

# Understanding tertiary EFL teacher learning and identity development: a cultural-historical activity theory perspective

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**ABSTRACT:** Though current scholarship has conducted much research on teacher learning and teacher identity respectively, there are limited empirical studies examining the combination of these two constructs. This study, drawing upon cultural-historical activity theory, aims at exploring two tertiary EFL teachers' specific learning processes and how they develop their identities through learning. Data sources include observations, interviews, informal communications and artifacts concerning the two participants' learning and identity constructions. The findings reveal that teacher learning is an expansive learning process that starts with triggering events, and reflection permeates all the phases of teachers' expansive learning. Besides, teacher learning is driven by multiple contradictions. Faced with these contradictions, teachers exert their agency, negotiate with significant others and cross various boundaries in their learning activities, which eventually promotes their identity development. The findings provide implications for further explorations of teacher learning and teacher identity. **Keywords:** teacher learning, teacher identity, cultural-historical activity theory, contradiction, agency

**Comprensión del aprendizaje y el desarrollo de la identidad del profesorado de EFL terciario: una perspectiva de la teoría de la actividad histórico-cultural**

**RESUMEN:** Aunque los estudios actuales han realizado respectivamente muchas investigaciones sobre el aprendizaje y la identidad de los docentes son limitados los estudios empíricos que examinan la combinación de estos dos componentes. Este estudio, basado en la teoría de la actividad histórico-cultural, tiene como objetivo explorar los procesos específicos de aprendizaje de dos profesoras universitarias de inglés y cómo desarrollan sus identidades en el aprendizaje. Las fuentes de datos incluyen observaciones, entrevistas, comunicaciones informales y artefactos relacionados con el aprendizaje y la construcción de identidad de los dos participantes. Los resultados revelan que el aprendizaje docente es un proceso de aprendizaje expansivo que comienza con eventos desencadenantes, y la reflexión impregna todas las fases de dicho aprendizaje expansivo. Además, el aprendizaje docente está impulsado por múltiples contradicciones. Frente a estas contradicciones, los docentes ejercen su agencia, negocian con otras personas significativas y cruzan varios límites en sus actividades de aprendizaje, lo que eventualmente promueve el desarrollo de su identidad. Los resultados

brindan inspiraciones para futuras exploraciones sobre el aprendizaje y la identidad docente.

**Palabras clave:** sentido de pertenencia, prácticum, formación inicial de docentes

## 1. INTRODUCTION

Lifelong learning has become synonymous with global education reform, not only for students but also for teachers. The recently launched nationwide educational reforms “Double First-Class” and “Golden Course” initiatives in China, aiming at building a group of world-class universities, disciplines, and courses, have urged teachers to meet new curricula challenges and continuously develop their teaching quality. English course has been covered in almost all universities in China. Therefore, the professional development of Tertiary EFL(English as a foreign language) teachers is closely connected with the teaching quality and talent training of higher education. The evolving educational climate and high expectations make tertiary EFL teacher learning more urgent and vital, which may cause salient shifts in their identities as teacher learning is primarily an identity construction process (Derakhshan *et al.*, 2023; Jiang & Zhang, 2021). Despite abundant research respectively conducted on teacher learning (e.g., Korthagen, 2017; Lieberman & Pointer Mace, 2008; Symeonidis, 2019) and teacher identity (e.g., Derakhshan & Nazari, 2022a, b; Miller *et al.*, 2017; Perez-Valverde & Ruiz-Cecilia, 2014; Yuan *et al.*, 2022), there is insufficient empirical research associated with the combination of these two constructs (Yuan, 2020 ; Sang, 2022; Sherman & Teemant, 2023). To shed light on this issue, taking tertiary EFL teachers as a focus, this paper explores their learning process and identity shifts:

## 2. LITERATURE REVIEW

### 2.1. Teacher learning

Garner and Kaplan (2019, p. 8) define teacher learning as “changes in knowledge, orientation, and skills that pertain to the person’s conception of teaching and actions as a teacher”. With the sociocultural turn, more and more researchers have recently conceptualized teacher learning as a social process that occurs through participation in activities and interaction with others (Larsen & Allen, 2021). There are various teacher learning activities mentioned in the literature, such as reading, observation, collaborating, and experimenting(Kyndt *et al.*, 2016), attending professional development community (Moosa, *et al.*, 2022), reflection (Korthagen, 2017), action research and teacher inquiry (Erbilgin, 2019), etc. It has long been recognized that teacher learning is a critical contributor to changing knowledge and beliefs, enhancing teaching quality, promoting classroom practice, improving schools or educational reforms and securing students’ learning (Lieberman & Pointer Mace, 2008; Bakkenes *et al.*, 2010; Opfer *et al.*, 2011). Teacher learning research has mainly been related to a range of different topics such as teacher cognition (e.g., Li, 2020), teacher beliefs (e.g., Legarre, 2022), teacher competence (e.g., Symeonidis, 2019), teacher emotion (e.g., Benesch & Prior, 2023), etc. But more recent research has also begun to highlight teacher identity as a crucial aspect of teacher learning research (Chua & Welch, 2021), which will be explored in detail in the following two sections.

