speech rate, therefore, the formula of ‘the number of words / the allotted time \* 60’ was used to calculate how many words would be spoken in a minute with the speed for each item. The calculation of the allotted time for each item was made by starting from the time speech starts and by finishing at the beginning of the alarm that indicates to test takers that the item’s speech has finished. In addition to WPMs of every single item from CSATs for the previous 21 years, the average WPMs of each test would be also analyzed in order to show the tendency of speech rate of the past CSATs. In the results section, WPM data for the slowest item and the fastest item of each test and the average WPM of each test will be provided. Detailed data for WPM analysis such as the number of words per item, the allotted time per item and WPM for every single item will be provided in the appendix.

With the WPM analyzed, correlational analyses were implemented in order to see whether speech rate is a factor affecting difficulty of listening in CSAT as previous studies showed. Therefore, correlation between the average WPM of CSAT of each year and indicators of the comparative difficulty of CSAT English, either the percentage

of students who received full scores for norm-referenced CSATs or the percentage of students who received the first grade (i.e., the highest grade category) for criterion-referenced CSATs, were analyzed. As KICE does not provide detailed statistical data to public, the difficulty of the entire CSAT English was assumed to reflect the influence of speech rate.

## 4. Results

### 4.1 Speech Rates of CSAT Listening Comprehension Parts

Table 2 presents the WPMs of the slowest and the fastest items and the average WPMs from the test for school year 2001 to 2021.

**Table 2. WPM Data for CSAT for 2001 to 2021**

	The slowest (WPM)	The fastest (WPM)	Average WPM
CSAT for 2001	104.29	152.00	139.74
CSAT for 2002	120.00	160.65	141.90
CSAT for 2003	100.00	142.94	132.20
CSAT for 2004	111.43	161.05	144.35
CSAT for 2005	114.10	155.51	135.67
CSAT for 2006	105.00	163.90	141.44
CSAT for 2007	95.29	156.59	135.60
CSAT for 2008	103.40	161.74	138.19
CSAT for 2009	111.25	157.33	136.90
CSAT for 2010	114.86	156.52	138.56
CSAT for 2011	115.26	173.62	151.52
CSAT for 2012	115.00	160.00	144.89
CSAT for 2013	124.29	160.00	143.96
CSAT for 2014	128.18	150.00	139.57
CSAT for 2015	130.00	164.40	145.40
CSAT for 2016	123.53	164.71	147.49
CSAT for 2017	118.00	156.92	141.79
CSAT for 2018	118.98	164.00	141.58
CSAT for 2019	141.92	162.50	152.15
CSAT for 2020	140.00	164.68	151.75
CSAT for 2021	128.80	163.33	147.65

*Note.* CSAT English had been administered in a norm-referenced way until the CSAT for 2017 and has been administered in a criterion-referenced way since the CSAT for 2018.

As the table shows, the slowest items' speech rate ranges from 95.29 to 141.92. According to the criteria by Pimsleur et al. (1977), the slowest items from 18 tests, except for the CSAT for 2015, 2019 and 2020, were found to belong to the category of 'slow' and the slowest item of the rest three tests had a WPM which belongs to 'moderately slow'. On the other hand, the WPMs for the fastest items range from 142.94 to 173.62. As the criteria

by Pimsleur et al. (1977) defines the average speed of natural speech as 160 to 190 WPM, 13 out of 21 fastest items (CSAT for 2002, 2004, 2006, 2008, 2011, 2012, 2013, 2015, 2016, 2018, 2019, 2020 and 2021) were categorized as ‘average’ with the WPM over 160 each. The rest of the slowest items (CSAT for 2001, 2003, 2005, 2007, 2009, 2010, 2014 and 2017) were found to be categorized as ‘moderately slow’. In terms of the average speech rate, it was found that all 21 exams had the average WPM which belongs to the category of ‘moderately slow’ without any exception.

In the table, there are some interesting figures found among the slowest items (i.e., “The slowest” column). First, the slowest items of CSAT for 2007 had 95.29 WPM, which was the only item whose speech rate was lower than 100 WPM. In other words, it was *the* slowest item among the 362 items in the 21 CSATs analyzed. If the category of ‘slow’ could be divided more minutely, then the item could have been categorized as ‘very slow’. Second, the slowest item of CSAT for 2015, 2019 and 2020 are noticeable in that they are the only slowest items that belong not to ‘slow’ but to ‘moderately slow’. More specifically, the slowest items for CSAT for 2019 and 2020 had a WPM over 140 (141.92 and 140.00 each). The slowest item for CSAT for 2019 was found to be the fastest item among the 21 slowest items. In addition, considering the fastest item of CSAT for 2003 had 142.94 WPM, slowest items with a WPM over 140 seem remarkable.

