

## Effectiveness of the Production-oriented Approach on Improving EFL Learners' Talk-as-Transaction Skills

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### Abstract

*Talk-as-Transaction is a major type of speaking skills. This pretest-posttest quasi-experimental study attempted to investigate the teaching effectiveness of the Production-oriented Approach (POA) on improving EFL learners' Talk-as-Transaction skills. Comparisons of the experimental and control groups' pre- and post-test scores revealed: (1) the experimental and control groups did not significantly differ from each other in terms of pre-test complexity, accuracy, fluency, content scores; (2) significant differences were found between the experimental and control groups' post-test complexity, accuracy, and content scores; (3) the experimental group has significantly improved the complexity, accuracy, fluency, and content on the post-test than on the pre-test. Different effect sizes of the POA on different aspects of Talk-as-Transaction skills were also revealed. The results indicated the POA has the potential to solve the accuracy problem in teaching Talk-as-Transaction and to substantially enhance EFL learners' Talk-as-Transaction skills by promoting the content and complexity of their oral production.*

**Keywords:** *Talk-as-Transaction, Production-oriented Approach, EFL.*

### INTRODUCTION

Speaking is considered by many (Malavika & Muthukrishan, 2021; Pinatih & Ganesha, 2021) as one of the most important skill among all the four basic language skills, including listening, reading, writing and speaking. Those who master a language are referred to as speakers of that language, as if speaking comprised all other skills (Ur, 2012). Thus, in teaching a language, we should give due attention to teaching speaking skills. However, speaking is typically regarded as one of the most difficult language skill to teach and master as well (Chand, 2021; Rahmat et al., 2020) in EFL (English as a foreign language) / ESL (English as a second language) teaching. Many English language learners still struggle to communicate effectively in oral English even after years of learning (Aziz & Kashinathan, 2021; Riadil, 2020). How to improve EFL/ESL learners' speaking skills has remained a critical problem to be solved in teaching practice.

To improve the speaking skills of EFL/ESL learners, we first need to consider three key factors: (1) what to teach when teaching English speaking, (2) how to teach English speaking, and (3) how to evaluate learners' speaking skills.

In terms of what to teach, which is the first key factor, if one area is to be focused on to reduced teaching and learning difficulty, Talk-as-Transaction may be a good choice. According to Richards (2008), Talk-as-Transaction, as is distinguished from Talk-as-Interaction and Talk-as-Performance, is a kind of talk that mainly focuses on information exchange. According to Campbell-Larsen and Romney (2017), Talk-as-Transaction is one of the more prevalent types of speaking that happens on a daily basis. Therefore, teaching language learners Talk-as-transaction is of practical significance. Furthermore, learning Talk-as-Transaction is conducive to turning language learners' receptive knowledge into productive one (Newton & Nation, 2020) and improving learners' speaking skills (Julio & Contreras, 2018; Zarcie et al., 2014).

When considering the second vital factor, that is to say, how to teach English speaking, we can adopt a language

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teaching approach known as the Production-oriented Approach (POA) (Wen, 2018). With a focus on language production, the POA stresses the importance of using both language input and output to enhance learners' language proficiency. Empirical studies have demonstrated the positive effectiveness the POA on improving Chinese EFL learners' speaking skills (Aamawi & Sun, 2023; Huang, 2023; Zhang, H., 2020). Though, initially the POA was put forward to improve EFL teaching within Chinese context, it has now been applied to some other cultural contexts outside China (Balázs, 2020; Yin, 2019).

With regards to the third key factor to be considered, that is, the measurement of learners' speaking skills, many of the previous studies mainly measured learners' language, for example, pronunciation, grammar, fluency, vocabulary, and so on (Cai & Rong, 2021; Liu & Zhang, 2022; Yang & Yao, 2022) to examine the teaching effectiveness of the POA on learners' speaking skills. These aspects of language can be summarized into three aspects: complexity, accuracy, and fluency. Few of the existing literature have tested speech content. However, to test the teaching effectiveness of a teaching approach, we need to align what is to be tested with what has been taught. Thus, if Talk-as-Transaction is taught, speech content should be tested as well, as the main focus of Talk-as-Transaction is on the information being transmitted. Moreover, some of the previous studies have suggested contradictory results when measuring the impact of the POA on learners' English speaking skills. For example, while Yang and Yao (2022) shared that the POA helped students improved lexicon application (an indicator of complexity) but not tone and intonation (an indicator of fluency), both Liu and Zhang (2022) and Sun and Asmawi (2022) found that students treated with the POA has significantly improved their oral fluency.

Therefore, based on the existing body of research on the POA's impact on EFL learners' speaking skills as well as research on Talk-as-Transaction, this study made an attempt to examine the effectiveness of the POA on improving EFL learners' Talk-as-Transaction skills by measuring the complexity, accuracy, fluency and content of learners' oral production. Specifically, this study tried to answer the following four research questions:

What are the effects of the Production-oriented Approach on the complexity of Chinese EFL learners' Talk-as-Transaction skills?

What are the effects of the Production-oriented Approach on the accuracy of Chinese EFL learners' Talk-as-Transaction skills?

What are the effects of the Production-oriented Approach on the fluency of Chinese EFL learners' Talk-as-Transaction skills?

What are the effects of the Production-oriented Approach on the content of Chinese EFL learners' Talk-as-Transaction skills?