## 2.2. Teacher identity

Teacher identity is the teachers' perception and understanding of who they are, the meaning and the professional role of being a teacher (Mehdizadeh *et al.*, 2023; Murray & Christison, 2011). Varghese *et al.* (2005) highlight that people enact their roles in practice and discourse and advocate an integrative understanding of identity-in-practice and identity-in-discourse. Teachers' identity-in-practice means teachers form their identity through what they do in their situated work environment (Lee, 2013). Identity-in-discourse highlights the criticality of language and interaction as mediating tools in identity construction. Dang (2013) further proposes the concept of identity-in-activity, that is, teachers make use of instruments to form their identities. Overall, teacher identity is demonstrated in their social engagements and discourse practices in learning-to-teach activity systems (Lee, 2013). It is not something fixed but a dynamic and shifting conception that is dependent on and formed in relationships with others (Edwards, 2010) and as such needs to be understood as a social process of becoming.

## 2.3. Teacher learning and teacher identity

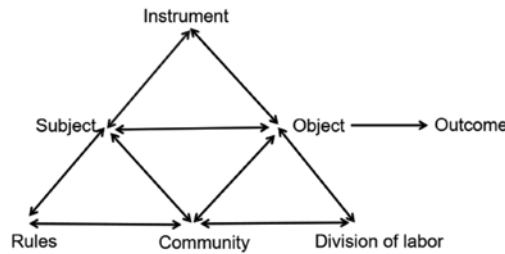
Teacher learning means not only acquiring knowledge and skills but also adopting a new identity (Miller *et al.*, 2017). Sfard and Prusak (2005) recognize learning as narrowing the gap between the actual identity and designated identity when learners move from who they are to whom they can or should become. Thus, learning and identity are inextricably entwined (Jiang & Zhang, 2021) and both of these complex elements need to be examined to obtain a more holistic understanding of teacher development. To capture the dynamic complexities that occur during and after learning activities, the underlying processes of teacher learning and identity should be highlighted (Yuan, 2020). However, to date, more attention has been paid to teacher learning outcomes while empirical studies on teacher learning processes are lacking (Bakkenes *et al.*, 2010; Li, 2023). Moreover, studies on possible changes in teacher identity through learning are yet to be fully explored. The present study responds to the gap. We aim to provide insights from a Chinese perspective, hoping that they will resonate in numerous other countries. The study seeks to answer the following questions:

1. What specific learning process do the two tertiary EFL teachers experience?
2. How do the two tertiary EFL teachers reconstruct their identities through learning?

## 3. THEORETICAL PERSPECTIVES

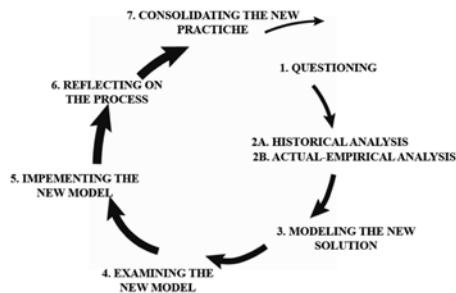
Vygotsky's mediated action triangle (1978) is regarded as the first generation of Cultural-historical activity theory (CHAT) which highlights symbolic and physical artifacts in human goal-oriented interaction with the world (Lantolf, 2006). However, it has been criticized for not well explicating the complicated interrelations between an individual and society (Engeström, 1999). Inspired by Leont'ev's work (1981) which emphasized the collective nature of human activity, Engeström (1987) expanded CHAT into a more comprehensive model (see Figure 1), where the community (people involved), rules (social regulations, etc.),

and division of labor (agents' roles) are incorporated, along with instrument (conceptual or physical tools), subject (agents of activities), object (goals of activities) and outcome (changes through activities). The instrument, rules, community, and division of labor limit or promote human actions.



**Figure 1.** *Activity theory model (Engeström, 1987, p. 78)*

In considering the learning activity systems, Engeström (1999) proposed the “expansive learning cycle” (see figure 2). An ideal expansive cycle includes 7 phases, namely questioning (e.g., criticizing the existing practice), analyzing (e.g., analyzing the problematic situation to find out causes), modeling the new solution (e.g., constructing a new model to offer solutions), examining the new model (e.g., experimenting on the new model to get its potentials or limitations), implementing the new model (e.g., putting the model into practice), reflecting on the process (e.g., reflecting on the obstacles encountered) and consolidating the new practice (e.g., applying the outcomes to a new practice). Four types of contradictions may appear in the expansive learning process. Primary contradictions occur within any nodes of the activity system. Secondary contradictions occur between two or more nodes (e.g., between the subject and the instrument). Tertiary contradictions arise between a newly established mode of activity and remnants of the previous one. And quaternary contradictions occur between the reorganized activity and its neighboring activity systems (Engeström, 2010). Though contradictions manifest themselves in disturbances, CHAT considers contradictions as sources of changes and developments (Engeström, 2015).