On the other hand, there is also a remarkable figure among the fastest items (i.e., “The fastest” column). As mentioned, all the fastest items belong to either ‘average’ or ‘moderately slow’. Among 13 fastest items belonging to ‘average’, the item of CSAT for 2011 whose WPM was 173.62 should be explained. In terms of the category, the figure belongs to ‘average’ as some other fastest items do. However, this item is the only item whose speech rate was over 170 among 362 items from all previous exams analyzed, which means that this item is *the* fastest item among CSAT listening items analyzed.

Furthermore, it is necessary to look into three figures among the average WPMs (i.e., “Average WPM” column). There were only three cases of the average WPM over 150 (CSAT for 2011, 2019 and 2020). What is in common among these three CSATs is that they have a conspicuous figure either in the slowest item or the fastest item. As mentioned, the fastest item of the CSAT for 2011 was the fastest item among the entire set of items and the slowest items of the CSAT for 2019 and 2020 were the first and second fastest items among the slowest items. Therefore, it might be possible to think that the fastest items either among the fastest items or the slowest items result in the fastest average WPMs.

Additionally, according to Table 2, a pattern of increased average speech rate since CSAT for 2019 is found. Along with the CSATs for 2019 and 2020 with an average WPM over 150, the CSAT for 2021 also had a fast average speech rate (147.64 WPM), which was found to be the fourth fastest average WPM among the 21 average WPMs analyzed. As mentioned in the note below Table 2, CSAT English has been administered in a criterion-referenced way since the CSAT for 2018. Thus, the change in the way of administration might have brought about the pattern of speeding up, although the first criterion-referenced CSAT administered for 2018 showed a similar pattern with previous CSATs.

#### 4.2 Speech Rates and Difficulty Changes

Along with the analyses on WPM itself, correlations between WPM and the (comparative) difficulty of the test was analyzed in order to see whether WPM affects the difficulty of CSAT. From CSAT for 2001 to CSAT for 2021, there were two cases of average WPM increasing by more than 10 WPM. Given that the average WPM has been in a range of approximately 20, between 132.2 (from CSAT for 2003) and 152.15 (from CSAT for 2019), increasing the speech rate more than 10 WPM, approximately 50% of the entire range within which the average WPM

changed, is considered as a large increase. With these cases, the correlational analyses were implemented

The first case is found in between CSATs for 2010 and 2011 and the average WPM increased from 138.56 to 151.52. As those CSATs were administered in a norm-referenced way, which yields an estimate of the position of the tested individual in a predefined population, the percentage of students who received full scores was used as an indicator of a comparative difficulty. According to KICE, the percentage of students who received full scores among all test takers was about 0.74% in CSAT English for 2010. However, in the test for 2011, the percentage dropped to about 0.21%. In addition to this case, correlational analysis between the average WPM and the percentage of students who received full scores was conducted with 11 norm-referenced CSATs. In the analysis, CSAT for 2001, 2002, 2003 and 2008 was excluded because the percentage data were not available. CSAT for 2012 and 2015 were also excluded because more than half of the test takers in the first grade received full scores, which made those tests considered to fail in controlling difficulty. According to the analysis for norm-referenced CSATs, it was found that Pearson's  $r$  is -0.493, which means there is a clear negative correlation between the average WPM and the percentage.

The second case happened between CSATs for 2018 and 2019 and the average WPM increased from 141.58 to 152.15. Those tests were administered in a criterion-referenced way in which students will get a grade according to certain score criteria rather than a relative position. Therefore, the percentage of students who received the first grade (i.e., the highest grade category) was used to indicate a comparative difficulty. According to the KICE, about 10.03% of test takers achieved a score which fulfills the condition to receive the first grade in CSAT for 2018, however, only about 5.3% of test takers in CSAT for 2019. It means the difficulty increases when the average WPM increases. Along with this case, correlational analysis between the average WPM and the percentage of student who received the first grade for 4 criterion-referenced CSATs was also conducted. It was found that Pearson's  $r$  is -0.892 which shows a strong negative correlation between the average WPM and the percentage.