## **LITERATURE REVIEW**

### **Talk-as Transaction**

According to Richards (2008), people's talk mainly serves three functions and three corresponding speaking activities were identified, including Talk-as-Interaction, Talk-as-Transaction, and Talk-as-Performance. Talk-as-Interaction is defined as the speaking in which people mainly speak to establish and maintain social relations. For Talk-as-Transaction, successful information exchange is the key. Talk-as-Performance refers to public talk in which information is transmitted before an audience. Seen from these definitions, Talk-as-Performance is a special kind of Talk-as-Transaction, as Talk-as-Performance also focuses on information exchange. Richards (2008) believed that for different types of speaking, the teaching difficulty and teaching strategies adopted are different. Talk-as-Transaction is easier to teach than Talk-as-Interaction. This is because Talk-as-Interaction is governed by unspoken principles, hence the most challenging skill to be taught. On the contrary, with more current communicative materials, Talk-as-Transaction is easier to plan.

However, linguistic accuracy remains an unresolved issue in teaching Talk-as-Transaction, particularly when using various kinds of communicative tasks, because in Talk-as-Transaction, the successful communication or

understanding of information takes precedence over accuracy (Rahmat et al., 2020). It is assumed that form will mostly take care of itself with teachers' random support. Consequently, fluency is frequently developed at the expense of accuracy in communication tasks. Rahmat et al. (2020) believed it did not sound right to ignore grammar and syntax rules because grammar and communication skills are of equal importance.

Richards (2008) proposed a number of strategies to deal with the problem of linguistic accuracy when students are engaging in transactional speaking activities:

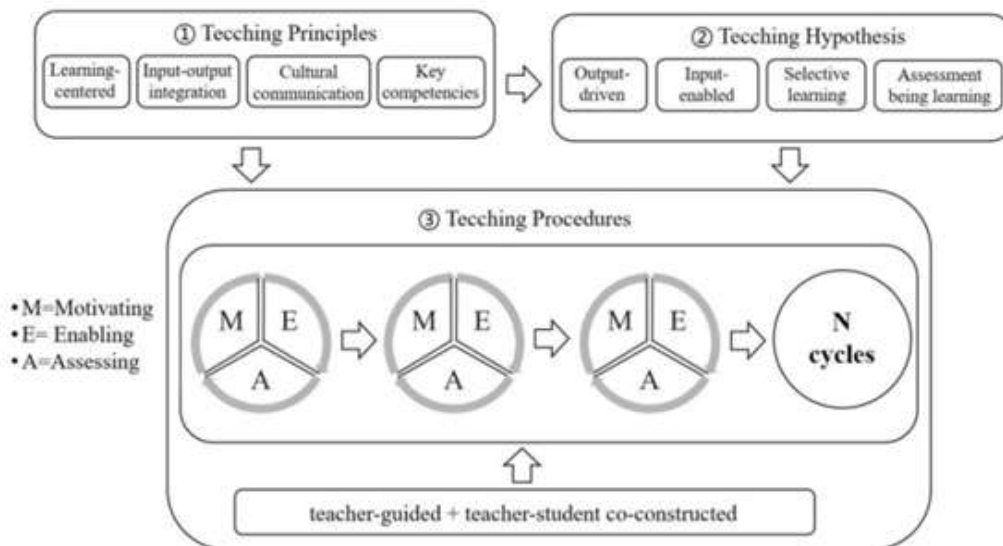
- (1) Teach in advance some language forms which may be of use while completing the task.
- (2) Simplify the task by, for instance, making students familiar with the task requirements and having them watch a video or listen to a dialogue that resembles the task.
- (3) Allow students time for task planning.
- (4) Let students perform the task several times.

Therefore, when designing the POA-based learning activities, the researcher has taken all four strategies suggested by Richards (2008) into consideration.

### **The Production-Oriented Approach (POA)**

The Production-oriented Approach (POA) (Wen, 2015) a new teaching approach that combines Western instructional approaches with Chinese contextual features to overcome the problem of discrepancy between language learning and use among Chinese EFL learners. The POA emphasizes the active use of language in meaningful contexts to improve learners' communicative competence and highlights the value of both language input and output in empowering students to complete productive tasks.

Following several cycles of development, the latest version of the POA's theoretical system contains three components: (1) four teaching principles (the learning-centered principle, the input-output integration principle, the cultural communication principle, and the key competencies principle), (2) four teaching hypotheses (the output-driven hypothesis, the input-enabled hypothesis, the selective-learning hypothesis, and the assessment-being-learning hypothesis), and (3) many circles of three-phase teaching procedures (refer to Figure 1). While the teaching hypotheses provide a theoretical foundation for the teaching procedures, the teaching procedures reflect and illustrate the teaching principle, as well as test the teaching hypotheses.



**Figure 1:** The Production-oriented Approach

**Source:** Wen, 2018, p. 393

Throughout the three phases of the teaching procedures, the POA can realize all four strategies proposed by Richards (2008) to improve linguistic accuracy in Talk-as-Transaction.

Motivating is the first phase of the POA. In the motivating phase, the teacher describes the communicative scenario and proposes the productive task. Students then attempt to complete the productive task before learning the materials, after which the teacher explains the learning objectives and divides the main productive task into several mini-tasks. In this way, the teacher simplifies the productive tasks for students and makes students familiar with the productive task and aware of what they lack for completing the productive task, be it language, idea, or structure.

In the enabling phase, based on the input-enabled hypothesis, the teacher explains how the productive task is to be accomplished and presents students with relevant enabling materials for each mini-task. This is because the input-enabled hypothesis asserts that output-driven learning can produce greater results with relevant input materials than it can without these materials. Teachers should not offer students input materials randomly but instead should select and adopt input materials relevant to the prescribed productive task. These input materials can be a video or a dialogue that is similar to the productive task. Still, students can choose to learn some of the materials presented by the teacher. The selective-learning hypothesis states that students only learn what is necessary for the specific productive task. In this way, students learn some language forms which they lack but may be of use while completing the task. Sticking to the input-output integration principle, the teacher gives students time to prepare and practice each mini-task once they have finished learning the relevant materials. In other words, students are allowed time for task planning and practicing.