**Figure 2.** *Expansive learning cycle (Engeström, 1999, p.384)*

Teacher learning as a unique professional activity is complex in that different learning activity system elements interact with each other in the dynamic context of the teaching profession. Take teacher learning activity in a teacher development program as an example, the teachers (subject) learn how to teach effectively (object) in the program where all members such as teacher educators, teachers and others form the community. The teachers use concrete or symbolic artifacts (instruments) to achieve their learning objects. The task distribution (division of labor) and the rules of the community also mediate teachers' learning activity. The interaction of different elements in CHAT contributes to our exploration of how teachers engage in their learning activities. The notion of contradictions in CHAT also permits a systematic analysis of discordances identified in teacher learning. Besides, CHAT can serve as a suitable theoretical framework for studying teacher identity, as identity is an evolving process in which teachers are constantly reshaped in connection with social activities which guide them in developing their roles within the activity system (Cross, 2020).

## 4. METHODOLOGY

We employed a multiple case study approach to explore two Chinese tertiary EFL teachers' learning and identity construction. This approach allows researchers not only to explore the complexity and richness of the phenomenon under investigation but also to enhance the validity of the findings (Merriam, 2009). The longitudinal design was adopted to facilitate the examination of teachers' learning processes and identity-changing trajectories.

### 4.1. Setting and participants

The study was conducted in the context of a language teacher development program set up at a key university in Central China. Teachers were exposed to a series of lectures concerning state-of-the-art teaching and research methods, action research seminars, academic and teaching reports, etc. Professor A (a distinguished expert in teacher education) of this university was in charge of the program and provided the participants with various support and guidance.

The participants were selected using a purposive sampling procedure to get rich information (Patton, 2015). Considering the requirements of the study (i.e., the teachers are willing to interact with the researchers, write reflection logs, have a great passion for learning, etc.), 2 teachers-Maggie and Ruth (both pseudonyms) were chosen to participate in this study.

Maggie is an EFL teacher who has been teaching at a key university for seventeen years. she enrolled in the program fueled by a desire to improve her teaching and research ability. Ruth graduated as a Business English major. She had worked as a translator at a design institute for three years before being a tertiary EFL teacher for six years. At the time of the study, the first author worked as an assistant in the program, which guaranteed her full access to data collection. Research ethics approval and informed consent were obtained before the study commenced.

## 4.2. Data collection

The data collection lasted for one year during the two participants' participation in the program. The study drew on observation, semi-structural interviews, informal communications and artifacts to collect data. The specific data sources are as follows.

The first researcher conducted non-participatory observation and took field notes of the two teachers' professional development activities in the program (e.g., teaching experience exchange, academic report, etc.) and their teaching in the classroom. The insights gained from these observations were then used as stimuli for subsequent semi-structured interviews and communication (Burri *et al.*, 2017).

Two rounds of formal semi-structural interviews for each participant were conducted and audio-recorded. All interviews were conducted in Mandarin to allow participants to express themselves freely and comfortably. Each interview lasted about 2 hours. The first interview examined two teachers' understanding of teacher learning and identity and invited them to share their "critical incidents" (Richards & Farrell, 2005) in their teaching and learning to explore their specific dynamic learning processes. The second interviews were designed to explore the participants' overall learning associated with their identity change (if any) during one year's program learning.

The researchers also engaged in informal communications with the participants via Wechat, emails and informal meetings. These exchanges helped researchers establish rapport with the participants, thus making them share their personal stories more naturally and spontaneously. The interviews and communications recordings were transcribed verbatim and translated by two authors.

Artifacts were also collected, including the participants' reflective logs, action research plans, tests, policy documents, (un)published papers, etc.

All collected data were combined to triangulate each other, enabling a more comprehensive view of teacher learning and identity negotiation.

## 4.3. Setting and participants

The data were analyzed utilizing thematic analysis (Braun & Clarke, 2006). Informed by CHAT, the collected data were iteratively analyzed to interpret two teachers' learning processes and identity (re)construction. This aligned with Merriam's (2009) suggestion that qualitative researchers can refer to the theory to analyze data.

Specifically, the data analysis process was recursive and mainly included four stages. Firstly, two researchers carefully reviewed and coded the field notes, interview and communication transcripts, participants' reflective logs and other artifacts with particular attention to their learning events and how these learning related to different identities. Secondly, relevant categories, namely, larger overarching labels that linked the codes were identified. The categories were then reorganized and renamed within each case. Finally, a cross-case analysis was conducted to see whether similarities or differences exist in two participants' learning processes and identity changes.

To increase the study's trustworthiness, two researchers independently read and coded the data followed by comparing the codes, categories and interpretations. After rigorous

discussions, the two authors reached an agreement on the classifications of the specific learning process as well as identity changes. Member-check was also conducted by sharing the transcripts and analysis results with each participant.