As a result, correlational analyses show that the increased WPM tend to accompany the increased difficulty of CSAT. However, it seems hard to argue that increased difficulty attributes solely to the increased average WPM because there are many factors that affect the difficulty. Nevertheless, the fact that the increased average speech rate by more than 10 WPM accompanied the increased difficulty of the test and the results of the correlational analyses are still showing the potential impact of speech rate on Korean EFL learners' listening comprehension implicitly, which should not be overlooked.

### 4.3 Summary of Analysis

In sum, Table 2 shows that the slowest items mostly belong to 'slow' with only three exceptions (CSAT for 2015, 2019 and 2020), that 'average' and 'moderately slow' are the only categories which the fastest items belong to, and that all the average WPMs belong to 'moderately slow' without any exceptions.

Below is a line chart that shows trends of the slowest items, the fastest items and the average speech rate of the past 21 CSATs.

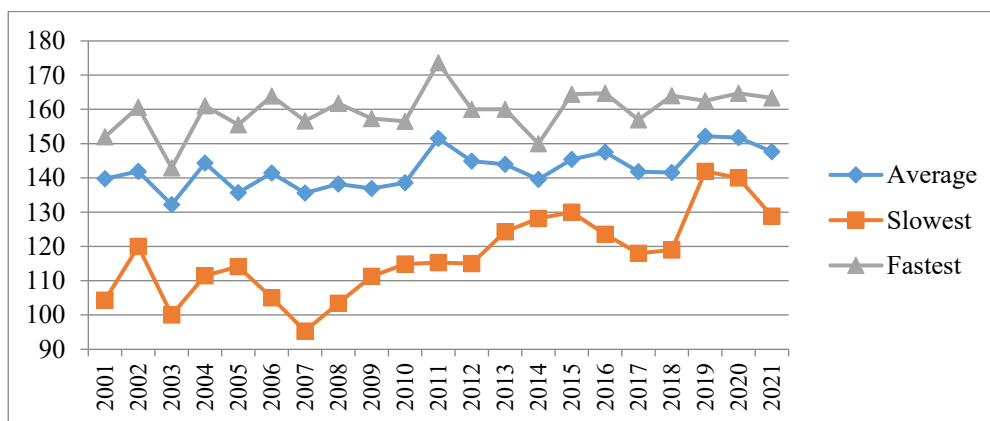


Figure 1. Line Chart for the Slowest Items, the Fastest Items and the Average WPMs

Figure 1 illustrates that the average WPMs of the past 21 CSATs are found to belong to ‘moderately slow’ without any exceptions. In the case of the slowest items, except for three cases of CSATs for 2015, 2019 and 2020 that belong to ‘moderately slow’, all the slowest items belong to ‘slow’. Finally, the fastest items from 8 exams (CSATs for 2001, 2003, 2005, 2007, 2009, 2010, 2014 and 2017) are found to belong to ‘moderately slow’ and the rest of the cases to ‘average’. In addition to the chart above, the analysis data of the entire collection of 362 items from 21 CSATs reveals that 300 items (approximately 82.9%) among 362 items from the past CSATs belong to the category of ‘moderately slow’, 20 items (5.5%) to ‘average’ and 42 items (11.6%) to ‘slow’. Furthermore, no items were found to belong to ‘moderately fast’ nor ‘fast’. In other words, CSAT has exposed test takers mostly to listening input which is ‘moderately slow’ and has not exposed test takers to input faster than ‘average’.

### 5. Discussion

This study analyzed the speech rate of CSATs over 21 years and it is found that CSAT listening comprehension has exposed Korean EFL learners mostly to ‘moderately slow’ listening input and provided no chances for them to listen to ‘moderately fast’ and ‘fast’ input. In addition, the correlational analyses show that increased average WPM accompanies the increased difficulty of the test, which implicitly shows the potential impact of speech rate on listening comprehension. Therefore, including fast speech rates in CSAT listening is needed to make Korean EFL learners prepared for their future communication.

In other words, the speech rate of CSAT’s listening material can be told inappropriate if what Korean EFL learners prepared for the exam is expected to be transferred to future communication. Because of the approximately 83% of the proportion that ‘moderately slow’ input takes in CSAT listening, Korean students have not been exposed to situations reflecting authentic communication in terms of speed with the current CSAT listening input.

