A Qualitative Case Study of the Production-Oriented Approach in a Ubiquitous Learning Environment for CFL Learners

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ABSTRACT

This study investigates the mechanisms through which the Production-Oriented Approach (POA) influences the spoken Chinese learning process of international students in China within a ubiquitous learning environment. Although the efficacy of POA has been established, the intrinsic mechanisms governing learners' specific behaviors, psychological perceptions, and competency development within this model—particularly the dynamic interplay of task-driven practice and feedback-informed growth—remain underexplored. Employing a qualitative case study methodology, this research focused on a group of 11 intermediate-to-advanced CFL learners. Following a ten-week POA intervention, six students representing varying levels of progress were selected for semi-structured interviews, with their oral productions serving as supplementary data. Thematic analysis yielded three core themes: (1) Extension of Learning: Goal-driven practice from "in-class" to "out-of-class"; (2) Empowerment of Learning: Technology-facilitated support from "isolation" to "interconnection"; and (3) Transformation of Learning: A conceptual shift from "language anxiety" to "communicative confidence." The study finally proposed a process model showing how learning behavior, psychology, and ability develop together. The model explains how POA helps students turn from passive learning to active language use through task motivation, tech support and feedback. The results find a new concept for teaching Chinese speaking and offering useful ideas for international Chinese language education.

Keywords: Production-Oriented Approach; Spoken Chinese; Qualitative Case Study; Ubiquitous Learning; Learner Experience; Learning Motivation

INTRODUCTION

The HSKK (Chinese speaking proficiency test) has been taken as a part of HSK (Chinese proficiency test) in recent years. However, many international students in China show negative attitude towards HSKK. The problem may come from a gap between what they learn and what they can say. Wen (2018) describes this as a “separation of learning from application,” which is a common problem in language teaching. To solve the problem, Wen (2015) proposed Production Oriented Approach to help students actually use what they have learned.

Most research related with POA focused on its better effects than traditional methods. The quantitative results confirm POA's efficacy, but it cannot reflect the learning experience or describe the feel of receiving the approach. We still don’t know enough about how POA works from the students' point of view. This gap lies in today's technology-enhanced ubiquitous learning environments, where educational activities extend beyond the physical classroom (Hwang et al., 2008). Examining how learners utilize extracurricular time and technological tools to complete POA output tasks is crucial for understanding the model's underlying mechanisms, specifically, the dynamic process from being task-driven to being reshaped by feedback.

This study does not aim to compare the efficacy of teaching methods. Instead, it adopts a qualitative case study approach, treating a single class that underwent a ten-week POA intervention as a bounded case. The research seeks to provide a rich depiction and exploration of the learners' authentic speaking learning processes, psychological perceptions, and internal developmental mechanisms within this model. By focusing on the experiences of international students in China, this study reveals how POA reshapes learners' speaking learning

pathways, motivation, and confidence within a ubiquitous environment, thereby offering in-depth and process-based insights for international Chinese language education.

Research Questions (RQs):

RQ1: How do output tasks within the POA framework drive learners' extracurricular speaking practice?

RQ2: How does ubiquitous technology empower learners to complete production tasks?

RQ3: How does the POA model reshape learners' psychological states and speaking confidence?

The theoretical significance of this study lies in its expansion of the POA framework and its explanation of the associated psychological-behavioral mechanisms in CFL. Its practical significance resides in offering operational strategies for international Chinese language education.

LITERATURE REVIEW

The Production-Oriented Approach (POA) was formally proposed in 2015, evolving from Wen Qiufang's earlier "output-driven hypothesis" (2008), which sought to overcome the persistent "separation of learning from application" in language education. POA emphasizes using output tasks to stimulate learners' intake of input, depending on teacher mediation to achieve deeper integration between knowledge learning and practical use.

While its feasibility and efficacy in enhancing productive skills have been initially validated in English as a Foreign Language (EFL) contexts (Liu, 2024), the application of POA in Chinese as a Foreign Language (CFL) remains limited. Existing CFL with POA research has primarily focused on the outcomes of writing or integrated skills (Liu et al., 2020; Lu, 2022), lacking researches on the learners' learning experience.

Ubiquitous learning environments, which leverage mobile and internet technologies to make learning possible anytime and anywhere, offer CFL learners access to authentic cultural content and interactive communication tools (Long & Wu, 2021). However, without systematic guidance, learning in such environments can become fragmented and superficial (Tabuenca et al., 2015).

Thus, a significant research gap exists with the lack of research into the psychological and behavioral mechanisms through learners' POA learning experience, particularly in the teacher-mediated and technology-supported ubiquitous learning environments.