## 5. FINDINGS

### 5.1. Maggie's and Ruth's learning process

Following CHAT, each participant's learning was positioned in an activity system. Engeström's (1999) expansive learning cycle was drawn on to explore the two teachers' learning processes. The analysis indicated that Maggie experienced the complete expansive learning process while Ruth the non-complete one, which illustrated the "unpredictable but patterned" nature of teacher learning (Molle, 2021).

#### 5.1.1. Maggie's complete expansive learning process

##### *The students were unsatisfied with the vocabulary teaching*

Maggie's students told her they couldn't immediately respond to the newly learned English vocabularies in listening or actively apply them to translation and writing. They also complained they spent much time memorizing words but with poor effects. The negative feedback from students and the university's request to "optimize classroom teaching" triggered Maggie to question her teaching methods.

##### *I shouldn't be the hand-off boss*

By carefully analyzing her teaching, Maggie decided not to be a hand-off boss who let students learn vocabulary on their own. She discussed vocabulary teaching with professor A and other program members. "They repeatedly mentioned the production-oriented approach (POA) in promoting student learning. I wanted to try this teaching approach" (the first interview).

She attended all the POA-oriented lectures in the program. However, she shared her worries in her academic report in the program that she had no idea to apply the POA to her vocabulary teaching, for there were rare relevant teaching and research cases.

##### *Why not integrate the POA core stages with vocabulary teaching*

Maggie actively explored the specific ways of integrating the POA with vocabulary teaching. She discovered the three core stages of "motivating, enabling and assessing" in the POA could facilitate her application of the POA. She formulated a vocabulary teaching action research plan based on these three stages and carried it out in her class.

##### *The action research plan failed*

Maggie designed Chinese-English translation as a production-driven task before her text teaching (motivating). Students were required to complete the task first by themselves. Following that, Maggie guided them to use the newly learned words in the translation. Maggie's guidance provided students with certain input words and enabled them to produce

tasks (enabling). She conducted a time-limited Chinese-English sentence translation test on the students after two months (assessing) and found many students failed to use the newly learned words.

She reflected on the process and realized “the frequency of new words input is low, and the translation output exercises are only performed once per unit, students thus forgot the new words quickly” (Maggie’s reflective log).

Maggie discussed her action research plan with professor A during the action research seminars. She realized that her production-driven design separated language goals from communicative goals. In addition, Maggie constantly reflected on the problems and found students’ evaluation role was overlooked.

#### *I would try the adjusted plan*

Maggie made adjustments to the previous action research plan. In the motivating stage, she assigned both language and cross-culture communication goals and integrated vocabulary learning into translating, writing and speaking tasks, making students realize their insufficient vocabularies, thereby stimulating their curiosity for vocabulary learning. In the enabling stage, Maggie offered a series of multi-modal language input materials and related cultural background knowledge. She also encouraged the students to search for vocabulary learning strategies and cultural differences underlying words between China and foreign countries in groups. In the assessing stage, students detected their weaknesses by adopting peer assessment, self-assessment and teacher assessment, further strengthening their vocabulary learning.

The positive effects of this adjusted action research have been affirmed by many students. Most of them claimed that they applied more newly learned words in output activities which was confirmed by our classroom observations. They also got higher scores on the vocabulary test than before.

However, Maggie’s teaching was questioned by a few students with lower English proficiency. One student told her “I don’t like production activity. Many English words that others know are new words to me” (Wechat communication with Maggie). This excerpt echoed our classroom observation of his unwillingness to speak during the production session.

#### *I reconsidered many aspects*

Maggie reflected on the two rounds of action research and found vocabulary learning in a particular communicative context could be more conducive to vocabulary production. In addition, she reflected on why the POA-based vocabulary teaching model is more effective for students with high English proficiency. In her reflective log, she explained that the challenges of output tasks stimulated highly proficient students’ desire to learn and fully use various strategies to complete the output task, which further enhanced their confidence in vocabulary learning.

#### *It needs further exploration*

Maggie’s wholehearted engagement in teaching led to her limited time for academic paper writing, which conflicted with the accountability policy of the university that set high requirements for teachers’ academic achievements. However, in the second interview, she said she had accumulated many teaching research materials and promoted her research aware-



ness after a year's learning in the program and action research explorations. She planned to further promote the POA-based teaching model through academic research. In addition, this teaching model attracted some of her colleagues who intended to try it. Maggie's expansive learning process is summarized in Table 1.