However, communicating in English in authentic situations, listeners are required to comprehend input with various speech rates as each speaker has different rates of speech. Furthermore, speech rate may vary even within a speaker depending on contexts of speaking, such as to whom they are speaking for what purpose. For instance, Tim Cook, the CEO of Apple, showed different speech rates in different contexts. On ‘The Late Show with Stephen Colbert’, he uttered 118 words in 43 seconds when answering a question by the host. The speech rate was around 164 WPM belonging to ‘average’. On the other hand, introducing new products at the Apple event in October 2020, he spent 101 seconds to utter 248 words for opening the event, which was around 147 WPM belonging to



‘moderately slow’. Although those two speeches were made in similar contexts in that he spoke with a lot of audiences present or online, the discrepancy between the speech rates was bigger than 15 WPM. Given that people tend to speak slowly when speaking to public or having an interview (Kendall 2009), it might be possible for him to speak even faster in personal conversations. Therefore, Korean EFL learners should be prepared to comprehend different degrees of speech rate in different contexts.

Additionally, in authentic listening situations where diverse and fast speech rates are used, Korean EFL learners, who are familiar only with slow speech rates of CSAT materials, could experience ‘bottleneck phenomenon’, which makes listeners unable to comprehend when exposed to speeches with a speed not familiar to them. Thus, it is necessary to include speeches with various speeds in CSAT’s listening materials in balance with the consideration of the purpose of English education in Korea. Otherwise, Korean students will keep experiencing difficulties in authentic listening with various speech rates, which means the national curriculum’s goal of making Korean students able to communicate in English is not being achieved.

Therefore, the speech rate of CSAT listening comprehension items should be changed in a way to reflect various authentic listening situations in which Korean EFL learners are expected to be involved. For instance, it would be worth making overall CSAT listening material faster than now to make average WPM belong to ‘average’ or faster. Or, it would also be feasible to include listening materials whose WPM is ‘moderately fast’ or ‘fast’.

### 5.1 Learning Transfer for Including Authentic Speech Rates

In this situation, learning transfer could support the argument of including authentic speech rates in CSAT listening comprehension. Considering the importance of applying previous knowledge in different contexts (James 2018), the main purpose of learning is not limited to use what is gained through learning only for that moment. Rather, learning should be a process for creating foundations of knowledge and skills that could be used in novel situations. In other words, learning should be transferred to novel situations and it is a crucial assumption that motivates learning and teaching (Larsen-Freeman 2013). Similarly, the purpose of teaching English to Korean students is not to make them take CSAT successfully, but to cultivate their overall ability to communicate in English for future situations.

Because of the importance of learning transfer, researchers have dealt with learning transfer in listening. For example, previous studies showed that learning transfer in listening could occur with extensive listening. (e.g., Chang and Millet 2014, 2016). Onoda (2012) conducted research with a technique called *Quicklistens*, an extensive listening activity that exposes students to easy and interesting materials under time pressure. Onoda found that the experimental group who did *Quicklistens* showed enhanced confidence in listening comprehension as well as improved listening performance more than the control group. Therefore, it can be regarded that what participants in the experimental group gained through *Quicklistens* was transferred to a different context, which is an example of learning transfer in listening comprehension.

Learning transfer could also occur with other aspect of listening, such as listening strategy (Thompson and Rubin 1996, Vandergrift 2004, Yeldham 2016). For example, Vandergrift and Tafaghodtari (2009) found that instruction for metacognitive listening strategies affected students’ listening comprehension in that the experimental group showed significantly enhanced performance in the post-test. Additionally, considering that the metacognitive strategy instruction helped the participants to develop knowledge on listening strategies and on how and when to use strategies, this study also shows a case of learning transfer.

Furthermore, *far transfer* (i.e., transfer to a novel situation with different contents and context) could happen in relation with listening as well. Han (1996) had participants have pronunciation-based listening practice that

emphasized pronunciation, such as suprasegmentals and segmentals, as an integrated part of listening comprehension. With the treatment, the participants showed enhanced listening proficiency as well as enhanced pronunciation. That is, given that the knowledge gained for pronunciation transferred to listening comprehension, this study could be considered as an example of *far transfer* in terms of modality, from pronunciation to listening.

Additionally, one way that transfer might be happening is in terms of speech rate, the main topic of this study. Herron and Seay (1991) conducted an experiment by exposing participants to authentic audio listening materials in terms of speech rate and accent. They found through the experiment that participants showed the improved comprehension not only with audio materials but also with video materials after the treatment. This result could be viewed as an example of learning transfer. More specifically, this result could be called as a *far transfer* in that enhanced comprehension transferred to a different modality: from the audio-only mode to the video mode. Therefore, the result of Herron and Seay that *far transfer* of listening could occur in terms of speech rate shows a possibility of learning transfer with listening materials of CSAT.

