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Exploring EFL teachers' professional identity development in a CALL teacher preparation program

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The spread of computer-assisted language learning (CALL) in L2 pedagogy has asked for training professional teachers who can integrate CALL in L2 pedagogy. Hence, the current study investigated the role of a CALL teacher preparation program in developing EFL teachers' professional identity. To that end, two EFL teachers participated in a blended CALL teacher preparation program in which the approaches, syllabi, and process of actual CALL teacher education programs were implemented. Through project-based instruction, EFL teachers learned how to bridge the theory and practice of CALL in their classes for eight months. The data sources were the teachers' interactionally-oriented narratives and the reports of CALL practices in their classrooms. To examine EFL teachers' professional identity development after participating in the program, the researchers analyzed the narratives based on the 3ATIF framework (Werbińska, 2016), including three components: affiliation, attachment, and autonomy. Teachers' professional identity comprises these components. Teachers' narratives were analyzed using a dialogic and performance analysis. The findings showed that CALL teacher preparation programs might have a constructive role in developing EFL teachers' professional identity. The findings also indicated that EFL teachers' willingness to become CALL-oriented teachers developed after participating in CALL teacher preparation programs. Moreover, their tendency toward integrating CALL in L2 pedagogy was enhanced while participating in the CALL teacher preparation program. Furthermore, they recognized CALL as a platform to develop their autonomy. It can be concluded through the findings of this study that CALL teacher preparation programs can motivate the EFL teachers to integrate what they obtain from the programs in their teaching.

Keywords: CALL teacher preparation, professional identity, affiliation, attachment, narratives



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Introduction

Teachers' professional identity directly relates to teachers' performance (Richards, 2015a), meaning that they can develop their professional performance by developing their professional identity. This is so because teachers' identity development encompasses "a sense of having specialized knowledge and expertise and of being part of a larger profession and what this represents, such as certain standards, ethics, and accountability for performance in teaching" (Pennington & Richards, 2016, p. 16). It means that, on the one hand, by developing their professional identity, teachers align certain standards and include specialized knowledge in their teaching performance which can develop their teaching profession. On the other hand, developing teachers' performance leads to constructing and reconstructing their self-image concerning teaching values and beliefs that develop their professional identity. Thus, there is a *two-way street* between teachers' professional identity and their performance. As a whole, it can be assumed that by developing teachers' professional identity, their performance will be developed and vice-versa (Meihami, 2021a; Rodrigues & Mogarro, 2019).

During the last three decades, a number of researchers have described professional identity. Some researchers believe that professional identity is similar to the concept of professional reality (Goodson & Cole, 1994) in that both concepts state that teachers' professional roles are vital for them. Others think of professional identity as the dynamic interactions in professional contexts (Rodrigues & Mogarro, 2019) or phenomenological self-construction via different activities (Olsen & Buchanan, 2017). Lack of a *one-fits-all* definition asks for investigating different aspects of teachers' professional identity to broaden knowledge about professional identity. One of the less investigated topics concerning teachers' professional identity is CALL teacher education (Meihami, 2021b). Unlike the difficulty of providing a comprehensive definition for teachers' professional identity, defining CALL teacher education is straightforward. According to Torsani (2016), CALL teacher education can be defined as training that develops teachers' ability to integrate technology with their teaching profession.

CALL teacher education is not aimed at transferring technical notions to language teachers, but developing language teachers' profession based on combining CALL and language knowledge (Torsani, 2016). Since running CALL teacher education programs is not without its challenges and obstacles (Fathi & Ebadi, 2020; Marandi, 2019; Meihami, 2021b), the researchers should give priority to the research studies examining different aspects of CALL teacher education programs and their effectiveness in developing EFL teachers' professional identity. Exploring the role of CALL teacher education programs in EFL teachers' professional identity development can help researchers understand how to develop EFL teachers' digital identity (Lizenberg, 2013; Engeness, 2021),

through which EFL teachers can facilitate the construction and reconstruction of their CALL practices. Thus, the current study was an exploratory inquiry to examine the role of CALL teacher preparation programs in EFL teachers' identity development. The study attempted to answer the following question: What is the role of CALL teacher preparation programs in developing EFL teachers' professional identity?