**Table 1.** *Maggie's expansive learning process*

THEME	CATEGORY	MODE
triggering events	negative events	students' negative feedback on vocabulary teaching
	new situation	university requirement of 'optimize classroom teaching'
questioning	criticizing	discontent with ineffective teaching methods
analyzing	self-analysis	analysis of her own past teaching beliefs and practices as well as the present and future improvements
	interactive analysis	communication with others to analyze the current situation
modeling the new solution	plan	developing a POA-based vocabulary teaching action plan
examining the new model	experiment	trying the first action plan
	evaluation	getting unsatisfactory results
	adjustment	enriching and adjusting the first action study
implementing the new model	application	trying the second action plan
reflecting	reflection on environment	Reconsidering students' negative evaluation and the university's new teaching requirement
	reflections on practice	reconsidering two rounds of action research practices, reasons for the first round's failure and the different results between the high and low-proficient English learners
	reflections on herself	reconsidering her beliefs towards vocabulary teaching
consolidating the new practice	promotion	Maggie's decision to further explore her promoted teaching model and conduct academic research on the model colleagues' plans to try out her teaching model

Table 1 shows that although Maggie's learning process was consistent with the seven stages of the expansive learning circle (Engeström, 1999), the first stage didn't start with questioning but with triggering events. It was under the trigger of some negative and new situations that Maggie questioned her teaching. She communicated with significant others and analyzed the current predicaments. Her continuous reflection helped her improve the first action plan and put forward the second scheme. Her reflection permeated all the phases of her expansive learning, not just in the sixth stage of the expansive learning circle. In addition, her expansive learning didn't stop in the consolidating stage which could be a starting point for new expansive learning. As Maggie said, "the promotion of the teaching model is arduous, and I am ready to face all kinds of questions" (the second interview).

### 5.1.2. Ruth's expansive learning process

#### *The teaching effect was far from my expectation*

Facing the English curriculum reform, Ruth readily accepted the assigned task of teaching foreign trade English, hoping to seize the opportunity to enrich students' and her relevant knowledge. She spent much time familiarizing herself with teaching materials and preparing lesson plans. But she found the students were inactive in the class and the teaching effect was far from her expectation. She felt discouraged and questioned her teaching ability, wanting to find "the root of the problem" (Ruth's teaching problem report in the program).

#### *Causes needed to be identified*

She analyzed the reasons in her log, "I lack teaching experience for it's the first time I taught this course. What I centred on was teaching materials and ignored the students' needs". Besides, from her students' feedback, she knew their difficulty in understanding teaching content was mainly due to their limited foreign trade knowledge. Some students complained that the class was teacher-dominated and lack of business cases. Ruth reflected on the feedback and decided to adjust her teaching methods.

#### *I wanted to make my teaching changed*

She made changes in the following aspects. Firstly, she adopted the case teaching method by joining case analysis and virtual practice in teaching. Secondly, the limited classroom time prompted her to use "micro class" and "flipped classroom". Finally, the teacher-student and student-student interactions were more emphasized (email communication).

#### *I tried the new teaching modes*

Ruth put the new scheme into practice. She no longer confined herself to the textbook, but integrated real international trade incidents she had handled in her previous job into classroom teaching, such as the cases of dispute resolution, win-win contract negotiation, etc. In addition, she adopted the virtual practice teaching method when teaching international trade terms, business negotiation and contract writing. Students played different negotiation roles and actively explored the learning contents to solve the virtual practice problems, which improved their negotiation skills. Moreover, she video-recorded the crucial and challenging knowledge points and shared them with students before class so that they could learn them in advance. Ruth reported in the teaching sharing activity held in the program that "micro class and flipped classroom help students engage in studying". In the second interview, she told us that she ranked first in the teaching assessment by students in her department.

#### *I reflected on many things*

Ruth wrote in her log, "My previous teaching was spoon-feeding and care little about students' involvement in learning". After finishing her foreign trade English teaching, she experienced a change from "being questioned by students" to "being popular with students". She reflected on the changing process and believed that "a good teacher needs to keep exploring suitable teaching methods to promote students' learning. Besides, teachers need to be creative to solve students' learning problems".

She also reflected on the shortcomings of the current curriculum. Students had little opportunity for social practice due to the limited number of practice bases, which made it difficult for students to combine theoretical knowledge with actual practice.

After one year of foreign trade English teaching, she suspended this course because of her illness and other teaching pressure. But she said, “it is only a temporary renunciation, I will certainly come back late”.

Ruth’s expansive learning process has gone through five stages, but it doesn’t stop. When she begins a new round of foreign trade English practice teaching, her new learning will restart. Table 2 summarizes her expansive learning process.

**Table 2.** *Ruth’s expansive learning process*

THEME	CATEGORY	MODE
triggering event	new situation	English curriculum reform
questioning	criticizing	dissatisfaction with her teaching methods
analyzing	self-analysis	analysis of her inexperience in teaching the new course, textbook-centred problems and ignoring the students’ needs
	interactive analysis	analysis of the current situation with students
modeling the new solution	plan	planning to adopt case teaching method, virtual practice teaching, micro-class and flipped classroom teaching mode
implementing the new model	experiment	trying the new teaching modes
reflecting	reflection on environment	reflections on the limited number of practice bases
	reflections on practice	reflections on the new teaching methods
	reflections on herself	reflections on her previous spoon-feeding teaching

Ruth’s expansive learning also started with triggering events and then she questioned her teaching ability. The new plan was put forward and implemented after her careful analysis. The whole learning process was also inseparable from her reflection.