Korean EFL learners learn English not only to take CSAT English or to complete tasks required in school successfully. The main purpose of teaching English is to provide Korean EFL learners with chances to make concrete foundations so that they can transfer what they learned to novel situations for efficient English communication. Therefore, English class in schools should work in preparing Korean EFL learners for their future English communication situations by providing them with chances to establish stable grounds for learning transfer.

In addition to the need for learning transfer, how to provide learners with grounds for learning transfer should be also considered and (task) similarity is an aspect closely related to learning transfer (Detterman 1993). For example, James (2008) found in his research about learning transfer in L2 writing that task similarity can influence on learning transfer positively. Furthermore, considering that ‘without an adequate level of initial learning, transfer cannot be expected’ (Bransford et al. 1999, p. 41), it is important to provide Korean EFL learners with opportunities for initial learning with tasks similar to their target language use situations. In other words, Korean students should be exposed to the speech rates similar to the ones they are expected to face in the future and also should be prepared to transfer what they learned to novel contexts. In this situation, school English class should provide initial learning that helps learners to build foundations for learning transfer by exposing them to speech rates that they are facing in the future.

## 5.2. Washback Effects of CSAT as a Reason for Including Authentic Speech rate

With the importance of the learning transfer and the importance of initial learning for learning transfer, CSAT’s strong washback effects could be a way to provide appropriate initial learning with tasks similar to Korean students’ future listening situations. As CSAT is considered as one of the most important exams with substantial influences, CSAT’s washback effects are found both at macro and micro level (Choi 2008, Lee 2016, Moodie and Nam 2016). For example, it was decided that CSAT would be administered in a criterion-referenced way from the test for 2018 with an expectation that the criterion-referenced exam would lessen the competition among students and would lead spending on private education to decrease. However, the amount of spending on private English education rather increased after the change, despite the effort to reduce the amount of money for private education (Shin 2020). It was because stakeholders whose score was around the borderline score of the first grade spent more to reach the borderline or over the borderline. Also, after the change, stakeholders tend to consider English as a subject which they can receive the first grade easily from. Thus, they try to make strong foundations for the first grade of English before preparing for other subjects. That is, CSAT’s washback effects influence a great deal at a macro level.

From a different angle, there have been cases that show CSAT's washback effects at a micro level. Not teaching certain aspects of English in schools is an example frequently found. For instance, writing is not perceived as an aspect that school English class has to deal with in Korea. Among some reasons, the perception is based on the fact that CSAT does not assess writing directly. It was found in previous studies that stakeholders of CSAT recognize the need of learning L2 writing (Hong 2016, Jin et al. 2009). However, as CSAT is not assessing L2 writing directly, teachers tend not to teach L2 writing in schools (Park and Chang 2016).

This kind of ignorance is also found in listening comprehension. The ignorance of English accents other than American accents is often found. Although Korean EFL stakeholders seem to recognize the importance of comprehending various English accents (Ahn 2014, Kim 2017), it was found Korean students are not motivated to learn different varieties of English (R. Green 2015). In addition, in Park (2017), teachers expressed negative opinions on teaching British accents and one of the reasons was that CSAT is not assessing students' listening ability for British English. As the examples describe, influenced by washback effects of CSAT, teachers and students tend to narrow down the scope of their teaching and learning or to neglect the subjects that are not directly related to CSAT (A. Green 2013, Pan 2009, Shohamy 1992, Whitehead 2014). Also, school English classes are done mostly with CSAT prep-books which are nearly duplicates of CSAT (Jung 2006). Furthermore, this tendency of narrowing down the scope or neglecting some aspects can demotivate students to study what they will not face in the exam (Hughes 2003).

Although CSAT's washback effects negatively influence the scope of learning, simultaneously, they could be used as a chance to make changes in education. In fact, previous studies showed that washback effects of university entrance exams brought about changes in pre-university education in some countries (J. Brown 2000, Hatipoğlu 2016, Usaha and Wang 2002). For example, introducing the Test of English Listening Comprehension in Taiwan made teachers begin to teach listening in schools. (Chou 2017). In the Korean context, teacher respondents suggested that teaching British accents in school would be possible if CSAT deals with the accents (Park 2017). Therefore, it is expected that changes in CSAT English would probably accompany changes in secondary school education. In other words, if CSAT English listening comprehension is changed in terms of speech rate, secondary school education will probably follow the tendency of CSAT's speech rate with washback effects. Then the changes in secondary school education could provide chances for students to make stable foundations with which they could transfer what they learn to their future communications.

