A Study on the Different Levels of "Attention" in the Processing of English Subjunctive Mood by Chinese Learners

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"Attention" is a very vital cognitive mechanism. Cognitive psychology considers "attention" as the focus of mental activity and consciousness on an object. People engage their senses and memory to actively process the object in front of them. Theories of second language acquisition suggest that a large amount of input is the basis for language acquisition. At the same time, what is actively noticed by the learner can be effectively internalized. Thus, "attention" is also a non-linguistic factor that plays a significant role in language acquisition. The subjunctive mood is a major challenge in the teaching of English grammar. Generally speaking, the verbs in a sentence are used to distinguish between subjunctive and declarative sentences. In this paper, experimental utterances were written based on previous research by using verbs that are easy to cause ambiguity and confusion, and then set up the reinforced and non-reinforced attention conditions with different levels of "attention" to investigate whether there are different results and effects on subjects' comprehension of sentences under different levels of "attention" conditions. Under the different levels of "attention", the subjects were examined to see whether there were different results in comprehension of the sentences and the impact of the different levels of "attention". It was found that subjects in the reinforced "attention" condition comprehended sentences better, answered questions faster, and answered questions more correctly than subjects in the non-reinforced condition. This study also shed some light on English second language grammar teaching.

Keywords: attention levels, English subjunctive mood, Chinese learners

Introduction

In the research of languages, the sentence is considered as the basic unit of communication. So, in daily discourses, the goal of it is to process and comprehend the meaning—literal, implied, or conveyed. And the learner's ability of processing meaning of different kinds of sentences is also vital for the second language learning. The English subjunctive mood is a good example. Subjunctive mood also exists in Chinese. There is only one way to express Chinese subjunctive mood, that is, to use conjunctions. There is no change of verb. Different from Chinese, the English subjunctive mood is expressed by the special form of the predicate verb in the sentence, which is another proof of the centrality of the verb in English.

Subjunctive mood has always been an important issue in Chinese EFLs' study. Their acquisition effect on the subjunctive mood has also been concerned. Former researches on Chinese EFLs' study of subjunctive mood mainly focused on the participants' mental process of reading "if"-conditional clause and subjunctive sentences

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that begin with "It is … (adjective) that…"; few aimed at investigating sentences using verbs that convey different meanings in different usage condition, such as "suggest", especially when the modal verb "should" in the sentence is omitted, which would make the sentence more difficult to understand.

In the field of second language acquisition, the role of "consciousness" is increasingly concerned. Among them, the role of attention and awareness in learning has been extensively studied in cognitive psychology. Learners' different levels of "attention" lead to different sentence processing, thus obtaining different learning results, which is also a good method to set different experimental conditions.

So, to fill this research gap, in this paper, the above-mentioned two aspects would be combined to explore EFLs' command of subjunctive mood. Subjunctive mood sentences with verbs which are prone to cause ambiguousness would be adopted, presenting under two kinds of experimental conditions.

Literature Review

"Consciousness" is a psychological notion, which is in contrast to "unconsciousness" or "subconsciousness". Swain (1983/1999) has pointed out that the learning process differs in the degree of awareness or intentional control of the learner. Actually, learning activities have more or less "unconscious" components, that is, learners are completely or partially unaware of learning, which is different from learning in the classroom teaching environment, which is conscious and controlled. Intentional learning takes a large part in people's learning activities; also, study activities with or without learner's attention help us make a distinction between intentional learning and unintentional study (incidental learning).

Human attention actively acts on the process of sentence processing. Because this process is dynamic, "it involves not only semantic extraction and understanding of words, but also the integration of information between multiple words" (Y. T. Li, M. J. Li, & Wang, 2022, pp. 7-12). Attention is also an element in processing and understanding sentence meaning.

Gass et al. (2003) set up two different learning conditions to investigate the effects of different levels of attention on the learning of syntax and vocabulary. The two environments they designed were: The first experimental condition is "+focused attention": Learning materials in which phrases and sentences were underlined. The teacher asked the students to pay attention to these parts and asked them about their similarities, differences, and features, and then asked them to practice them. The second experimental condition is "-focused attention", i.e., the content to be learned is not underlined. The teacher simply asked students to memorize words, read and repeat the target sentence using synonymous substitutions. The results of the study found that students in the absence of explicit attention clearly did not learn as well as those in the other group. In contrast, under the condition of intensive attention, students gained all three aspects of syntax, morphosyntax methods, and vocabulary.