It can be seen from the above analysis that teachers’ learning process does not necessarily experience seven steps in sequence because of the different situations or needs. Besides, unlike the expansive learning circle which starts with questioning, teachers in this study began with the triggering event(s) which inspired teachers to question. Triggering can become an essential stage of expansive learning. Moreover, two teachers’ reflecting actions ran through the whole learning process instead of just occurring in the sixth phase of the expansive learning circle. These differ from Engestrom’s(1999) original model description, which reflects the unique characteristics of teachers’ expansive learning in this study.

## 5.2. Maggie’s and Ruth’s professional identity shifts

The data analysis showed that the participants’ identities changed through their learning, which reflected the dynamic characteristics of teacher identity. Three different routes of the participants’ identity development emerged from the collected data.

### 5.2.1. *From experience-based teacher to research-oriented teacher*

Both teachers talked about research-oriented teacher identity and believed that their teaching and research competence should co-develop. They used to put more effort into how to teach and considered the research intimidating. Through participating in different activities such as action research, teaching experience sharing, attending lectures, etc., they learned how to conduct research from teaching and how to apply theories and research results to inform and guide their teaching. They found teaching and research are inseparable.

After I learned about the POA in the program, I was surprised to find that my previous teaching ideas were highly consistent with those of the famous Professor Wen (the founder of POA). The coincidence made me very excited. The research is not unreachable now. I could be a researcher too. (Maggie's second interview)

Before attending the program, I thought it was enough to be an experienced teacher. By engaging in various activities in the program, I gradually realized that I could become a researcher. When I read scholars' research papers, I thought I could write too. (Ruth's log)

The two teachers' engagement in different learning activities further enhanced their research knowledge and competency, reinforcing their emerging identity as researchers. They became aware of the essential aspects of research, trying out conducting research from their teaching.

In the informal meeting with Maggie, she mentioned that she had begun to reflect on her teaching, her students and herself, and planned to conduct teaching research to serve her teaching. Ruth applied the teaching theory and teaching approaches she learned in the program to her teaching and got effective results. She wrote an academic paper on foreign trade English based on her flipped-class teaching. The process of teaching and writing brought her joy.

### 5.2.2. *From lecturer to learner*

Two teachers also mentioned their learner identity construction during their various learning. Before attending the program, the two teachers felt that their role is dominated by "lecturer".

I used to see myself as a lecturer who transmits knowledge, but now I am a student who is eager to learn knowledge. There are many excellent professors, doctoral students and teachers in this program. I should follow their examples and try my best to narrow the distance from them. The identity transformation makes me better understand students' needs and think about how to better help them grow. (Maggie's second interview).

Ruth used to consider herself a lecturer who knew more than students. But now she feels normal that students know what she doesn't. Besides, she mentioned several times in the email exchanges with us that "knowledge updates so fast that the idea of acquiring the useful knowledge and skills once and for all is out of date. I must keep learning throughout life".

### 5.2.3. *From language teacher to multi-competent teacher*

The participants in the study also made their efforts to shift from "language teacher" to "multi-competent teacher" who can teach courses with characteristics of other disciplines or contents in addition to languages.

Maggie overemphasized students' language development in the past. But now, in addition to cultivating students' language ability, she also taught other content such as Chinese-Western culture comparison, cross-cultural communication and literature. Besides, she combines moral education with language teaching. "A morally flawed person is quite dangerous. Now I attach great importance to exploring the moral elements in the English curriculum." (Wechat communication).

Ruth also showed a similar orientation. Her sole responsibility was to help students master language knowledge before joining the program. However, now she firmly believes that integrating English and business knowledge is in line with the times and the market demands. She claimed that, as time went on, she should follow the trend to transform her identity.

From the above results, we can see both Maggie and Ruth tried hard to move from their actual identity (experience-based teacher, lecturer, language teacher) to their designated identity (research-oriented teacher, learner, multi-competent teacher). The professional development program acted as a mediator to provide teachers with new knowledge and skills related to teaching, which helped the two teachers better perceive what it meant to be a teacher, "who they are becoming, and who they want to be" (Varelas 2012, p.2), thus providing space for identity reconstruction.

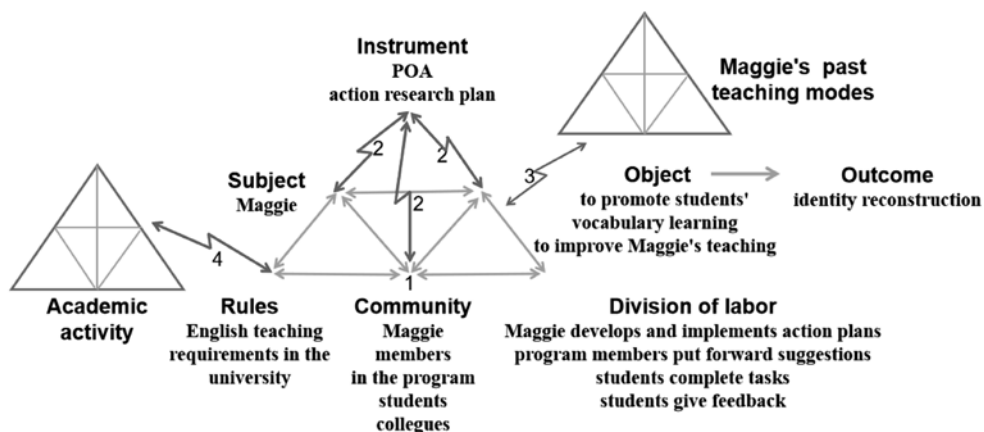
Having explored the intricacies of the participants' learning processes and identity development, it now pivots towards a comprehensive discussion of these findings.