## 6. Conclusion

This study has analyzed the speech rate of CSAT listening part and suggested a possible solution of including fast speech rates for making Korean EFL learners able to comprehend oral input for authentic communication. However, there are some gaps to be filled.

First, this study could not provide sufficient inferential statistics data because of limited data accessible outside KICE. Therefore, future research should try to fill in this gap.

In addition, this study focuses solely on speech rate. Even though speech rate is an important aspect in comprehending oral input, other aspects such as accents, background noises, and discourse types should not be neglected. For example, in the era of EIL (English as an International Language), English is being used for communication even only among nonnative speakers of English (Lee 2020). Therefore, in order to make Korean EFL learners able to communicate in English, English education should take a role of "preparing English learners to become competent users of English in international contexts" (Matsuda 2012, p. 7). In this sense, future research

should be done on English accents used in CSAT's listening. In addition, as Fujita (2017) showed that background noises negatively influence listening comprehension, background noise should not be neglected in relation to listening comprehension. However, CSAT's listening materials do not include background noises. Considering that communication is happening not only in studio-like circumstances without noises but also in places with various background noises, future research about including background noises in CSAT listening should be implemented. Finally, CSAT deals with conversations with maximum two speakers involved. However, it would not be a case that Korean EFL learners have conversations only with one interlocutor. Therefore, as TOEIC and IELTS include conversation with multiple speakers involved, reflecting more authentic discourse types in CSAT should be discussed as well.

Despite the limitations, this study diagnoses an important problem in CSAT's listening material that hinders Korean EFL learners' improvement of listening comprehension ability for authentic speeches. Based on the problem found, varying the speech rate for CSAT listening material is suggested from the perspectives of learning transfer and washback effect. In Korea, where many people have 'English fever', it is expected that changes of speech rate in CSAT would accompany changes in schools through washback effects. The changes will help the goal of English education of making Korean EFL learners able to communicate in English to be achieved by providing them with chances to make concrete foundations for learning transfer. In fact, the issue of the speech rate of national standardized tests is not limited to CSAT. Analyzing national standardized tests of other Asian countries, it was found that listening Japanese National Center Test for University Admission and Taiwanese Test of English Listening Comprehension have speech rates similar to the ones of CSAT (Lee, 2021). Therefore, EFL experts in different countries should work together to make their listening comprehension tests more authentic and to find ways to help EFL learners prepare for future listening situations.

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### Appendix

**WPM Data for CSAT English for 2001 to 2021 (the number of words, allotted time, WPM for each item)**

CSAT for academic year 2001																		
Item #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Average
# of words	65	75	73	98	75	86	66	83	81	72	69	92	73	63	76	64	76	
Allotted time	28	30	30	40	31	35	29	36	36	31	29	40	42	27	30	26	36	
WPM	139.29	150.00	146.00	147.00	145.16	147.43	136.55	138.33	135.00	139.35	142.76	138.00	104.29	140.00	152.00	147.69	126.67	139.74
CSAT for academic year 2002																		
Item #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Average
# of words	98	106	64	101	88	85	85	76	89	92	116	89	86	87	83	62	72	
Allotted time	42	43	30	41	33	36	34	35	39	36	51	37	39	39	31	25	36	
WPM	140.00	147.91	128.00	147.80	160.00	141.67	150.00	130.29	136.92	153.33	136.47	144.32	132.31	133.85	160.65	148.80	120.00	141.90
CSAT for academic year 2003																		
Item #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Average
# of words	104	89	76	113	82	92	86	84	106	80	95	87	65	76	86	81	71	
Allotted time	44	43	39	48	38	40	40	37	45	36	43	37	39	33	37	34	35	
WPM	141.82	124.19	116.92	141.25	129.47	138.00	129.00	136.22	141.33	133.33	132.56	141.08	100.00	138.18	139.46	142.94	121.71	132.20
CSAT for academic year 2004																		
Item #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Average
# of words	92	92	96	100	102	91	102	102	102	92	103	101	65	77	85	87	96	
Allotted time	38	36	42	38	40	41	42	39	38	41	41	45	35	33	37	34	39	
WPM	145.26	153.33	137.14	157.89	153.00	133.17	145.71	156.92	161.05	134.63	150.73	134.67	111.43	140.00	137.84	153.53	147.69	144.35
CSAT for academic year 2005																		
Item #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Average
# of words	89	83	81	87	127	103	104	116	99	114	116	102	81	95	87	87	116	
Allotted time	42	37	39	39	49	45	46	61	45	46	53	42	39	41	35	39	50	
WPM	127.14	134.59	124.62	133.85	155.51	137.33	135.65	114.10	132.00	148.70	131.32	145.71	124.62	139.02	149.14	133.85	139.20	135.67
CSAT for academic year 2006																		
Item #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Average
# of words	90	105	107	104	93	116	110	118	104	76	118	128	77	86	79	112	115	
Allotted time	36	41	50	44	38	49	50	49	41	32	50	51	44	36	37	41	50	
WPM	150.00	153.66	128.40	141.82	146.84	142.04	132.00	144.49	152.20	142.50	141.60	150.59	105.00	143.33	128.11	163.90	138.00	141.44
CSAT for academic year 2007																		
Item #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	Average
# of words	87	107	70	102	95	107	100	105	110	129	109	70	81	82	83	110	99	
Allotted time	36	49	30	51	51	41	44	43	46	52	46	38	51	37	36	44	38	