Literature review

We conducted an integrative literature review in which different concepts related to the purpose of this study were reviewed. A reason for doing an integrative literature review was the qualitative nature of the study which required a comprehensive review of the related concepts to help the researchers with data analysis and interpretation. Moreover, since there was no formal CALL teacher preparation program in Iran, we needed to conduct an integrative literature review to understand CALL teacher preparation approaches and processes to run a program for the purpose of the current study. Thus, in the following paragraphs, we review the relationship between EFL teachers' professional identity and CALL teacher education, approaches and processes of CALL teacher education programs, and the analytic framework to examine EFL teachers' professional identity development.

EFL teachers' professional identity and CALL teacher education

Professional identity impacts teachers' practice in their classes (Beijaard, Meijer, & Verloop, 2004). Thus, professional identity is a vehicle through which EFL teachers choose, adopt, adapt, and implement their practices (Beauchamp & Thomas, 2009; Friesen & Besley, 2013). Since specific professional practices have been approached, implemented, and shared by EFL teachers, professional identity can be regarded as a type of social identity. This indicates that professional identity is negotiable and dialogic, and it can be constructed and reconstructed during social interactions (Varghese, Morgan, Johnston, & Johnson, 2005). Hence, professional identity is in direct relationship with a community of practice (Wenger, 1998), meaning that if EFL teachers accept a new professional identity, they will accept the necessity to follow the social and cultural attributes of the community in which they receive their new professional identity. For example, the culture of using CALL-related technology in the EFL context becomes a part of EFL professional identity when they participate and negotiate, dialogically, in CALL in a specific community of practice.

EFL teachers' participation, engagement, and negotiation in CALL communities of practice may lead them to construct and reconstruct their CALL professional identity. On the one hand, these teachers can obtain different roles, such as CALL teacher-researchers, CALL syllabus designers, CALL material developers, and so forth. This will help them to make better decisions for the problems which they encounter in their classrooms. On the other hand, these teachers may face conflicts by playing different roles. Here, the role of CALL teacher

education programs is critical in that they prepare the safe transition of EFL teachers to become CALL-oriented teachers (Nami, Marandi, & Sotoudehnama, 2015). In the following paragraphs, we review approaches and processes of CALL teacher education programs to find a better understanding of how EFL teachers can participate, engage, and negotiate in this context.

Approaches and processes of CALL teacher education

Teachers are considered to have a “pivotal” role in the future of CALL (Hubbard, 2008). Consequently, CALL teacher education programs find special attention within second language teacher education. Although CALL teacher education has been one of the main discussions of the research in the field recently (Torsani, 2016), Thomas *et al.* (2013, p. 5) stated that “the reality remains that the vast majority [of language teachers] may use little more than a computer attached to a projector to display presentation slides.” This shows that CALL teacher education is not without its complexities (Meihami, 2021b). Such complexities might be due to the ignorance of approaches and processes involved in CALL teacher education (Hubbard, 2008).

Some researchers (e.g., Egbert, 2006) have tried to work upon the methodological aspects to establish new approaches to applying CALL teacher education. As the agents of CALL teacher education, language teachers have been the subject of different research studies to explore new guidelines, practices, and standards to help them benefit from CALL teacher education (Oxford & Jung, 2007). These studies address integration as the primary concept to be considered in CALL teacher education programs. Integration is a critical concept in CALL in general and in CALL teacher education in particular. It can be due to the ultimate goal of CALL teacher education which is “to enable L2 teachers to integrate CALL technology into their classroom with confidence and knowledge” (Hong, 2010, p. 5). Integration takes different shapes in different approaches and processes of CALL. There are different approaches to CALL teacher education. One of the approaches is *breadth-first*, in which the teachers participate in traditional survey courses. According to Hubbard (2008), this approach has the benefit of “introducing a wide range of CALL alternatives, placing CALL into perspective vis-à-vis language teaching as a whole and providing a foundation from which to explore specific interests later” (p. 181). The *breadth-first* approach to teacher education aims to help language teachers find technical and pedagogical skills and knowledge of using CALL in language pedagogy.