## 6. DISCUSSIONS

### 6.1. The driving role of contradictions in teacher learning

Previous studies from the CHAT perspective show understanding and resolving contradictions can reveal teachers' change and development (Dang, 2013; Ell & Major, 2019). In Maggie's POA teaching activity system, Maggie initially believed that students could learn vocabulary independently while students thought she should teach them vocabulary due to their unsatisfactory self-learning results. The different viewpoints between Maggie and the students have caused contradictions within the community of the activity system (primary contradictions). However, it was this primary contradiction that prompted Maggie to actively explore ways of improving students' vocabulary learning. By consulting professor A and program peers, she adopted POA as a guide for vocabulary teaching. But due to her limited understanding of POA, she did not know how to effectively integrate it with her teaching practice. The secondary contradiction between the subject (Maggie) and tool (POA) arose. She formulated and implemented her first teaching action research with unsatisfied results. The secondary contradiction between instrument (action research) and object (to improve students' vocabulary learning) appeared. In addition, Maggie's previous teaching modes (e.g., emphasizing language, ignoring communication goals, valuing teacher evaluation) conflicted with the POA-oriented teaching (highlighting language and communication goals, stressing teacher-student co-evaluation), which led to the tertiary contradiction between the old and the new mode of activity. She carried out the adjusted practice with the desired effects. But the new practice got resistance from a few low-proficient English learners who

viewed the production tasks as difficult, which is a secondary contradiction between tools (action research) and students in the community. Besides, the new teaching approach made Maggie invest a lot of energy and have little time for academic writing, which caused the quaternary contradiction between the main activity and adjacent activity. By negotiating these contradictions, Maggie reconstructed her identities as a research-oriented teacher, learner and multi-competent teacher. The contradictions in Maggie’s activity system are shown in Figure 3.



**Figure 3.** *Contradictions in Maggie’s POA-based vocabulary teaching action research activity*

Ruth also encountered some contradictions in her foreign trade English teaching. At first, Ruth only focused on the textbook rather than her students’ needs, which led to the primary contradiction between her and the students. Later, students expected more opportunities to apply the theory they learned to practice. However, due to the limited number of practice bases, students had a slim chance to practice, resulting in the secondary contradiction between rule (few practical supports from the university) and object (to promote students’ foreign trade English learning). Besides, the limited class hours made it impossible for Ruth to complete all the teaching tasks, which caused the secondary contradiction between rule (little class hours) and object (to promote students’ foreign trade English learning). She video-recorded the key and complex learning content for students to make up for the limited time. But some students complained about the heavy learning burden. The primary contradiction within the community (Ruth and students) thus occurred again. Then because Ruth put most of her efforts into this course, she had to spend less time on her two other courses, resulting in the quaternary contradiction. By overcoming these contradictions, Ruth narrowed the distance between her actual level and potential level (Vygotsky, 1978) and shifted her identity. Figure 4 shows the contradictions in Ruth’s activity system.

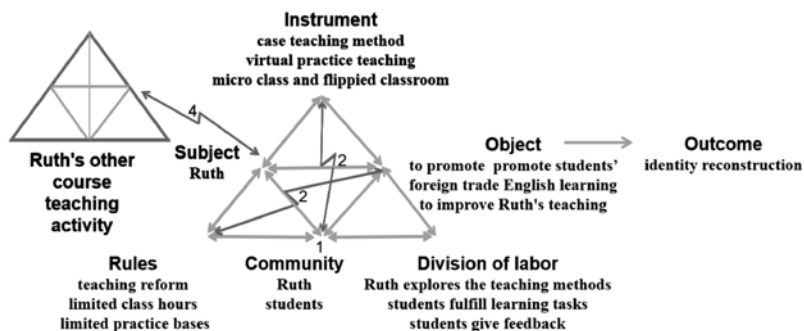


Figure 4. Contradictions in Ruth's Foreign Trade English teaching activity

It can be seen from the above that teacher learning process is not necessarily smooth but full of various challenges and contradictions. The negotiation of contradictions led to the two teachers' enhanced awareness of their inadequate knowledge and skills, which further motivated their active learning and created a space in which Maggie and Ruth shaped their new identities. This adds to previous studies where a degree of dissonance is beneficial and leads to growth (Danielowich, 2012; Engeström 2015). However, Saka *et al.* (2013) warn that the tensions may backfire and undermine teachers, particularly if they are not well supported in tackling the challenges. It indicates teachers need to learn to appropriate social and tool mediation (Molle, 2021) to better overcome the challenges they encounter.

