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Exploring the Efficacy of the Production-Oriented Approach in Improving English Interpreting Skills—A Case Study

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ABSTRACT

The demand for efficient English interpreters have been on a constant rise in the rapid evaluation of globalization—the skilled interpreters are a prerequisite for international interactions across diplomatic, business, and cultural domains. The traditional models in practice to train the interpreters are based on theoretical knowledge with less emphasis on practical skills required for effective real-world communication. In contrast, the Production-Oriented Approach (POA) focuses more on Practical Language Application (PLA), considered a better alternative to conventional training methodologies. This study challenges to analyze the effectiveness of the POA in improving English Interpreting Skills (EIS) by creating a case study at a top university in China. The work employed a quantitative research design on a study involving 47 students in pre-test/post-test experiments to measure the boosts achieved in EIS direct features to POA implementation. Results indicated significant improvements in the experimental groups, with undergraduates and graduates showing mean score increases of 13 and 12 points, respectively, after the implementation of POA.

Keywords: Production-Oriented Approach; Machine Learning; English Interpreting Skills; Practical Language Application

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1. Introduction

Today's world has become so dynamic and interconnected due to advancements in global communication methods, which had augmented the demand for proficient language interpreters[1, 2]. The interpreters are essential in managing language difficulties in diplomatic, business, and social environments. So, training such interpreters needs effective and efficient practices that are often limited in traditional training methods as they are more inclined towards theoretical knowledge and less critical to real-world features essential for real-world application[3, 4]. This limitation requires innovative educational approaches integrating practical English Interpreting Skills (EIS) with theoretical knowledge[5]. The Production-Oriented Approach (POA) has been understood as a better alternative to the traditional approaches in providing a better pedagogical method[6, 7]. The POA is employed to fill the gaps in conventional methods by focusing on dynamically using EIS in realistic settings[8]. The POA methods enhance the practical competencies of interpreters by emphasizing production, interaction, and real-time problem-solving, which makes the EIS and allows them to adapt to handle the subtle needs of real-world interpreting[9].

The efficiency of employing the POA methodology in enhancing EIS has not been methodically measured, which results in a gap in pedagogical research[10].

Objective of Paper

1. The motivation for this study stems from this gap of limited research on analyzing the impact of POA in increasing the EIS, which is against traditional methods.
2. This study attempts to evaluate the POA in a controlled educational setting and provide empirical data on the effectiveness of POA to show how it could help in future EIS.
3. The case study for the work was focused at a leading language and culture university in China. The study employed a quantitative research design on a study involving 47 students in pre-test/post-test experiments to measure the enhancements achieved in EIS directly attributable to POA implementation.
4. This study analyzes the findings to determine the strengths and potential limitations of the POA to help improve and optimize the EIS courses globally.

The study was articulated into sections: Section 2 presents the methodology, Section 3 analyzes the findings, and Section 4 concludes the work.

2. Methodology

2.1. Research Alignment

2.1.1. Production-Oriented Approach (POA)

1. The POA is an educational model highlighting EIS's real-time application and invention, focusing on real-life circumstances rather than theoretical knowledge.
2. POA focuses on improving learners' language invention skills in diverse contexts, mainly in terms of EIS and task-based learning.

2.1.2. Key Components

1. Task-Based Learning: POA involves creating learning activities that resemble real-world EIS use, such as role-plays, discussions, or projects that encourage active EIS use[11].
2. Motivation on Output: The approach focuses on EIS invention, including speaking, writing, and expression, to enhance fluency, accuracy, and skill in handling complex language tasks[12].
3. Combination of Skills: POA combines numerous EIS into tasks, enabling learners to develop comprehensive EIS rather than focusing on inaccessible skills[13].

The primary aim of the research is to ascertain whether the POA leads to measurable improvements in students' EIS. To achieve this, the study utilizes a pre-test/post-test design to measure students' skills before and after applying POA-based training modules[14, 15].

2.1.3. Hypothesis

The following hypothesis directed the paper:

1. How does implementing the POA impact students' complete EIS in a controlled educational setting?
2. What features of EIS (vocabulary acquisition, fluency, and accuracy) are improved through POA?
3. How do students perceive the effectiveness of POA in comparison to traditional interpreting training methods?
4. Are the improvements in EIS attributable solely to the POA, or are there other contributing factors involved in

the observed changes?

2.2. Selection of Participants

For this study, participants were selected from the undergraduate (UG) and postgraduate (PG) programs at Beijing Language and Culture University, explicitly targeting students enrolled in EIS. Eligibility required students to be actively enrolled and to have achieved a minimum score of 80 on the Test of English as a Foreign Language (TOEFL) or a 6.5 on the International English Language Testing System (IELTS).