Finally, in the assessing phase, guided by the assessment-being-learning hypothesis, the teacher and students jointly set up assessment criteria in accordance with the requirements of the productive task, through which students become familiar with the task. Students then plan, prepare, and practice the main productive task after class and submit their products to the teacher for teacher-student collaborative assessment during the next class. In this way, students are required to perform the task several times.

In a nutshell, by fulfilling all four teaching strategies suggested by Richards (2008), the POA is a potential teaching approach to enhance linguistic accuracy in Talk-as-Transaction.

Empirical studies have shown that by attaching more importance to language production and individual competencies, the POA is effective in cultivating students' communicative skills, speaking and writing in particular. Asmawi and Sun (2023) explored the application of POA to Chinese undergraduates' oral English classes based on online teaching and learning. Data analysis of pre and post-test scores showed significant improvement in the experimental class, particularly in pronunciation, vocabulary, and fluency, compared to minimal improvement in the control class, indicating the POA's significant enhancing impact on the speaking skills of Chinese undergraduates. However, since online teaching and learning can motivate students and improve their English speaking skills as well (Amiti, 2020), we cannot be 100 percent sure that in Asmawi and Sun (2023), students' improvement in English speaking skills was due to the POA or not. After conducting one-unit POA-based English-speaking instruction, Wan (2020) analyzed the qualitative data collected through students' learning diaries as well as interviews of both students and teachers who observed the teaching videos. The findings demonstrate that POA can assist students in shifting from a learning mindset to a using mindset, encouraging them to participate in class discussions, and improving their oral performance. However, the teaching intervention in Wan (2020) only lasted for 200 minutes, which might not be long enough for the POA to fully display its merits as well as demerits. Besides, Wan (2020) concluded the teaching effectiveness of the POA purely based on qualitative data, which may not be a proper way to determine a cause-and-effect relationship. Therefore, a quantitative study of longer intervention period that only adopted the POA is needed to check the teaching effectiveness of the POA on improving Chinese EFL learners' speaking skills.

### **Complexity, Accuracy, and Fluency**

Despite being frequently adopted as criteria for evaluating language learners performances (Ozeki et al., 2022), complexity, accuracy and fluency were defined and measured differently in different studies. Different types of complexity, accuracy and fluency have been identified. When it comes to gauge language proficiency, it is

generally accepted that complexity is restricted to linguistic complexity and refers to the size, elaborateness, richness, and diversity of language learners' performance; accuracy is typically defined as the degree to which the language produced is target-like and error-free; fluency, to be specific, utterance fluency, is a measure of the smooth, easy, and eloquent production of speech with limited numbers of pauses, hesitations, or repairs (Michel, 2017).

## **Methodology**

### **Research Design and Participants**

Aimed at investigating the effect of the POA on Chinese EFL learners' Talk-as-Transaction in terms of complexity, accuracy, fluency, and content, this study adopted a pretest-posttest quasi-experimental research design. The participants of this study were 92 first-year EFL learners coming from two intact classes at a college (henceforth referred to as the College) in China. An independent sample t-test showed that there was no significant difference in the means scores of the English test in Gaokao (i.e., the Chinese National College Entrance Examination) between the two classes, indicating that at the beginning of the experiment, the two classes were roughly of the same language proficiency level. One class was randomly assigned as the experimental group (EG) and taught Talk-as-Transaction using the POA. In contrast, the other class was assigned as the control group (CG) and taught using the PPP (Presentation, Practice, Production).

The reliability of the study was established by the adoption of three independent raters, who were masked from the data of the subjects to reduce bias and asked to rate independently, as well as by moderation training of the raters. Moderation training can help improve the intra-rater and inter-rater reliability (Watari et al., 2022). The face validity of the oral test and its marking rubric were established in the pilot study by students and in moderation training by the independent raters, respectively. The content validity was checked by three experts in EFL teaching.

### **Teaching Materials and Research Instruments**

The textbook used was *New Horizon College English Listening and Speaking 1 (3rd edition)*. Ten topics in relation to Talk-as-Transaction were picked out for teaching. Accordingly, the researcher carefully designed the communicative scenarios and productive tasks and some videos and audios pertinent to the productive tasks to complement the input materials provided in the textbook.

The pre- and post-test adopted the identical oral test and marking rubric to increase validity. The oral test consisted of ten items relating to the ten Talk-as-Transaction topic, so it was more directly related to the content domain linked with the present study. In line with the four research questions, the marking rubric focused on four aspects: complexity, accuracy, and fluency and content, with each aspect accounting for 25 points. Therefore, the overall score of the oral test is 100 points.

### **Implementation and Data Collection**

The quasi-experiment was conducted in 12 weeks. In the first week, after introducing the study and getting students' consent, the researcher conducted the pre-test with the EG and CG to check both groups' English proficiency levels in Talk-as-Transaction before intervention. Students formed into pairs to take the oral test. Each pair took a random pick from the ten oral test items to decide one to talk about for approximately two minutes. Two minutes were given to each pair for preparation. During the subsequent ten weeks, following the three-phase teaching procedures of motivating, enabling, and assessing, the teacher administered the POA to the EG. The researcher taught the CG using the same textbook and input materials as the EG to ensure that if any difference was found between the EG and CG, it was not caused by the difference in teaching materials. The teaching method adopted for the CG was the traditional method of PPP (Presentation, Practice, Production). For both the EG and CG, the weekly teaching instruction lasted 90 minutes. After ten weeks of instruction, the researcher conducted the post-test with both the EG and CG, which adopted the identical oral test and followed the same procedures and requirements as in the pre-test. Student was also directed to pair with the same partner and give a talk on the same item as in the pre-test. Based on the marking rubric, three independent raters scored each student's performance in the pre- and post-test. Figure 2 demonstrates the

procedures of the quasi-experiment.