### 6.2. Identity development through negotiation and boundary crossing in teacher learning activities

According to CHAT, human cognitive development, originating from individuals' interaction with the environment, history and others in activities, is essentially social (Wertsch, 1985). In this study, the two participants engaged in various social interactions in their teaching and learning activities. For example, they interacted and discussed their teaching and research problems with the expert, doctorate students and teachers in the program. They also actively interacted with their students in their teaching practice. Their expansive learning process thus embodies the collective learning characteristic. They made their implicit knowledge explicit by sharing personal knowledge through in-depth collective dialogue. They accepted challenges from others and obtained consensus through negotiation, which updated their professional knowledge and teaching practice. Through dialogue and multi-voice in community activities (Bakhtin, 1986), teachers cross the boundaries of different activity systems, walk out of their respective spaces and enter the third space (Gutiérrez *et al.*, 1999) to solve problems together. The research result coincides with the findings of many researchers who highlight the positive functions of the learning community (Chen, 2020; Moosa, *et al.*, 2022).

Besides, teachers' various interactions in their teaching and learning practice became a critical source for their identity development. By constant negotiation with self and others, teachers could perceive the gap between the designated self and the real self, gain learning opportunities from others and reflect to transcend themselves (Liu & Xu, 2013). They then

strategically positioned themselves within the complex webs of intrapersonal and interpersonal relationships to narrow the gap and construct new professional identities. The results are in line with the construct of identity-in-discourse and identity-in-practice proposed by Varghese *et al.* (2005) and identity-in-activity (Dang, 2013) which indicate that identity is formed through discourse negotiation with others in the practice and activity system. In this regard, teacher identity is an ongoing social process involving co-construction and negotiation with significant others in the learning context and featuring discontinuities as teachers constantly interact with different selves in response to various social settings (Akkerman & Meijer, 2011).

### **6.3. Agency as a source of promoting teacher learning and identity development**

Teacher learning and identity are not entirely social, and the individual agency also plays a key role. Agency, the ability to “make choices, take control, self-regulate, and thereby pursue their goals as individuals leading, potentially, to personal or social transformation” (Duff, 2012, p.417), becomes even more significant when considering that teachers are not blank canvasses to be painted (Freeman & Johnson, 1998). Our study has revealed that teacher learning begins with the trigger of negative or new events. These key events often require teachers to own keen observation and perception ability and exert their agency to discover these triggers as well as question and analyze the existing problems. Teachers reflect on the tensions in their teaching, actively seeking support to deal with difficult situations. They engage in various activities (e.g., continuously implementing, verifying and consolidating their teaching plans) and renew their cognition. This indicates that agency plays a crucial role in shaping teachers’ new understandings of participating in learning activities. The result finds resonance with the claim of Valsiner and van der Veer (2000) that higher cognition development is not a simple substitution of experience, but a process of transformation between self and activity.

Agency is also a powerful source of teacher identity development (Beauchamp & Thomas, 2009). The two teachers’ identities were developed through their agentic actions. For example, despite her lack of research ability, Maggie enriched her ideal identity as a research-oriented teacher by continuous reflections on her failures in exploring the action research plan. In a similar vein, Ruth updated her designated identity as a multi-qualified teacher by exercising agency in her professional practice and seeking support from significant others. Different from what Tao and Gao (2017) held that teacher identity construction is a crucial part of teacher agency development, this study indicates that teacher agency not only promotes teacher learning but also affects teacher professional development and promotes teacher identity transformation.

Overall, agency helps teachers make use of various mediation and learn constantly to improve their teaching ability as well as update their identity. The findings corroborate the exploration of teacher learning as the emergence of their role identities (Beijaard, 2019), which involves individual agency.



## 6. CONCLUSION

Drawing on the CHAT, we present the case study of two teachers, each illustrating a unique professional learning process and its impact on their identity transformation. The findings expand our understanding of teacher learning and identity construction. First, our study presents some unique characteristics of teachers' expansive learning. Different from Engeström's (1999) expansive learning cycle, the teachers in this study started with the triggering event(s) rather than with the questioning. And their reflections didn't just occur in the sixth phase of the expansive learning circle but ran through the whole learning process. Besides, while many tensions and contradictions could pose challenges to teacher learning, the chances of participating in multiple activities and engaging in interactions and negotiations with different significant others help teachers' cross boundaries and develop their teaching competence to enrich their professional identities. Further, the analysis highlights agency is a powerful source of teacher learning and identity development. Such information can generate useful implications regarding what supports could be provided to facilitate teacher learning and identity development.

As a qualitative case study, we acknowledge that including two participants in one teacher development program is limited in adequately capturing variations of teacher learning and identity development. Findings should not be easily generalized to other teachers. Besides, all data were collected during two teachers' participation in the program, it is unclear what happened to them after they left the program. Future research could further track these participants to explore their learning and identity construction trajectories.

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