Additionally, participants needed to commit to engaging in the initial and final assessments and participating in feedback sessions designed to collect qualitative data on their experiences. Using stratified random sampling, 47 students were selected to provide a balanced representation across different proficiency levels, determined by their TOEFL or IELTS scores. The gender distribution of the selected students was 26 females and 21 males. Demographic details such as age and previous EIS were also collected to control for variables. The demographic information of the students is provided in **Table 1**.

2.3. Data Collection

The data collection process for this study was designed to capture quantitative and qualitative visions. The primary quantitative data were derived from interpreting performance assessments conducted before and after the implementation of the POA. These assessments were standardized to evaluate key areas of EIS, including vocabulary accuracy, fluency, and comprehension. Additionally, qualitative data were collected through interviews and self-reported confidence surveys. These surveys were administered after the POA training sessions to assess students' perceptions of ESI improvements and the overall training approach. All sessions, including assessments, interviews, and training, were conducted within the university premises under controlled conditions. The data were then anonymized and digitally recorded, with subsequent transcription for detailed analysis. The data collection methods are listed in **Table 2**.

3. Implementation of POA

To implement the POA, the topic and theme were designed to fit UG and PG students separately. For UG students, the POA was integrated into *'Comprehensive English 3'*, a mandatory course for the second year. In the Comprehensive English course, for assessment, the unit that focused on *"International Travel and Cultural Exchange"* was selected; this unit introduced students to fundamental aspects of global communication, such as navigating cultural differences, understanding travel etiquette, and engaging in simple international dialogues. Activities focused on practical EIS scenarios during travel or short-term cultural exchanges. The POA was fixed into an advanced ESI course for UG students in their first year of studies. The theme selected for the assessment was *"Diplomatic Relations and International Negotiations"*. The curriculum included analyses of diplomatic speeches, negotiation tactics, and the role of interpreters in high-stakes international settings. The teaching objectives (**Table 3**) for implementing the POA were structured to meet the developmental needs of both UG and PG students so that each group could achieve the competencies relevant to their academic and professional goals. The following **Table 3** provides the objectives for the planned POA.

POA Implementation Phases

Phase 1: Orientation and Motivation

In this phase, the teachers present the course objectives and relevance through introductory sessions. For UG students, the method is presented through tasks such as planning an international travel itinerary to navigate cultural and logistical challenges. The students are engaged in an activity titled "Organizing a Cultural Festival," where they plan an event as part of a student exchange program. Teachers illustrate the required cultural sensitivity and discuss potential communication barriers. For graduate students, the introduction involves a simulation titled "United Nations Crisis Negotiation," where students negotiate a resolution on environment variation, with teachers detailing the necessary formal language and strategic communication skills. **Table 4** presents the activities carried out in this phase.

Table 1. Demographic details of students.

Demographic	Details
Total Students	47
Gender	26 Females, 21 Males
Age Range	20–28 Years
Average Age	23 Years
Previous EIS	Yes: 12; No: 35
Education Level	UG: 29, PG: 18

Table 2. Data collection methods.

Data Type	Method	Details
Quantitative	Interpreting Performance Assessments	Conducted before and after POA implementation. Standardized to evaluate vocabulary accuracy, fluency, and comprehension.
Qualitative	Interviews	Conducted post-training to gather in-depth insights.
	Self-Reported Confidence Surveys	It is managed after the completion of POA training sessions.
Recording Method	Digital Recording and Transcription	All sessions, including assessments, interviews, and training, were anonymized and recorded for detailed analysis.

Table 3. Objectives of the planned POA.

Level	Objective Type	Details
UG	Language Knowledge	Acquire vocabulary and expressions relevant to international travel and cultural interactions.
	Language Skills	Develop skills in listening to diverse accents, speaking clearly, and reading for contextual understanding.
	Cognitive Skills	Enhance adaptability to new cultures, interpret non-verbal cues, and make informed decisions.
PG	Language Knowledge	Master complex terminology and expressions used in diplomatic and international business settings.
	Language Skills	Advance argumentation, negotiation, and precise articulation skills; craft diplomatic communiqués.
	Cognitive Skills	Develop analytical abilities to understand the interplay of cultural, political, and economic factors.

Table 4. Orientation and motivation activities.

Main Activity	Sub-Activity
Course Introduction and Engagement	Conduct an introductory session to explain the course objectives and relevance.
	Discuss the course's subject focus to set a clear study context.
Initial Scenario Presentation	Present real-world scenarios like "Organizing a Cultural Festival" for undergraduates and "United Nations Crisis Negotiation" for graduates.
	Facilitate initial discussions to allow students to set personal goals and engage with the course content.