METHODOLOGY

Research Design

This study adopted an exploratory qualitative case study design. The "case" was defined as a clearly bounded unit: a class of 11 international students in China receiving an ten-week POA speaking instruction intervention within a ubiquitous learning environment. This case study was conducted from September to November in the year 2024 and involved 11 students and one instructor. The research setting included both the physical classroom and online platforms such as WeChat, ClassIn and also social networks as RedNote, BiliBili. This case was selected for its representativeness: the students were from different countries, reflecting cultural diversity, and their intermediate-to-advanced proficiency level was suitable for investigating POA's mechanisms. The study was designed to provide a holistic and in-depth understanding of the case, focusing on learners' experiences and the learning process itself, rather than on comparing outcomes. The researcher was both the teacher and the observer. Being in both roles made it easier to understand the students' challenges, but it also brought risks. For example, students might have given answers they thought the teacher wanted to hear. To reduce such bias, the researcher did cross check on the notes with the other teachers.

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Participants

The study included 11 international students of intermediate to advanced Chinese level, five from Africa, five from Asia, and one from Europe. They were between 19-23 years old and studied in the same university for around two years.

To capture a diverse range of learner experiences, a maximum variation sampling strategy within purposive sampling was used. Based on the extent of their progress over the 10-week intervention—assessed through pre- and post-test scores, classroom observations, and task output quality—the 11 students were categorized as high, moderate, and low improvers. This strategy was crucial to understand not only the factors behind POA's success but also its potential challenges and limitations for learners who progress at different rates. Two students from each category were selected for interviews, resulting in a final sample of six interviewees, to maximize the diversity of experiences captured. While the sample size is small, qualitative research prioritizes depth over breadth. The findings are transferable to similar contexts involving culturally diverse intermediate-to-advanced CFL learners (Yin, 2018), though the single cultural context may limit generalizability, suggesting a need for future research with expanded samples.

Table 1: Learner Grouping and Interview Sample Selection

Learner Category	Classification Criteria	Total	Selected	Selection Rationale
High Improvers	Top three in speaking proficiency advancement	3	2	Reveal POA advantages and success factors
Moderate Improvers	Middle-range proficiency development	5	2	Reflect typical majority learner experiences
Low Improvers	Slower advancement, greater challenges encountered	3	2	Uncover POA practical challenges and limitations
Total		11	6	

Note: Grouping was based primarily on the raw score increase (pre- vs. post-intervention) on a 100-point HSK speaking mock test (High Improvers: increase >15 points; Moderate: 8-15 points; Low: <8 points), triangulated with observational data on task completion quality and participation.

Data Collection

Primary data sources were collected form three ways:

1. **Semi-structured Interviews:** In-depth interviews were conducted with the six selected students, each lasting approximately 20-30 minutes. Interviews were audio-recorded and transcribed verbatim. Questions focused on learning processes, psychological perceptions, and challenges. To capture real-time experiences, learning logs and immediate reflections were also collected.
2. **Learning Artifacts:** Oral productions such as videos, audio recordings, completed by students over the ten weeks were collected to analyze proficiency development and to triangulate interview findings. These artifacts served primarily to triangulate and contextualize the interview data. The analysis was qualitative and thematic, aimed at reinforcing the findings from the primary interview data rather than conducting a formal linguistic analysis of proficiency development.
3. **Classroom Observation Notes:** The researcher's observational notes taken during the teaching period were used to reconstruct the instructional context.

Data collection emphasized triangulation to enhance reliability (Yin, 2018). Data saturation was achieved after the fifth interview, as no new themes emerged from subsequent data (Guest et al., 2006).

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Data Analysis

This study employed the thematic analysis approach outlined by Braun and Clarke (2021) to analyze the interview transcripts systematically. The analysis process was as follows: (1) Familiarizing with the data; (2) Generating initial codes coding. (3) Searching for themes. (4) Reviewing themes; (5) Defining and naming themes; (6) Producing the report. Coding disagreements were resolved through discussion. The credibility of the conclusions was ensured through triangulation (comparing interview data with artifacts and observations). NVivo software was used to manage data and ensure coding consistency. Two researchers independently coded 20% of the data, achieving a high inter-coder reliability (Cohen's Kappa, $\kappa = 0.85$).