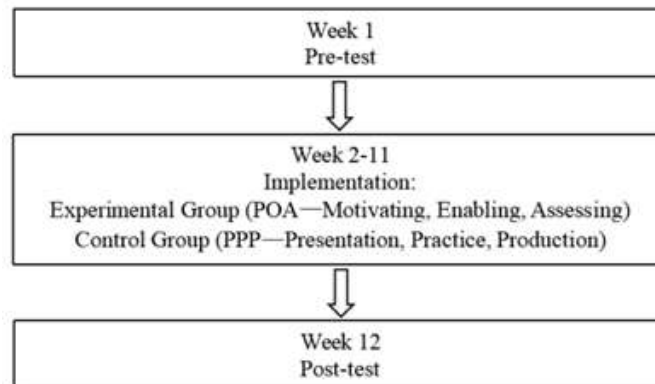


Figure 2: Procedures of the Quasi-experiment

### Data Analysis

The pre- and post-test scores were entered into SPSS 26 for analysis. The means and standard deviations of the EG and CG groups’ pre- and post-test scores for complexity, accuracy, fluency, and content were calculated and compared, respectively. First, the researcher conducted several independent samples t-tests to compare the levels of the EG and CG in the pretest in terms of complexity, accuracy, fluency, and content. The post-test scores of the EG and CG were also compared on all four aspects of complexity, accuracy, fluency, and fluency to see whether the EG had performed significantly differently from the CG in terms of these four aspects. Second, to exclude the potential effect of pre-test sensitization, the researcher performed the ANCOVA (Analysis of Covariate). Finally, to see how much the EG has improved on these four aspects, the researcher compared the EG’s pre- and post-test scores through several paired samples t-tests.

## RESULTS

### Test of Normality and Test of Homogeneity

Before conducting the t-tests and ANOVAs, test of normality and test of homogeneity were done to check whether the data set met the assumptions of normal distribution and homogeneity of variances, which are two critical assumptions of t-tests and ANCOVA (Delacre et al., 2017; Keselman et al., 1998). To test normality, as the sample size of each group was less than 50, the researcher adopted the Shapiro-Wilk test, which is regarded as the strongest one with a small sample size (Öztuna et al., 2006). Table 1 summarizes the *p*-values of the Shapiro-Wilk test of both the pre- and post-test scores for complexity, accuracy, fluency, and content. As shown in Table 1, all *p*-values are greater than 0.05, indicating that scores for these four aspects in pre- and post-test all have an approximately normal distribution.

Table 1. Shapiro-Wilk Test Results of Pre- and Post-test Scores

	Group	Pre-test			Post-test		
		Statistic	Df	Sig.	Statistic	df	Sig.
Complexity	EG	.961	48	.115	.955	48	.062
	CG	.954	44	.076	.971	44	.318
Accuracy	EG	.979	48	.538	.966	48	.175
	CG	.950	44	.055	.966	44	.212
Fluency	EG	.973	48	.343	.979	48	.556
	CG	.973	44	.383	.976	44	.474
Content	EG	.974	48	.366	.959	48	.091
	CG	.951	44	.059	.974	44	.420

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

For the test of homogeneity, Levene's test results show that the *p-values* for complexity, accuracy, complexity, and fluency in pre- and post-test are more than 0.05 (see Table 2), indicating no significant difference in variances existed across the groups and we could continue with the t-tests and ANCOVAs.

**Table 2. Test of Homogeneity of Variance of Pre- and Post-test Scores**

		Levene Statistic	df1	df2	Sig.
Complexity (pre)	Based on Mean	.005	1	90	.946
	Based on Median	.013	1	90	.910
	Based on Median and with adjusted df	.013	1	89.486	.910
	Based on trimmed mean	.003	1	90	.956
Accuracy (pre)	Based on Mean	2.336	1	90	.130
	Based on Median	2.338	1	90	.130
	Based on Median and with adjusted df	2.338	1	89.431	.130
	Based on trimmed mean	2.368	1	90	.127
Fluency (pre)	Based on Mean	1.247	1	90	.267
	Based on Median	1.200	1	90	.276
	Based on Median and with adjusted df	1.200	1	86.997	.276
	Based on trimmed mean	1.256	1	90	.265
Content (pre)	Based on Mean	.943	1	90	.334
	Based on Median	.639	1	90	.426
	Based on Median and with adjusted df	.639	1	88.213	.426
	Based on trimmed mean	.876	1	90	.352
Complexity (post)	Based on Mean	2.544	1	90	.114
	Based on Median	2.577	1	90	.112
	Based on Median and with adjusted df	2.577	1	85.350	.112
	Based on trimmed mean	2.571	1	90	.112
Accuracy (post)	Based on Mean	.837	1	90	.363
	Based on Median	.487	1	90	.487
	Based on Median and with adjusted df	.487	1	87.935	.487
	Based on trimmed mean	.861	1	90	.356
Fluency (post)	Based on Mean	1.395	1	90	.241
	Based on Median	1.257	1	90	.265
	Based on Median and with adjusted df	1.257	1	87.599	.265
	Based on trimmed mean	1.356	1	90	.247
Content (post)	Based on Mean	1.753	1	90	.189
	Based on Median	1.878	1	90	.174
	Based on Median and with adjusted df	1.878	1	84.817	.174
	Based on trimmed mean	1.902	1	90	.171