Phase 2: Knowledge and EIS Acquisition

During this phase, the teachers deliver detailed lecture content to each group's needs. Sessions for UG students focus on practical EIS for everyday conversations in a foreign location. A role-play titled "Navigating Cultural Misunderstandings in a Foreign Restaurant" was used to resolve miscommunications. The sessions focus on negotiation tactics for PG students for international business dealings. A workshop titled "Mock International Trade Negotiation" was conducted to guide graduates to experience bargaining and consensus-building. The following **Table 5** provides the activities performed in this phase.

Phase 3: Application and Integration

In this phase, the students are directed to apply and integrate their knowledge and ESI in a simulated, real-world environment. The UG is made to use EIS in varied cultural scenarios, and the title provided for the phase was "International Airport Navigation Challenge" to deal with issues like lost luggage and finding connecting flights. The PG students are named "Diplomatic Crisis Management," they act as diplomats from different countries tasked with resolving international disputes. The teachers guide the students by em-

Table 5. Knowledge and EIS acquisition activities.

Main Activity	Sub-Activity
Interactive Lectures	Deliver multimedia-supported lectures introducing fundamental concepts, language structures, and cultural nuances.
	Integrate guest lectures or expert talks to provide specialized knowledge and diverse perspectives.
Skill Development Workshops	Organize interactive workshops focusing on specific skills, such as "Navigating Cultural Misunderstandings in a Foreign Restaurant".
	Facilitate group activities and peer learning to enhance collaborative skills and deepen understanding.

Table 6. Application and integration activities.

Main Activity	Sub-Activity
Role-Playing and Simulations	Set up role-playing exercises to mimic real-life EIS scenarios, such as the "International Airport Navigation Challenge".
	Provide structured feedback sessions after each role-play to discuss performance and areas for improvement.
Project-Based Learning	Engage students in complex, scenario-based tasks like "Diplomatic Crisis Management" that require a blend of skills.
	Facilitate team collaborations to address these challenges and present guidance and feedback.

phasizing diplomatic language, strategic communication, and cultural sensitivity. The activities are as tabulated in **Table 6**.

Phase 4: Assessment and Reflection

The assessment phase evaluates the students' learning outcomes and develops a reflective practice to consolidate their knowledge and EIS. This phase provides insights into the effectiveness of the teaching methods and the depth of learning achieved. The activities are as mentioned in **Table 7**.

This phase helps students to introspect and assess their experiences to prepare for future challenges, and it allows educators to refine their teaching strategies based on direct feedback from student performances and reflections.

4. Results

4.1. Pre-Training Analysis

Tables 8–**10** analyze the pre-training capabilities of students in the study. The pre-training results in the Tables

show only minor differences between groups' mean scores. For instance, the UG control and experimental groups began with mean scores of 67 and 69, respectively, while the PG groups started at 74 for the control and 76 for the experimental groups. These differences are minimal, with standard deviations indicating a reasonable spread of scores within each group. Statistical tests applied to these pre-training scores further solidify these observations (**Figure 1**).
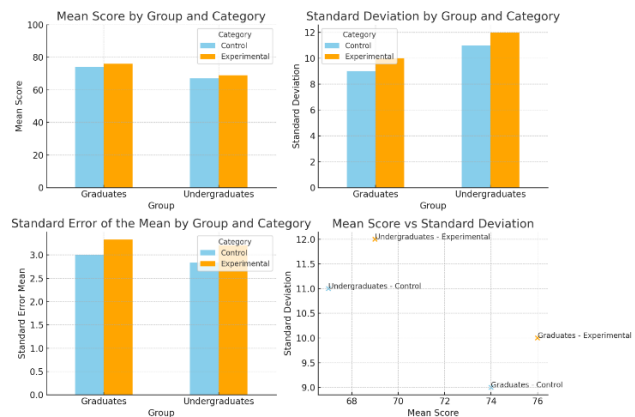

Figure 1. Pre-training statistics.

Table 7. Assessment and reflection activities.

Main Activity	Sub-Activity
Formal Assessments	Conduct structured tests and evaluations to measure proficiency and application of learned skills. Organize presentation sessions where students demonstrate their knowledge and EIS before an audience.
Reflective Practice	Assign reflective essays or journals where students articulate their learning experiences and evaluate their progress. Hold debriefing sessions with instructors to provide personal feedback and discuss future learning paths.

Table 8. Pre-training statistics.

