

# Teaching Complex Sentences in ESL Reading: Structural Analysis

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## Abstract

Informed by the reading ability of English complex sentences, as well as the syntactic acquisition and cognition, this empirical study, based on a structural analysis approach, investigated 32 Chinese high school students in their ESL (English as Second Language) reading course. The results indicated that: (1) the differences between students' pre- and post-test are significant; (2) structural analysis approach was found to have independent positive predictive effects on Chinese high school students' syntactic proficiency. The findings can generate implications for TESL (Teaching English as Second Language) and provide insights to theoretical conceptualization of L2 (Second Language) reading.

**Keywords:** structural analysis, complex sentences, syntactic difference, ESL reading

## 1. Introduction

Different nations have different modes of thinking, which have a great influence on their respective languages and characters (Humboldt, 1999). Chinese is inclined to be an analytic language (Lian, 1993), therefore, the structure of Chinese complex sentences are organized in run-on sentences (Wang, 2003). However, English is recognized as a comprehensive language (Lian, 1993). The basic rule of English sentences is that they are arranged in chronological order (Wang, 2013). Since fluent readers tend to have a good grasp of language structure (Hedge, 2001; Burton-Roberts, 2013), numerous studies have been dedicated to the structural factors that influence the effective understanding of sentence complexity (Alderson, 2000; Nuttall, 2002; Chou & Bartz, 2007; Scott, 2009; Wang, 2013; Zipoli, 2017; Curran, 2020). Among them is the study of readers' syntactic knowledge which plays a vital role in the process of comprehending English complex sentences. Myhill (1982) reported that difficulties in learning English complex sentences were most likely to occur where L1 and L2 were structurally similar, but not identical (p. 199). The experiment from Shiotsu and Weir's (2007) study indicated that syntactic knowledge was even superior to vocabulary knowledge in reading comprehension. Age, input, and cognitive factors that facilitate comprehension and application of English complex sentences have also been explored by Paradis et al. (2017).

Obviously, helping Chinese students have a better understanding of English complex sentences is full of challenge. Although knowledge of previous studies have so far remained rather limited in respect to general profile of syntactic area, the work presented in this paper aims to demonstrate the effectiveness of the structural analysis approach by means of quantitative research. We measured students' representations by analyzing their responses to pre- and post-test, and conducted a semi-interview about the syntactic awareness covered in the teaching activities.

## 2. Methods

### 2.1 Research Design

The main research question is, "How do Chinese students improve their understanding of English complex sentences after participating in an instruction of structural analysis approach?" This research was based on a *Five-steps Method* module task (Dang, 2006; Zhu, 2007). In the week-long practice during English reading classes, students participated in a test prior to and following their participation in the class-room based activities, creating a paired sample comparison. A paired sample t-test were used to determine the degree of significance between pre- and post-test performance.

### 2.2 Participants

Two teachers from Taizhou University (situated in Zhejiang Province, China) enacted the course content in their

week-long English reading classes. Both of them had full experience applying syntactic knowledge in their instruction. Thirty-two students from a Chinese regional high school (see Table 1) participated in the reading course and the pre-/post-assessments. They all admitted to learning English systematically from an early age. Interviews were also conducted among them as soon as the course finished. Participants were asked several open-ended questions about the duration, attitudes, and incentives toward English learning.

Table 1. Details of the students

	Gender		Age (years)			Duration of English learning		
	Male	Female	16	17	18	Hours / per week		Years
Respondents	14	18	3	25	4	Under 8 hours	Over 8 hours	11
Percentage	43.75%	56.25%	9.375%	78.125%	12.5%	31.25%	68.75%	100%

### 2.3 Procedure

Supervised by two classroom teachers, students' participation began with their individual completion of a pre-test, which consisted of 20 English complex sentences selected from four reading texts (to be learned). Each complex sentence was elaborately designed with three to five multiple choices questions based on its syntactic structures. Students' responses were coded, and received a score of zero through five based on the correctness of paraphrasing. The test lasted for 30 minutes, and its total score was 50 points.

Over the week-long reading course, students were instructed under *Five-steps Method* (see Table 2), a validated structural analysis approach. With regard to investigating their syntactic proficiency, students then took a post-test, whose question types and scoring criteria were the same as those in the pre-test.

Table 2. Teaching practice based on Five-steps Method

Teaching Steps	Description of Classroom Activities
Step 1: Preparation	Students were guided to review the complex sentences they had read before.
Step 2: Presentation	Students were instructed to establish sense groups for the complex sentences on the base of syntactic knowledge.
Step 3: Practice	Students were encouraged to paraphrase the complex sentences independently.
Step 4: Production	Students were asked to summarize the main idea of a text with several complex sentences.
Step 5: Progress	Students were provided with the reference answers to self-evaluate.