With reference to previous studies on the teaching and acquisition of subjunctive mood in English, a series of studies at Southeast University are prominent. The scholars set four experimental conditions, i.e., syntactic violation, semantic violation, both syntactic and semantic violation, and correct sentences without violation. 160 sentences were prepared as the experimental corpus, and two comparison groups of high and low levels were set to investigate which sentence processing and comprehension are more sensitive to Chinese students who speak English as a foreign language. They used ERP (Event-Related Potentials) to detect and found that the processing mechanism of sentences was similar between the high- and low-level groups when the syntax of the sentence was violated, and the high-level group was more sensitive to the construction and comprehension of the sentence; the high-level group was also more sensitive when the semantics was violated, and the difference between the

two groups was large. In the case of both semantic and syntactic violations, the high-level group used more syntactic processing and used semantic processing to assist their judgments; and the low-level group was in contrast. However, as mentioned before, their studies mainly focused on the clause sentences such as "if"-conditional clause and subjunctive sentences that begin with "It is … (adjective) that…", the different use of the same verb—that is, whether it is used in a declarative sentence or a subjunctive sentence. Returning to the topic of research aimed at learners' understanding of sentence meaning, it has been pointed out that there exists an obvious common ground domestic researches on the sentences processing of Chinese EFL learners that they mostly chose English simple sentences as experimental materials so as to facilitate the practical operation of experiments and the preparation of experimental sentences (Nian, 2019). Considering of this, it is essential for us to give up simple subjunctive sentences that begin with "if" but turn to choose more complex sentences types.

Methodology

Firstly, the main tool used in this experiment is E-Prime, whose name is the abbreviation of Experimenter's Prime, which is an experimental generation system for computerized behavioral studies. It is advanced in its simultaneous presentation of three kinds of stimuli such as texts, image, and sound, to the participants. The edition of E-Prime program being used in the experiment is E-Prime 2.0.

At the beginning of the experiment, the participant will sit on the front of the computer and will first see a paragraph that introduces the whole experiment as follow:

> Welcome to our experiment!
> The experiment begins with a red "+" symbol on the screen to alert you to the start of the experiment. You will then see a text and a corresponding question on the screen. If you think the answer to the question is yes, press the F key. If you think the answer is no, press the J key.
> After confirming that you have understood the above instruction phrase, please sit back and place your left hand on the F key and your right hand on the J key. If there are no questions, press Q to enter the exercise.

After the participant pressed the Q key, he/she will enter into the exercise part. The exercise includes five subjunctive sentences, which are screened out from the previously written experimental sentences. They might be inappropriate or surplus, so they were selected as sentences for exercise before the formal experiment. When the exercise program ends, the participant will take a short break and will be asked if they could adapt to this or had any questions. Once they confirmed they can catch up with this program, the formal experimental trials started. The formal process is the same as the previous exercises. There were 10 questions in total. They shall read the sentences, understand and process them, perform key response, and then enter the next trial and repeat.

The duration of each screen was set as "infinite" and could not continue until the participant responded by pressing a button. In the setting interface of E-Prime program, each question interface is set to record the answer to the question, reaction time (RT), and judge whether the answer is correct or not according to the previous input. Finally, the score of each subject and the correct rate of each question are counted. Their average scores and average times were also recorded.

With regard to the sentences, although this experiment was intended to investigate the students' knowledge of subjunctive mood sentences that are focused on those ambiguous verbs as corpus, sentences used in the previously mentioned studies that begins with "It is + adj. that …" were also filled in, in order to avoid the experimental material being too simple and to prevent subjects from noticing the purpose of the experiment and forming corresponding skills. All the sentences were randomly presented to the participants.

A total of 20 subjects, four males and 16 females, were recruited for the experiment. All were enrolled postgraduate students at University of Shanghai for Science and Technology. All subjects were right-handed, had normal vision or corrected vision, and had no recent medication use. They were appropriately compensated at the end of the experiment.

Data Collection and Analysis

In the group of "+focused attention", the average score of the participants was 68.9 and their average reaction time was 197 seconds, in which one participant's data were excluded due to its large discrepancies. The data of the non-enhanced attention group were slightly different from that of the enhanced attention group, whose participants' average reaction time was 180.7 seconds and the average score was 64. It could be seen that participants under the non-enhanced attention experiment condition took less time to read and process sentences and got lower scores. The results of the experiment for both groups of participants were generally as expected, i.e., after participants were given highlighted highlights of what they should pay attention to, they answered the questions significantly more correctly than those participants who read sentences that did not have any highlighted places of attention.