### Comparison of Pre-test Scores between EG and CG

To determine whether the EG and CG were of the same proficiency level in Talk-as-Transaction in terms of complexity, accuracy, fluency, and content when the quasi-experiment began, the researcher conducted independent samples t-tests to compare the means of the EG and CG in the pre-test. Table 3 shows the means and standard deviations (SD) of the EG and CG in the pre-test, according to which, the means of the EG's pre-test scores on complexity (M=14.263, SD=2.3099), accuracy (M=14.479, SD=2.3908), fluency (M=14.382, SD=2.3216), and content (M=14.208, SD=2.5308) were very close to the means of the CG's pre-test scores on complexity (M=14.439, SD=2.3601), accuracy (M=14.394, SD=2.8812), fluency (M=13.568, SD=2.8060), and content (M=14.652, SD=2.8284), respectively.

**Table 3. Means and Standard Deviations of EG and CG in Pre-test**

Scale	Group	N	Mean	Standard Deviation
Complexity	EG	48	14.263	2.3099
	CG	44	14.439	2.3601
Accuracy	EG	48	14.479	2.3908
	CG	44	14.394	2.8812
Fluency	EG	48	14.382	2.3216
	CG	44	13.568	2.8060
Content	EG	48	14.208	2.5308
	CG	44	14.652	2.8284

Table 4 shows that the *p*-values of independent samples t-test the EG’s and CG’s pre-test scores on complexity (*p*=0.718>0.05), accuracy (*p*=0.877>0.05), fluency (*p*=0.132>0.05), content (*p*=0.430>0.05) were all greater than 0.05, indicating that, prior to the experiment, no statistically significant difference existed between the EG and CG in terms of complexity, accuracy, fluency, and content. Thus, we can claim that the differences observed on the post-test were not caused by initial differences.

**Table 4. Independent Samples T-test Results of Pre-test**

		Levene’s Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig.	MD	SED	95% CI	
									Lower Bound	Upper Bound
Complexity	Equal variances assumed	.005	.946	.362	90	.718	.1762	.4871	-.7916	1.1440
	Equal variances not assumed			.361	88.934	.719	.1762	.4876	-.7926	1.1450
Accuracy	Equal variances assumed	2.336	.130	-.155	90	.877	-.0852	.5503	-1.1784	1.0080
	Equal variances not assumed			-.154	83.850	.878	-.0852	.5547	-1.1884	1.0180
Fluency	Equal variances assumed	1.247	.267	-1.520	90	.132	-.8138	.5352	-1.8771	.2496
	Equal variances not assumed			-1.508	83.733	.135	-.8138	.5397	-1.8870	.2595
Content	Equal variances assumed	.943	.334	.793	90	.430	.4432	.5587	-.6669	1.5532
	Equal variances not assumed			.789	86.601	.432	.4432	.5615	-.6729	1.5592

**Comparison of Post-test Scores between EG and CG**

The post-test scores on complexity, accuracy, fluency, and content for the EG and CG were compared to see if they differed significantly. To rule out the effect of pre-test sensitization, a circumstance in which individuals who have taken a pre-test will be more sensitive to the intervention than those who have not taken a pre-test, resulting in better results on the post-test, the researcher utilized the ANCOVA. Thus, the mean scores of the EG and CG on the post-test were compared with the pre-test scores serving as the covariate. Table 5 summarizes the means and standard deviations of the EG’s and CG’s post-test scores.

**Table 5. Means and Standard Deviations of EG and CG in Post-test**

Scale	Group	N	Mean	Standard Deviation
Complexity	EG	48	16.438	1.9716
	CG	44	15.409	2.5557
Accuracy	EG	48	16.104	2.2346
	CG	44	15.333	2.5027
Fluency	EG	48	15.236	2.3297
	CG	44	14.917	2.7881
Content	EG	48	16.861	1.9664
	CG	44	15.682	2.4473

**Complexity.** As can be seen from Table 5, the post-test scores on complexity between the EG (M=16.438, SD=1.9716) and CG (M=15.409, SD=2.5557) are not equal. The results of ANCOVA (see Table 6) suggest that the covariate, namely the pre-test complexity scores, was significantly related to the post-test complexity



scores,  $F(1,89)=62.213, p=0.000 (<0.05)$ . After controlling for the impact of the pre-test, there is a statistically significant difference in the EG's and CG's post-test scores on complexity,  $F(1,89)=9.689, p=0.002(<0.05)$ . Besides, the value of partial Eta Squared, which is an indicator of effect size, is  $\eta^2=0.098$ . Cohen (1988) suggested that the partial Eta Squared values of  $\eta^2=0.0099, 0.0588, \text{ and } 0.1379$  were cut-off points for small, medium, and large effects, respectively. Thus, after controlling for the pre-test, the POA had a medium effect on the EG's complexity in Talk-as-Transaction in the post-test. With the EG scoring higher than the CG, the findings disclose that the POA had a considerable favorable impact on students' complexity in Talks-as-Transaction.