### 2.4 Results

The corresponding score data of each student in the pre- and post-test were numbered and input into the statistical software SPSS 24.0 for paired sample statistics, so as to check whether the mean values obtained by the two group samples were significant or not. Matched *t*-test analyses were conducted to measure differences in students' proficiency prior to and following their participation in classroom activities.

Table 3. Paired samples statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pre-test	32.0313	32	5.29445	.93594
Post-test	38.0000	32	6.04286	1.06824

Obviously, mean overall testing scores improved from students' pre- to post-participation (see Table 3), which illustrated the gap between what they performed. Individual pre-/post-test answer was analyzed using paired sample tests for a more detailed survey of changes. See Table 4 for a summary of the analyses.

Table 4. Paired samples test

	Paired Differences				<i>t</i>	<i>df</i>	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference			
Pre-test - Post-test	-5.96875	3.02126	.53409	-7.05803 ~ -4.87947	-11.176	31	.000

The mean difference between pre- and post-test was statistically significant ( $t(32)=11.176$ ,  $p=0.00<0.001$ ). Following the instruction of *Five-steps Method* module task, students' structural and syntactic pattern recognition was more normative and better integrated, as post-test performance showed an average increased proficiency of 5.97 points.

Table 5. Statistics of the semi-structured interview

	Positive Number / Percentage	Negative Number / Percentage	Neutral (No attitudes) Number/ Percentage
Enhancing reading concentration	30 / 93.75%	1 / 3.13 %	1 / 3.13 %
Improving reading comprehension	27 / 84.38 %	2 / 6.25 %	3 / 9.38 %
Reducing reading fear	29 / 90.63 %	2 / 6.25 %	1 / 3.13 %

The gap was further underscored by a semi-structured interview with 32 respondents after post-test (see Table 5), which confirmed positive attitudes toward the structural analysis approach in TESL. One respondent said,

I never knew structural analysis approach before. I used to attribute my problems in English learning to a lack of vocabulary. In the future, I will pay more attention to analyze sentence structures.

When asked the efficiency of *Five-steps Method*, one respondent acknowledged:

Because I didn't know an effective reading method, I used to feel at a loss in understanding complex sentences. During the course, I delightedly found that Five-steps Method could be applied easily in everyday practice. With practice, we would gain a deeper understanding and analyze complex sentences by ourselves.

What's more, most respondents applauded the course content based on syntactic structure analysis:

We were afraid of complex sentences when we saw them in reading passages. This course gave us a direction to process complex sentences. We would be more confident to learn English well in future.

### 3. Discussion

The purpose of this study was to evaluate the effectiveness of structural analysis approach in TESL, and to analyze the syntactic factors that hindered Chinese high school students' understanding of English complex sentences. Results showed that the abilities of structural analysis were not well formed and the implementing of syntactic awareness was not satisfactory before the pre-test. There are several explanations for its failure. First, according to the interview, 25 out of the 32 respondents (78.1%) held a positive attitude towards English learning, but admitting a lack of awareness of syntactic differences between L1 and L2. They attributed it to the problematic classroom teaching activities as 23 of them (92%) failed to give a definite answer. Second, poor vocabulary and stress of test affected the formation of correct habits in ESL reading. The interview also suggested that all the respondents were willing to adapt to the method of structural analysis in ESL reading. After finding this effective way out, they became more actively involved in learning English. Third, incentive acquisition needed to be strengthened, as what a respondent commented:

Although I have been learning English for years, I still consider expanding vocabulary as my daily routine. It's so boring, and will never solve all my problems.

This finding was partially consistent with some of the previous studies, where language confidence (Shao et al., 2013), anxiety (MacIntyre, 1995), and even fear (Bledsoe & Baskin, 2014) are major interfering factors.

Overall, there are several implications to improve effectiveness of teaching complex sentences in ESL reading course. First, the crux of the problem lies on teachers. Complex sentences in English follow tree-like structures, while a run-on sentence in Chinese forms a bamboo-like structure (Pan, 1997; Chen, 1998). It's teachers' duties, therefore, to help students improve their awareness of syntactic differences between English and Chinese. If teaching content is limited to vocabulary only, analysis, evaluation and other advanced cognitive skills cannot be effectively cultivated. Second, paraphrasing practice, a high demanding type of syntactic training, should be popularized and the instructions for structural analysis (i.e., *Five-steps Method*) should be simple and concise. Reading confusion, anxiety and fear, therefore, might be eliminated primarily at the stage of cultivating students' ESL reading habits. Finally, classified instructions should be established. In teaching practice, teachers should design different levels of goals, teaching guidance and testing for all kinds of students, so that everyone can get full development.

The respondents are teenage students at a Chinese regional high school, thus, the sample of this study, although

balanced overall, has certain limitations. Hence the results of the study should be treated with caution. Further research is recommended to analyze, on a larger and more balanced scale, the syntactic and structural factors that influence more and even nationwide high school students' ESL reading abilities.

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