<b>WPM</b>	145.00	131.02	140.00	120.00	111.76	156.59	136.36	146.51	143.48	148.85	142.17	110.53	95.29	132.97	138.33	150.00	156.32	135.60			
<b>CSAT for academic year 2008</b>																					
<b>Item #</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>Average</b>			
<b># of words</b>	123	124	91	96	102	94	110	111	114	117	115	107	81	101	99	73	114				
<b>Allotted time</b>	49	46	42	44	46	43	46	46	51	48	50	47	47	42	40	33	49				
<b>WPM</b>	150.61	161.74	130.00	130.91	133.04	131.16	143.48	144.78	134.12	146.25	138.00	136.60	103.40	144.29	148.50	132.73	139.59	138.19			
<b>CSAT for academic year 2009</b>																					
<b>Item #</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>Average</b>			
<b># of words</b>	109	118	92	99	123	112	131	127	131	114	136	89	84	130	117	91	98				
<b>Allotted time</b>	44	45	41	41	56	43	57	58	61	50	64	48	44	56	48	40	41				
<b>WPM</b>	148.64	157.33	134.63	144.88	131.79	156.28	137.89	131.38	128.85	136.80	127.50	111.25	114.55	139.29	146.25	136.50	143.41	136.90			
<b>CSAT for academic year 2010</b>																					
<b>Item #</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>Average</b>			
<b># of words</b>	119	121	89	120	110	100	103	103	120	113	133	100	67	100	137	130	120				
<b>Allotted time</b>	50	53	45	46	49	39	41	45	47	45	58	50	35	46	56	55	56				
<b>WPM</b>	142.80	136.98	118.67	156.52	134.69	153.85	150.73	137.33	153.19	150.67	137.59	120.00	114.86	130.43	146.79	141.82	128.57	138.56			
<b>CSAT for academic year 2011</b>																					
<b>Item #</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>Average</b>			
<b># of words</b>	115	136	109	122	123	104	116	104	127	117	143	109	73	109	122	112	108				
<b>Allotted time</b>	44	47	45	46	56	40	44	42	48	43	56	48	38	41	49	42	43				
<b>WPM</b>	156.82	173.62	145.33	159.13	131.79	156.00	158.18	148.57	158.75	163.26	153.21	136.25	115.26	159.51	149.39	160.00	150.70	151.52			
<b>CSAT for academic year 2012</b>																					
<b>Item #</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>Average</b>			
<b># of words</b>	112	118	132	120	113	92	120	119	134	139	117	89	80	113	109	129	92				
<b>Allotted time</b>	46	45	51	45	50	48	45	49	56	54	47	41	41	45	44	52	38				
<b>WPM</b>	146.09	157.33	155.29	160.00	135.60	115.00	160.00	145.71	143.57	154.44	149.36	130.24	117.07	150.67	148.64	148.85	145.26	144.89			
<b>CSAT for academic year 2013</b>																					
<b>Item #</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>Average</b>			
<b># of words</b>	115	130	116	133	131	94	123	136	120	120	117	103	87	113	119	113	108				
<b>Allotted time</b>	49	53	47	54	57	45	48	55	45	52	49	42	42	45	50	47	44				
<b>WPM</b>	140.82	147.17	148.09	147.78	137.89	125.33	153.75	148.36	160.00	138.46	143.27	147.14	124.29	150.67	142.80	144.26	147.27	143.96			
<b>CSAT for academic year 2014</b>																					
<b>Item #</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19/20</b>	<b>21/22</b>	<b>Average</b>
<b># of words</b>	21	35	48	82	113	139	117	109	121	128	122	87	107	134	98	124	138	94	112	134	
<b>Allotted time</b>	9	14	20	37	48	58	50	46	49	56	54	38	46	59	43	55	62	44	47	57	
<b>WPM</b>	130.00	146.67	136.15	142.00	141.72	142.11	143.53	150.59	138.31	142.11	136.27	140.69	164.40	151.11	148.85	158.63	158.63	128.18	142.92	141.05	139.57
<b>CSAT for academic year 2015</b>																					
<b>Item #</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>Average</b>			