**Table 6. ANCOVA of Post-test Complexity Scores between EG and CG**

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	215.001 <sup>a</sup>	2	107.501	35.067	.000	.441
Intercept	112.794	1	112.794	36.793	.000	.292
Complexity(pre)	190.722	1	190.722	62.213	.000	.411
Group	29.703	1	29.703	9.689	.002	.098
Error	272.838	89	3.066			
Total	23880.111	92				
Corrected Total	487.839	91				

a. R Squared = .441 (Adjusted R Squared = .428)

**Accuracy.** As shown in Table 5, the post-test accuracy scores for the EG ( $M=16.104, SD=2.2346$ ) and CG ( $M=15.333, SD=2.5027$ ) are not comparable. Further ANCOVA results (see Table 7) reveal that there is a significant relationship between the pre- and post-test accuracy scores,  $F(1,89)=84.640, p=0.000 (<0.05)$ . After adjusting for the pre-test effect, there is a statistically significant difference between the EG's and CG's post-test accuracy scores,  $F(1,89)=4.069, p=0.047 (<0.05)$ . Furthermore, the partial Eta Squared value ( $\eta^2=0.044$ ) indicates that the POA has a small impact on the accuracy of the experimental group in the post-test. Thus, with the EG outperforming the CG, the ANCOVA findings suggest that the POA has a substantial positive effect on students' accuracy in Talks-as-Transaction.

**Table 7. ANCOVA of Post-test Accuracy Scores between EG and CG**

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	259.330 <sup>a</sup>	2	129.665	44.670	.000	.501
Intercept	129.378	1	129.378	44.571	.000	.334
Accuracy(pre)	245.689	1	245.689	84.640	.000	.487
Group	11.812	1	11.812	4.069	.047	.044
Error	258.345	89	2.903			
Total	23297.444	92				
Corrected Total	517.675	91				

a. R Squared = .501 (Adjusted R Squared = .490)

**Fluency.** Table 5 demonstrates that the post-test fluency scores of the EG ( $M=15.236, SD=2.3297$ ) and CG ( $M=14.917, SD=2.7881$ ) differ by 0.319 on average. Table 8 reveals that the covariate, pre-test fluency scores, is significantly related to the post-test fluency scores,  $F(1,89)=104.085, p=0.000 (<0.05)$ . As can be observed, after controlling for the effect of the pre-test on the post-test, with  $F(1,89)=.562, p=0.456 (>0.05)$ , there is no statistically significant difference in students' post-test fluency scores between the EG and CG, indicating that the POA does not have a significantly promoting effect on students' fluency in Talk-as-Transaction.

**Table 8. ANCOVA of Post-test Fluency Scores between EG and CG**

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	320.040 <sup>a</sup>	2	160.020	52.426	.000	.541
Intercept	68.669	1	68.669	22.497	.000	.202
Fluency(pre)	317.698	1	317.698	104.085	.000	.539
Group	1.714	1	1.714	.562	.456	.006
Error	271.654	89	3.052			
Total	21522.333	92				
Corrected Total	591.694	91				

a. R Squared = .541 (Adjusted R Squared = .531)

**Content.** As disclosed in Table 5, the EG (M=16.861, SD=1.9664) and the CG (M=15.682, SD=2.4473) appear to have a mean difference of 1.179 in post-test content scores. Table 9 demonstrates that the covariate, pre-test content scores, is significantly related to the post-test content scores,  $F(1,89)=14.402, p=0.000 (<0.05)$ . After adjusting for pre-test content scores, there is a statistically significant difference between the EG and CG in the post-test content scores,  $F(1,89)=14.402, p=0.000 (<0.05)$ . The effect size is large ( $\eta^2=0.139$ ), indicating that the POA has a large effect on the experimental group’s post-test content scores. In short, with the EG scoring higher than the CG on average, ANCOVA results indicate that the POA has a significantly improving impact on students’ content in Talk-as-Transaction.

**Table 9. ANCOVA of Post-test Content Scores between EG and CG**

Dependent Variable: Content (post)						
Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	194.407 <sup>a</sup>	2	97.203	31.253	.000	.413
Intercept	244.302	1	244.302	78.549	.000	.469
Content(pre)	162.480	1	162.480	52.241	.000	.370
Group	44.793	1	44.793	14.402	.000	.139
Error	276.806	89	3.110			
Total	24906.000	92				
Corrected Total	471.213	91				

a. R Squared = .413 (Adjusted R Squared = .399)

**Comparison of EG’s Pre- and Post-test Scores**

The researcher employed the paired samples t-test in SPSS 26 to determine how much the EG has improved in complexity, accuracy, fluency, and content in the post-test relative to the pre-test. Table 10 summarizes the means and standard deviations of the EG’s pre- and post-test scores on complexity, accuracy, fluency, and content.

**Table 10. Means and Standard Deviations of EG’s Pre- and Post-test Scores**

		N	Mean	Std. Deviation
Pair 1	Complexity (post)	48	16.438	1.9716
	Complexity (pre)	48	14.263	2.3099
Pair 2	Accuracy (post)	48	16.104	2.2346
	Accuracy (pre)	48	14.479	2.3908
Pair 3	Fluency (post)	48	15.236	2.3297
	Fluency (pre)	48	14.382	2.3216
Pair 4	Content (post)	48	16.861	1.9664
	Content (pre)	48	14.208	2.5308

Table 11 presents the paired samples t-test results of the EG's pre- and post-test scores on complexity, accuracy, fluency, and content.