Group	Category	N	Mean Score	Standard Deviation (SD)	Std Error Mean
UG	Control	15	67	11	2.84
	Experimental	14	69	12	3.21
PG	Control	9	74	9	3.00
	Experimental	9	76	10	3.33

Table 9. Pre-training SPSS analysis.

Test	Group	Statistic	Value	P-Value	Interpretation
Independent Samples T-Test	UG	T(27)	−0.56	0.58	No significant difference in initial scores
	PG	T(16)	−0.91	0.37	No significant difference in initial scores
Levene's Test for Equality of Variances	UG	F(1, 27)	2.03	0.16	Variances are equal, and assumptions are not violated.
	PG	F(1, 16)	1.75	0.20	Variances are equal, and assumptions are not violated.
Independent Samples T-Test	UG	T(27)	−0.56	0.58	No significant difference in initial scores
	PG	T(16)	−0.91	0.37	No significant difference in initial scores
Levene's Test for Equality of Variances	UG	F(1, 27)	2.03	0.16	Variances are equal, and assumptions are not violated.
	PG	F(1, 16)	1.75	0.20	Variances are equal, and assumptions are not violated.

Table 10. Pre-training ANOVA results.

Factor	Degrees of Freedom (df)	F-Value	P-Value	Interpretation
Group (Control vs. Experimental)	1	1.62	0.20	No significant effect of group assignment
Level of Education	1	2.35	0.13	No significant effect of education level
Interaction	1	1.08	0.30	No significant interaction between the group and education level

The Independent Samples T-Test for UG and PG (T(27) = −0.56, p = 0.58 for UG and T(16) = −0.91, p = 0.37 for PG) indicated no significant difference in initial scores between control and experimental groups. Levene's Test for Equality of Variances also confirmed that the variances between the groups were equal and not violated, with p-values of 0.16 for undergraduates and 0.20 for UG. This uniformity in variances underscores the appropriateness of the subsequent analyses using ANOVA. The ANOVA results, examining the influence of group assignments and educational levels on initial scores, also showed no significant effects or interactions. With p-values well above the 0.05 threshold (Group p = 0.20, Level of Education p = 0.13, Interaction p = 0.30), it is clear that there were no inherent advantages or disadvantages in group compositions or educational levels at the study's onset. The post-training assessment results, as shown in **Tables 11**–**13** and **Figure 2**, clearly demonstrate the significant impact of the POA on enhancing EIS among UG and PG students. This is proved by the improvements in mean scores from pre-training to post-training for control and experimental groups, with notably higher gains observed in the experimental groups.

Table 11. Post-training statistics.

Group	Category	N	Mean Score	SD	Std Error Mean
UG	Control	15	70	10	2.58
	Experimental	14	82	8	2.14
PG	Control	9	77	7	2.33
	Experimental	9	88	6	2.00

Table 12. Post-training SPSS analysis results.

Test	Group	Statistic	Value	P-Value	Interpretation
Paired Samples T-Test (Pre vs. Post)	UG (Experimental)	T	5.10	0.001	Significant improvement in scores
	PG (Experimental)	T	6.45	<0.001	Significant improvement in scores
Independent Samples T-Test (Post)	UG (Control vs. Experimental)	T	−3.58	0.002	The significant difference between groups
	PG (Control vs. Experimental)	T	−3.90	0.001	The significant difference between groups

Table 13. Post-training ANOVA results.

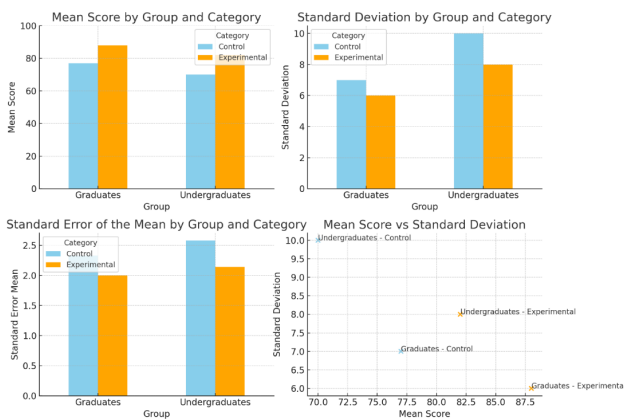| Factor	Degrees of Freedom (df)	F-Value	P-Value	Interpretation
Group (Control vs. Experimental)	1	10.34	0.002	Significant effect of group assignment
Level of Education (UG vs. PG)	1	4.76	0.035	Significant effect of education level
Interaction (Group*Education Level)	1	5.82	0.019	Significant interaction between group and education level

Figure 2. Post-training statistics.