Table 2: Example of the Coding Process (Coding Tree Excerpt)

Data Extract	Initial Code	Axial Code	Selective Code	Final Theme
"I always had something to work on... learning wasn't just those 45 classroom minutes." (E-H1)	Task-motivated extracurricular practice	Goal-oriented extension	Task-driven behavioral transformation	The Extension of Learning
"We shared our recordings in the group chat... could review them whenever needed." (E-L1)	Technology-enabled interactive feedback	Tool-supported interconnected engagement	Technology-empowered processes	The Empowerment of Learning
"Making mistakes doesn't frighten me as much now... completing tasks felt incredibly satisfying." (E-M1)	Task completion reduces anxiety, builds confidence	Feedback transforms mindset	Psycho-emotional evolution	The Transformation of Learning

FINDINGS

In-depth analysis of the data revealed three core themes that collectively form a process model for promoting students' speaking proficiency development through POA within a ubiquitous learning environment. These themes emerged from learners' narratives and were validated through multiple sources, including artifacts and observation notes.

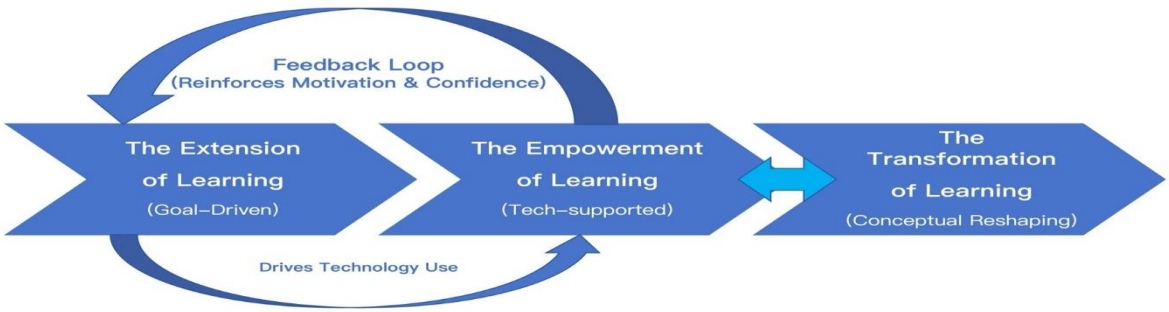

Figure 1: A Process Model of POA-Driven Learning in a Ubiquitous Environment

Theme 1: Extension of Learning: From "In-Class" to "Out-of-Class" Goal-Driven Practice

Findings indicate that POA's "output tasks" acted as a bridge connecting the classroom with the ubiquitous learning environment, providing clear goals and a strong impetus for students' autonomous learning outside of class.

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"The biggest difference this semester is that I always had a task to complete. For example, our teacher asked us to film a short video introducing our dorm room. So, while walking or eating, I'd use my phone to look up words like 'ceiling' and 'sink'." (Interviewee E-H1, High Improver)

"At first, I wasn't used to practicing outside of class, but the tasks made it feel necessary. On weekends, I'd discuss them with classmates on WeChat, and it slowly became a habit." (Interviewee E-M2, Moderate Improver)

"The tasks made me want to practice more outside of class, but sometimes they were too difficult, and I needed more hints. Some tasks didn't feel practical, so I lost motivation." (Interviewee E-L2, Low Improver)

In summary, the goal-oriented nature of output tasks extended learning beyond the classroom, creating sustained motivation for practice, though some learners required additional support or found certain tasks less engaging.

Theme 2: Empowerment of Learning: Technological Support from "Isolation" to "Interconnection"

Findings show that mobile tools within the ubiquitous learning environment provided powerful scaffolding for completing POA tasks, transforming isolated individual learning into interconnected communal learning.

"We shared our recorded speaking assignments in the WeChat group, allowing us to listen to our own and others' work repeatedly. When I heard a classmate who spoke well, I would learn from their sentences. I could also go back and listen to the teacher's comments anytime, so I wasn't afraid of forgetting them." (Interviewee E-L1, Low Improver)

"After watching videos on Bilibili, I'd practice vocabulary on Quizlet and then discuss it in class. It felt like everything was connected." (Interviewee E-H2, High Improver)

"Technology allowed me to practice anytime, but slow internet was frustrating. Sometimes the cultural content was too difficult to understand, and I needed more explanation." (Interviewee E-M1, Moderate Improver)

In summary, technological tools shifted learning from isolation to interconnection, enhancing engagement and efficiency, although technological barriers and content complexity posed challenges for some.

Theme 3: Transformation of Learning: Reshaping Perspectives from "Language Anxiety" to "Communicative Confidence"

Findings reveal that through repeated successful experiences of completing authentic tasks, the model successfully shifted students' focus from anxiety over linguistic accuracy to a pursuit of communicative effectiveness, significantly boosting their confidence.