Table 11. Paired Samples T-test of EG's Pre- and Post-test Scores

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	SD	SEM	95% CI				
								Lower Bound	Upper Bound
Pair 1	Complexity (post) - Complexity (pre)	2.1743	1.7535	.2531	1.6651	2.6835	8.591	47	.000
Pair 2	Accuracy (post) - Accuracy(pre)	1.6250	1.5508	.2238	1.1747	2.0753	7.260	47	.000
Pair 3	Fluency (post) - Fluency (pre)	.8542	1.2954	.1870	.4780	1.2303	4.568	47	.000
Pair 4	Content (post) - Content (pre)	2.6528	2.0211	.2917	2.0659	3.2396	9.093	47	.000

Furthermore, while a *p*-value can tell readers if an effect is present or not, it withholds information regarding the effect size. Therefore, using the means and standard deviations given in Table 10, the researcher calculated Cohen's *d*, one of the widely used effect-size measures (McGrath & Meyer, 2006). The cut-off values for classifying observed effect sizes as small, medium, or large are *d*=0.20, *d*=0.50, and *d*=0.80, respectively (Cohen, 1988). The values of Cohen's *d* and the associated effect sizes are summarized in Table 12.

Table 12. Cohen's d and Effect Size of Each Scale for Experimental Group

Scale	Pair	Cohen's d	Effect size
Complexity	Complexity(post) & Complexity(pre)	1.01	Large
Accuracy	Accuracy(post) & Accuracy(pre)	0.70	Medium
Fluency	Fluency(post) & Fluency(pre)	0.37	Small
Content	Content(post) & Content(pre)	1.17	large

**Complexity**As shown in Tables 10 and 11, there is a significant increase in complexity scores from the pre-test (*M*=14.263, *SD*=2.3099) to the post-test (*M*=16.438, *SD*=1.9716), *t*(47)=8.591, *p*=0.000(<0.05). The mean increase in performance scores was 2.1743 points with a 95% confidence interval ranging from 1.6651 to 2.6835. The effect size, as measured by Cohen's *d*, was 1.01 (see Table 12), which indicates a large effect. Therefore, we can argue that the POA had a substantial improvement in students' complexity in Talk-as-Transaction.

**Accuracy**Table 10 shows that the mean accuracy score before the intervention was 14.479 (*SD* = 2.3908), while the mean accuracy score after the intervention increased to 16.104 (*SD* = 2.2346). A paired samples t-test revealed a mean difference of 1.6250 (95% CI [1.1747, 2.0753]), *t*(47)=7.260, *p*=0.000<0.05 (see Table11), indicating a significant increase in accuracy in Talk-as-Transaction following the intervention of the POA. The Cohen's *d*=0.7 indicates a medium effect size (see Table 12). Thus, we can conclude that the POA had a significantly positive impact on students' accuracy in Talk-as-Transaction.

**Fluency**A statistically significant rise in the fluency scores from the pre-test (*M*=14.382, *SD*=2.3216) to the post-test (*M*=15.236, *SD*=2.3297), *t*(47)=4.568, *p*=0.000(<0.05), can be observed in the paired samples t-test used to assess the effect of the POA on students' fluency in Talk-as-Transaction (refer to Tables 10 and 5.11). The mean increase of 0.8542 points (*SD*=1.2954) indicates a mild improvement, and the confidence interval suggests that we can be 95% confident that the true mean difference in performance scores lies between 0.4780 and 1.2303 points (see Table 11). Table 12 shows that Cohen's *d* for fluency is 0.37, indicating a small effect size. Thus, the POA has a significantly improving impact on students' fluency in Talk-as-Transaction, though the effect size is small.

**Content** Paired samples t-test results (see Tables 10 and 11) suggest a statistically significant improvement in EG's content scores from pre-test ( $M=14.208$ ,  $SD=2.5308$ ) to post-test ( $M=16.861$ ,  $SD=1.9664$ ) at the 0.05 level of significance,  $t(47)=9.093$ ,  $p=0.000(<0.05)$ . The mean increase of 2.6528 ( $SD=2.0211$ ) points indicates a substantial improvement, and the confidence interval suggests that we can be 95% confident that the true mean difference in content scores lies between 2.0659 and 3.2396 points. Table 12 shows that Cohen's d for content is 1.17, indicating a large effect size. The results provide sufficient evidence to suggest that the difference in the EG's pre- and post-test content scores is of statistical significance and that the POA has a significantly promoting impact on students' content in Talk-as-Transaction.

## DISCUSSION

Based on a comprehensive analysis of the results presented in Tables 1 to 12, the four research questions will be answered and discussed in this part.

### POA's Effect on Chinese EFL Learners' Complexity in Talk-as-Transaction

A comparison of pre-test scores on complexity between the EG and CG shows that there was no significant difference between the EG and CG in terms of level of complexity in Talk-as-Transaction. However, after an intervention of 12 weeks, both ANCOVA and paired samples t-test results show that the EG has significantly improved in terms of complexity in Talk-as-Transaction. Additionally, both the partial Eta Squared ( $\eta^2=0.098$ ) and Cohen's d ( $d=1.01$ ) suggest a large effect size. Thus, the findings indicate that the POA can significantly enhance the complexity of Chinese EFL learners in Talk-as-Transaction. This could be because, based on the deficiencies identified in the motivating phase, students can selectively learn the vocabulary and sentence structures they need to complete the productive task from the highly relevant and supportive input materials. In other words, they can learn in a more focused and effective way.

The findings align with Cai and Rong (2021), who found that the POA has significantly improved the EG's lexical density and lexical complexity in oral English proficiency. Similarly, Asmawi and Sun (2023) examined the effectiveness of the POA on Chinese undergraduates' oral English through the Online Teaching and Learning model and revealed that the POA could have a significantly positive influence on students' vocabulary repertoire, which they believed, was due to exposure to input materials provided through online listening and reading.