Looking at all the experimental data, it could be seen that there are two questions with significantly lower correct rates, which is very striking. The first sentence is "It is important that she give me a call as soon as she come back home", whose question was "Has she already telephoned?". The "+focused attention group" spent an average of 6,513 ms, with an average accuracy of 50%. The other group, namely the "-focused attention group", took an average of 6,129 ms, and the average accuracy was only 10%. Interestingly, in the interview after the experiment, one of the participants discussed this sentence. She said that when she read the sentence, she did realize that the form of "give" in the sentence was wrong, but she did not realize that it was the subjunctive sentence that omitted the modal verb, and only thought that the verb should be added with an "s". So she did not think about it more deeply. Only after completing a few more questions did she begin to realize that the situation expressed in the sentence was different from the reality.

Another sentence with less accuracy was "It is crucial that he be in the room with you and take care of you", and the accompanying question was "Was he in the room for company?". The key verb in the sentence is "be", which is more likely to cause confusion than other sentences.

Since the order of the sentences in the experiment was random, although the participants were able to form a strategy for doing the question to some extent, that is, they realized that it was a subjunctive sentence after doing part of the question, but it also requires a bit of work and some thought, meaning that if participants are presented with a sentence in which the verb is "be" at the beginning of the test, they may not immediately recognize the subjunctive mood. This is probably the reason why this question has the lowest accuracy.

According to Huang Xue (2019), this may due to the participants' own conditions. From the perspective of subjects, those involved are L2 learners and compared with L1 learners; more cognitive efforts are required in initial syntactic processing. And, subjunctive mood is a kind of grammar knowledge that is already difficult for Chinese English learners. In the experiment, the modal verb "should" is omitted from the sentence, which makes sentence processing more difficult. If the verbs were not highlighted in the sentence, the participants would not be able to identify the usage of subjunctive mood, resulting in a low correct rate.

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significantly more correctly than those participants who read sentences that did not have highlighted places to pay attention to.

Conclusion

Findings

Throughout the experimental data, the following points can be summarised. Compared to the participants under the reinforced (+focused attention) condition, under the experiment's non-reinforced attention condition, participants took less time to read and process sentences, resulting in lower scores. The results of the experiment for both groups of participants were consistent with the expectations. Specifically, after providing participants with highlighted areas of attention, they answered the questions significantly more accurately than those who read sentences without any highlighted areas. In the process of answering the question to find out the law, few participants formed their own skills, so that even if they cannot fully understand the meaning of the sentence, but also according to the form of the verb to make a correct judgment. This improves the correctness of the test to some extent, but the method is not advocated.

Implications

It is not difficult to see that when participants read sentences, if those parts of the sentences that play a key role or even have a disambiguating function are highlighted, either by bolding them or by marking them in bright colors, they can attract participants' attention to a certain extent and motivate them to think about them in full before making a judgment on the meaning of the sentence. This is the powerful role of attention, which must be mobilized effectively, and this is exactly what teachers of a second language should do. Such intentional guidance is positive and necessary. They should begin by subliminally getting students into the habit of starting small and finding the most critical place to make sense of a sentence—often syntactically—rather than reading the whole sentence over and over again to try to get at the meaning of the sentence. In this way, students, when confronted with ambiguous sentences, will be able to keenly recognize the parts of the sentence that can be disambiguated.

The importance and revelation of "attention" goes beyond this; it is not only applicable to disambiguation. If teachers can point out the areas that need more attention according to the content and focus of teaching, and emphasize them many times to deepen students' memory, it will not only improve students' learning results, but also help them form good habits and know how to grasp the key points in their self-learning and future learning. Bold, underlining, and italics can all be used to highlight a particular language structure or an important part of the language. Teachers can also artificially increase the frequency of key teaching points to attract students' attention and enhance their absorption of knowledge.

Limitations

Reviewing the whole process of the experiment, the biggest limitation of this experiment is that it is only a behavioral experiment, using reaction time and accuracy rate as the research paradigm to express the result of language processing. However, reaction time is only a one-dimensional standard, which does not reflect the process of language processing. In fact, the processing of language is continuous and complex, including the dual functions of semantics and syntax. In the future, experiments in this aspect should be explored in more dimensions, such as using ERP (Event-Related Potentials) technology.

Secondly, the setting participants of this experiment is not complete. Only two experimental conditions were set up to investigate the subjects, without considering the level of the subjects. In future experiments like this,

subjects with high or low levels should be taken into consideration. For example, subjects in the high-level group can be English majors who have passed TEM-4 or TEM-8, while those in the low-level group can be other non-English majors.

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