<b># of words</b>	26	44	118	142	137	135	122	128	136	135	134	136	137	136	129	193	193	
<b>Allotted time</b>	12	18	52	60	58	57	51	51	59	57	59	58	50	54	52	73	73	
<b>WPM</b>	130.00	146.67	136.15	142.00	141.72	142.11	143.53	150.59	138.31	142.11	136.27	140.69	164.40	151.11	148.85	158.63	158.63	145.40
<b>CSAT for academic year 2016</b>																		
<b>Item #</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>Average</b>
<b># of words</b>	36	49	149	138	149	140	139	143	139	144	140	165	142	140	138	186	186	
<b>Allotted time</b>	16	18	60	57	61	51	58	56	56	57	68	67	57	58	55	77	77	
<b>WPM</b>	135.00	163.33	149.00	145.26	146.56	164.71	143.79	153.21	148.93	151.58	123.53	147.76	149.47	144.83	150.55	144.94	144.94	147.49
<b>CSAT for academic year 2017</b>																		
<b>Item #</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>Average</b>
<b># of words</b>	34	33	118	145	147	142	120	122	124	134	127	140	137	119	122	183	183	
<b>Allotted time</b>	13	15	60	60	61	67	46	48	52	56	53	58	58	50	51	80	80	
<b>WPM</b>	156.92	132.00	118.00	145.00	144.59	127.16	156.52	152.50	143.08	143.57	143.77	144.83	141.72	142.80	143.53	137.25	137.25	141.79
<b>CSAT for academic year 2018</b>																		
<b>Item #</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>Average</b>
<b># of words</b>	41	35	119	118	144	139	117	121	134	130	117	118	128	134	116	158	158	
<b>Allotted time</b>	15	15	54	49	59	58	51	49	59	59	59	52	49	54	49	68	68	
<b>WPM</b>	164.00	140.00	132.22	144.49	146.44	143.79	137.65	148.16	136.27	132.20	118.98	136.15	156.73	148.89	142.04	139.41	139.41	141.58
<b>CSAT for academic year 2019</b>																		
<b>Item #</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>Average</b>
<b># of words</b>	35	39	109	120	131	126	130	125	129	133	123	127	131	130	119	168	168	
<b>Allotted time</b>	14	15	43	49	53	50	50	50	51	55	52	49	49	48	48	65	65	
<b>WPM</b>	150.00	156.00	152.09	146.94	148.30	151.20	156.00	150.00	151.76	145.09	141.92	155.51	160.41	162.50	148.75	155.08	155.08	152.15
<b>CSAT for academic year 2020</b>																		
<b>Item #</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>Average</b>
<b># of words</b>	40	51	109	133	136	139	114	126	137	106	129	145	129	131	127	175	175	
<b>Allotted time</b>	15	20	45	52	52	53	45	50	54	42	52	56	47	54	50	75	75	
<b>WPM</b>	160.00	153.00	145.33	153.46	156.92	157.36	152.00	151.20	152.22	151.43	148.85	155.36	164.68	145.56	152.40	140.00	140.00	151.75
<b>CSAT for academic year 2021</b>																		
<b>Item #</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>Average</b>
<b># of words</b>	95	132	139	139	141	134	126	133	125	119	47	49	153	134	116	161	161	
<b>Allotted time</b>	42	55	57	54	54	61	48	55	50	47	19	18	58	51	46	75	75	
<b>WPM</b>	135.71	144.00	146.32	154.44	156.67	131.80	157.50	145.09	150.00	151.91	148.42	163.33	158.28	157.65	151.30	128.80	128.80	147.65