Post-training in UG, the control group's mean score slightly increased from 67 to 70, while the experimental group showed a more substantial rise from 69 to 82. The reduction in standard deviation in the experimental group from 12 to 8 suggests a tighter clustering of scores around a higher mean, indicating a more consistent student performance. Similarly, graduate control group scores rose modestly from 74 to 77, whereas the experimental group motto had a more pronounced increase from 76 to 88. The decrease in SD from 10 to 6 in the experimental group further signifies enhanced performance uniformity. In statistical analyses, UG and PG experimental groups displayed statistically significant improvements in EIS, with t-values indicating strong effects (T = 5.10, p = 0.001 for undergraduates; T = 6.45, p < 0.001 for graduates). These results validate the efficacy of the POA in substantially enhancing EIS. Comparisons between control and experimental groups post-training also highlighted significant differences (T = −3.58, p = 0.002 for UG; T = −3.90,

p = 0.001 for PG), underscoring that the experimental groups outperformed their control counterparts, affirming the added value of the POA. The ANOVA confirmed the significant effects of group assignment (F = 10.34, p = 0.002), indicating that students in the experimental groups, regardless of their educational level, generally performed better than those in the control groups. A significant effect of the education level (F = 4.76, p = 0.035) suggests that PG students benefited differently from the intervention than UG, possibly due to their more advanced initial skill set and the nature of their POA curriculum. The interaction between group assignment and education level (F = 5.82, p = 0.019) also revealed significant variations in how different groups responded to the POA, indicating that the approach's impact varied not just by participation in the program but also by the educational stage of the participants. The statistical analysis comparing pre-post-training assessments shown in **Table 14** shows the effectiveness of the POA in improving EIS.

In the undergraduate experimental group, the transition from pre- to post-training is evident in a significant increase in scores, with the mean score improving by 13 points (T = −4.20, p = 0.001). This improvement highlights the POA's significant impact on enhancing these students' interpreting skills. Conversely, the UG control group shows only a minor improvement, with a mean increase of 3 points (T = −1.85, p = 0.085). This change is not that significant, which means that without the targeted interventions of the POA, the improvements in EIS would be less critical. Similarly, the graduate experimental group shows a significant improvement with a mean score increase of 12 points (T = −5.55, p <

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0.001), affirming the POA's effectiveness at even advanced levels of education. Much like their UG counterparts, the graduate control group shows a negligible improvement with a mean increase of only 3 points (T = −1.33, p = 0.220).

Table 14. Statistical analysis results (pre- vs. post-training).

Group	Category	Test Type	df	T-Value	P-Value	Mean Difference	Interpretation
UG	Control	Paired Samples T-Test	14	−1.85	0.085	−3	Not significant, minor improvement
	Experimental	Paired Samples T-Test	13	−4.20	0.001	−13	Significant improvement
PG	Control	Paired Samples T-Test	8	−1.33	0.220	−3	Not significant, minor improvement
	Experimental	Paired Samples T-Test	8	−5.55	<0.001	−12	Significant improvement

5. Conclusion and Future Work

This study evaluates the impact of Production-Oriented Approach (POA) based training methods in enhancing the English Interpreter Skill (EIS). The study was conducted in a leading university in China by choosing 47 students from Undergraduate (UG) and Postgraduate (PG) programs. The POA-based training was integrated into their respective courses, and the students were split into control and experimental groups to assess the impact of POA on enhancing the EIS. The work detailed the phase-wise implementation of POA in both the UG and PG streams. The findings from the performance of experimental groups show that the POA-based training delivers better interpreting competencies with increases in mean scores of 13 and 12 points for UG and PG, respectively. The reduction in score variability shows the POA's strength in skill enhancement across all students. The ANOVA results further confirm the POAs adaptability with 10.34 and 0.002 for F and P values of the control and experiment group, respectively, in the post-training scenario.

A Few Suggestions for Future Studies

1. The results of this research can help instructors design more accurate role-playing exercises by identifying which POA tasks improve interpreting skills.
2. The study suggests exploring POA in diverse educational environments and students, including beginners, more advanced students, and various cultural settings for validation and generalization.

Author Contributions

Conceptualization, methodology, software, validation, formal analysis, investigation, resources, data curation, writing—original draft preparation, writing—review and editing, visualization, supervision, project administration, funding acquisition, X.W., I.S. All authors have read and agreed to the published version of the manuscript.

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Data Availability Statement

Not applicable.

Conflicts of Interest

The authors declare no conflict of interest.

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