"My biggest change is that I'm less afraid of making mistakes. The focus this semester wasn't on making every sentence perfectly correct, but on finding a way to use the Chinese I knew to complete the video task. When I actually made a finished product, it felt very rewarding." (Interviewee E-M1, Moderate Improver)

"I used to worry constantly about grammar errors, but now the tasks have me focused on communication. I'm becoming more and more confident." (Interviewee E-H1, High Improver)

"Anxiety is still there, but the feedback helped me improve. For some tasks where feedback was lacking, I still felt insecure." (Interviewee E-L2, Low Improver)

Table 3: Thematic Manifestations Across Learner Groups

Theme	High Improvers' Typical Manifestation	Moderate Improvers' Typical Manifestation	Low Improvers' Typical Manifestation
Extension of Learning	Proactively extended tasks to social media, establishing daily practice habits.	Tasks prompted weekend discussions, gradually forming routines.	Task extension required prompts but motivation grew; perceived lack of practicality in some tasks reduced drive.
Empowerment of Learning	Fully leveraged interconnected tools to enhance efficiency.	Tools helped bridge in-class and out-of-class learning.	Faced technological barriers, but feedback helped; tool abundance sometimes caused confusion.
Transformation of Learning	Significant confidence boost, focus on communication.	Reduced anxiety, strong sense of accomplishment.	Anxiety alleviated but required more support; insecurity persisted when feedback was insufficient.

In summary, feedback and successful experiences reshaped learning perspectives, facilitating a shift from anxiety to confidence, although learners with lower progress needed more consistent feedback support.

DISCUSSION

This qualitative inquiry explains the underlying mechanisms through which POA promotes speaking proficiency development in a ubiquitous learning environment. The findings suggest the model's success stems not merely from the act of "production" itself, but from its construction of an integrated learning ecosystem.

Theoretical Contribution

Our three themes (Extension, Empowerment, Transformation) do not replace POA's established stages (Motivating, Enabling, Assessing) but rather illuminate the psycho-behavioral processes that occur within them when enacted in a ubiquitous context. “Extension of Learning” represents the behavioral outcome of a successful “Motivating” phase, where the output task becomes a powerful driver for autonomous practice. “Empowerment of Learning” explains the “Enabling” process, showing how ubiquitous technologies provide the scaffolding and interconnection that allow input absorption and task completion to flourish outside the classroom. Finally, “Transformation of Learning” is the psychological culmination of the “Assessing” phase, where iterative feedback and successful experiences reshape learners' beliefs and lower affective filters. This nuanced view extends POA theory by detailing the “how” behind its operational stages.

More critically, this study refines and challenges aspects of POA's framework. For instance, while POA's “Enabling” phase traditionally emphasizes teacher mediation, our findings reveal that in ubiquitous learning contexts, this phase also heavily relies on technology-mediated social support networks—shifting from "isolation" to "interconnection" via tools like WeChat groups. This extends POA by highlighting the necessity of integrating digital scaffolding to fully realize enabling in non-traditional settings, potentially refining the model to account for technology as a core enabler rather than a supplementary tool. Additionally, Low Improvers' questioning of task "practicality" and heightened dependence on feedback challenge POA's universality assumptions, particularly in cross-cultural, diverse learner groups. This suggests that the “Motivating” and “Assessing” phases may require refinement to incorporate culturally adaptive task design and more robust feedback mechanisms, ensuring the model's applicability beyond homogeneous groups. By addressing these, our study not only validates POA in CFL but contributes back to its theoretical evolution, emphasizing contextual adaptations for multicultural environments.

POA's "motivating" phase connects ubiquitous learning with purpose, addressing the challenges of content complexity and unclear direction in technological environments. POA encourages learning both inside and outside the classroom, making practice continuous. This expands on Swain’s (2000) Output Hypothesis by

showing how learning can happen anywhere. However, the study also found that not all students react the same way to POA. Some struggled with tasks they found too hard or not useful, especially in culturally mixed classes. This shows that POA may need to be adapted better to different cultures.

The ubiquitous learning environment provides the possibility and immediacy required for POA's "enabling" phase, allowing students to access resources and practice anytime, anywhere (Hwang et al., 2008). Social medias like WeChat and BiliBili help learning happen seamlessly. This supports Vygotsky's (1978) sociocultural theory "ZPD", which discussed the using of tools can create a "zone of proximal development"—where students learn with support. But technical problems, like poor internet and devices, can make learning harder for some students, causing cognitive loads and increasing inequality.