### POA's Effect on Chinese EFL Learners' Accuracy in Talk-as-Transaction

Independent samples t-test results show that there was no significant difference in accuracy between the EG's and CG's pre-test scores. Nevertheless, the ANCOVA and paired samples t-test findings demonstrate that, after receiving the treatment for 12 weeks, the EG has greatly improved accuracy in Talk-as-Transaction on the post-test. In addition, the partial Eta Squared ( $\eta^2=0.044$ ) and Cohen's d ( $d=0.7$ ) suggest a small and medium effect size, respectively. In short, the findings indicate that probably by teaching beforehand some linguistic forms that may be useful in completing the oral task (Richards, 2008), the POA can have a significantly enhancing effect on Chinese EFL learner's complexity in Talk-as-Transaction, though the effect size may not be large.

The findings were congruent with findings suggested by Asmawi and Sun (2023), who found evidence to support the significant and positive effect of the POA on Chinese undergraduates' grammatical accuracy and pronunciation. However, Li (2018) proposed a different finding: the POA and the PPP were nearly equally efficient in increasing the accuracy of students' spoken English. The difference in findings may be related to the various standards used to evaluate accuracy. This study employed general measures to evaluate accuracy in terms of pronunciation, vocabulary and grammar use. Asmawi and Sun (2023) evaluated grammatical and pronunciation accuracy; however, the researchers did not specify whether they used general or particular measurements. Li (2018) assessed accuracy by dividing the number of error-free clauses by the total number of AS units. Therefore, we can conclude from the findings that the POA can be a solution to the accuracy problem left in teaching Talk-as-Transaction. However, more empirical studies on the teaching effectiveness of the POA using the same standards to evaluate accuracy in Talk-as-Transaction are required.

### **POA's Effect on Chinese EFL Learners' Fluency in Talk-as-Transaction**

The findings of the independent samples t-test reveals no significant difference in the EG's and CG's pre-test scores on fluency. In contrast to the ANCOVA results, which demonstrate no statistically significant difference between the post-test fluency scores of the EG and CG, the paired samples t-test results indicate a statistically significant increase in the fluency scores of the EG from the pre-test to the post-test, with Cohen's d ( $d=0.37$ ) suggesting a small effect size. There, we can conclude that the POA can, to some extent, improve the Chinese EFL learners' fluency in Talk-as-Transaction. This finding is partially supported by Liu and Zhang (2022), who shared that students of the EG improved their oral fluency greatly in the post-test than in the pre-test.

However, Fu (2022) shared a different finding: in terms of fluency (assessed by speech rate, and number of fillers, unwanted pauses, and self-repairs), nearly half of the students received lower scores in the post-test than in the pre-test, indicating a decrease in students' fluency in oral English. This could be explained by the Trade-off Hypothesis (Skehan, 2009), which claims that due to human beings' limited mental resources, there is a competitive relationship between complexity, accuracy, and fluency. Therefore, in this study, when the POA has a large impact on both complexity and accuracy, the impact of the POA on fluency becomes relatively small.

### **POA's Effect on Chinese EFL Learners' Content in Talk-as-Transaction**

No statistically significant difference existed in the pre-test content scores between the EG and CG. However, following a 12-week course of treatment, the ANCOVA and paired samples t-test results show that the EG significantly improved Talk-as-Transaction content on the post-test. Moreover, a large effect size is suggested by both the partial Eta Squared ( $\eta^2=0.139$ ) and Cohen's d ( $d=1.17$ ). Thus, we can draw the conclusion that the POA can have a significantly great improving effect on the content of Talk-as-Transaction for Chinese EFL learners. This could be because, in accordance with the POA's input-enabled hypothesis, the teacher offered students a variety of input materials that were not only closely related to and supportive of the oral tasks, but also diverse in scope and depth of content.

Zhang, H. (2020) revealed that after being taught with the POA for a semester, students had more things to say in their oral tasks. Zhang, P. Q. (2020) shared that the POA helped students deepen and widen the coverage of the information contained in the oral production. Thus, both Zhang, H. (2020) and Zhang, P. Q. (2020) indicated an increase in students' speech content by the POA.

## **CONCLUSION AND RECOMMENDATIONS**

This study attempted to examine the teaching effectiveness of the POA on Chinese EFL learners' Talk-as-Transaction in terms of complexity, accuracy, fluency, and content. The findings demonstrate that, compared with the traditional teaching method of PPP, the POA could significantly improve students' complexity, accuracy, and content in Talk-as-Transaction. Effect size measures of partial Eta Squared and Cohen's d further revealed that the POA exerted the largest effect on content, followed by complexity and accuracy, and least on fluency. Though the EG did not receive a significantly higher score than the CG on fluency in the post-test, the EG did significantly improve their fluency in Talk-as-Transaction in the post-test than in the pre-test. As a result, this study added to the body of empirical evidence supporting the POA's effectiveness in teaching oral English to Chinese EFL learners. Moreover, the results suggested that the POA may offer a solution to the challenging problem in teaching Talk-as-Transaction, namely improving learners' linguistic accuracy.

However, participants involved in this study were only 92 freshmen from one college in China. Thus, the findings may not be generalized to the entire population of all EFL learners. Future studies can involve EFL learners from various schools of different instructional levels both within and outside China to cover a more comprehensive range of populations and offer more evidence.

Furthermore, this study evaluated the effect of the POA on students' Talk-as-Transaction skills by examining the CAF (complexity, accuracy, and fluency) framework and content. However, there is no agreement on the CAF measurements, making operationalizing and assessing it difficult. Instead of using specific and potentially subjective measurements, this study measured all three components of the CAF framework using general measures. Future research can, therefore, use more specific metrics to evaluate the CAF of students' speaking

abilities and contrast the findings with those of other studies using more general metrics in order to draw more insightful conclusions based on a greater comprehension of the issues.

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