POA's "assessing" phase, facilitated through peer and teacher feedback, fosters a "supportive" atmosphere within the ubiquitous learning community. Positive feedback and successful experiences help students reshape their perceptions of language speaking learning, lower their affective filter (Krashen, 1982), and ultimately achieve a transformation from "daring to speak" to "speaking well." This process underscores the role of positive feedback in alleviating anxiety (Zhang, 2001). A critical finding from our data on Low Improvers is that POA's benefits are not automatic. These learners reported needing more hints, finding some tasks impractical, and feeling persistent insecurity when feedback was lacking. This suggests that the model's effectiveness may be contingent upon sufficient scaffolding and culturally relevant task design. POA works well for many, but it doesn't work equally well for all. Students who improve less quickly often find tasks too difficult or feedback insufficient. This suggests that POA needs better support for different types of learners, especially in multicultural classes.

Compared to Task-Based Language Teaching (TBLT), which typically positions the teacher as a facilitator who primarily monitors and supports task completion, POA casts the teacher as an essential mediator and designer. The effectiveness of the 'Enabling' and 'Assessing' phases was directly dependent on structured, proactive intervention from the teacher. POA focuses more on the psychological side of learning, but it still has room to improve in giving support.

These findings show how POA works in real learning environments, not just whether it works. (Liu et al., 2020). The study also found that technology problems can make existing gaps among students. The model can also guide the development of ubiquitous learning support, making the ubiquitous learning usable and effective. Future research should include more students from different cultures and use longer-term studies.

Theoretical Implications

The study presents a process model that explains how learning behavior, psychology, and ability develop together under POA. It helps us understand the mental processes of Chinese learners and connects to broader second-language acquisition theories.

Practical Implications

The research suggests ideas like designing culture-based task apps and built-in feedback tools. For example, such apps could incorporate POA's motivating-enabling-assessing cycle by designing various cultural tasks, real-time AI-driven feedback tools, and progress tracking to enhance interaction, motivation and technology acceptance.

Limitations and Future Research

Despite the contributions, this study has several limitations that should be acknowledged and addressed in future research.

The small sample size (N=11) and focus on the students from a single university and the same level may limit the transferability of findings. The intervention period is not long enough to investigate deeper and observers would be more to support the experiment's findings.

The analysis of learning artifacts was thematic, serving to triangulate interview findings rather than to provide a quantitative linguistic analysis. Future research would benefit from a mixed-methods design that incorporates measurements of speaking fluency, accuracy, and complexity to quantify and complement the rich qualitative insights into learner psychology.

The cross-sectional design only captures a snapshot of the learning process. Longitudinal studies tracking learners over a more extended period are needed to determine the long-term sustainability of the observed gains in confidence and practice habits.

The theoretical contributions are also limited from the Low Improvers' point of view. Although POA has great potential, some learners still improve slowly. For these students, tasks that are too hard or seem useless can become a heavy load. This may make the gap between good learners and poor learners even wider. Students who have trouble of self-regulated learning or who lack good technology — such as slow internet or old devices — might feel stressed by these tasks. Their original motivation could turn into disappointment. This situation challenges POA's "Motivating" phase, which assumes that all tasks are interesting to everyone. But in classes with students from different cultures, some tasks may not fit everyone's background. Also, when feedback is not enough, some students feel unsure and lose confidence. This makes the "Assessing" step less effective.

The study also lacked direct and reliable comparisons. Future research should use quasi-experimental designs to compare POA with other approaches like TBLT, isolating its unique effects and validating our theoretical claims.

These problems show that POA needs better ways to help all kinds of learners. For example, teachers can give different levels of support or design tasks that consider cultural differences. By looking closely at these issues, this study helps us see both the advantages and limits of POA.

CONCLUSION

This study builds a process model that shows how POA supports spoken Chinese learning in a ubiquitous learning environment. The strength of the model comes from combining POA's clear teaching goals with the flexibility of technology-supported learning.

Facilitated by a positive feedback loop, this integration ultimately promotes the development of learners' behaviors, beliefs, and competencies. However, a key caveat is that POA's benefits are not automatic and may not work equally for everyone, particularly low improvers facing challenges like impractical tasks or insufficient feedback, which could amplify inequalities in diverse contexts. The model provides a novel theoretical framework for CFL speaking instruction and offers practical implications for international Chinese education practices, such as developing culturally relevant task apps to enhance ubiquitous support while addressing issues of technological equity to prevent the exacerbation of learning disparities.

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