Another approach to CALL teacher education is the *depth-first*, in which “all or part of the CALL course may focus heavily on a single area, allowing students a narrower but much more intensive experience, especially if the objective is a project” (Hubbard, 2008, p. 181). This approach is primarily used in in-service CALL teacher education programs in which the ultimate goal is to emphasize the use of a specific application by language teachers in their classrooms. One more approach to CALL teacher education is the *integrated* one. In this approach to CALL teacher education, “the use of technology appears

in multiple places during the teacher candidate's coursework rather than in a single, stand-alone class" (Hubbard, 2008, p. 182). In the *integrated* approach, different aspects of CALL will be integrated with different aspects of language pedagogy during teacher education programs. Moreover, *an online approach to CALL teacher education is another approach* used in CALL teacher education programs. This approach is to introduce language teachers to CALL through technology. It helps teachers to learn CALL by doing and participating in processes. In this approach, the language teacher will participate in regular technology-based programs to receive CALL skills and knowledge and language-related content.

In each of the above-mentioned approaches to CALL teacher education, different processes can be implemented. While some can be through lecture/demonstration (Eskenazi & Brown, 2006), others may use a project-based process (Debski, 2006) in which CALL learning happens via a project. Situated learning (Egbert, 2006) is another process in which a CALL platform will be established to prepare a community of practice for language teachers who practice CALL in their classes. Moreover, reflective learning is another process that emphasizes metacognition, conscious articulation, and reflection on apprenticeship (Hubbard, 2008). Furthermore, the portfolio-based process in which language teachers gather the outcomes of the educational technology courses for more collaboration and reflection is another process that can be used in CALL teacher education (van Olphen, 2007). Finally, communities of practice create a virtual platform to engage teachers in CALL teacher education.

The analytic framework to examine EFL teachers' professional identity development

The purpose of the current study was to examine the role of a CALL teacher preparation program in EFL teachers' professional identity development. To do so, we needed an analytic framework to examine EFL teachers' professional identity development. Although there are different frameworks to examine EFL teachers' professional identity development, we decided to use Werbińska's (2016, 2017) 3ATIF (Three As stands for affiliation, attachment, and autonomy of Teacher Identity Formation) framework. There are some reasons to select this framework as a point of reference in this study. First, compared to other frameworks (e.g., Wenger, 1998) which address identity in general, Werbińska's 3ATIF framework is specifically designed to address EFL teachers' professional identity. Second, since the 3ATIF draws on previous similar models (e.g., Benson, Barkhuizen, Bodycott, & Brown, 2013; Clarke, 2009; Gee, 2000; Pennington, 2015), it is a much more refined framework accurately reflecting EFL teacher professional identity (Werbińska, 2016; 2017). Third, because the framework's components (affiliation, attachment, autonomy) include teachers' agentive, reflexive, and resilient skills (Werbińska, 2017), it can be an appropriate framework to do this study in which we had to observe EFL teachers' agency and reflexivity concerning CALL practices in their classes while and after participating in a CALL teacher preparation program.

As stated above, the framework includes three components: affiliation, attachment, and autonomy. Affiliation in 3ATIF is defined as the willingness of EFL teachers to affiliate themselves as EFL teachers and to join different communities of practice. It is close in conceptual meaning to *alignment* (Wenger, 1998), *I-Identity* (Gee, 2000), *Substance of teacher identity, authority sources* (Clarke, 2009), *embodies, projected, imagined identity* (Benson *et al.*, 2013), and *disciplinary, vocational, global, economic, global, local identity* (Pennington, 2015). As can be inferred, having informed the mentioned concepts, affiliation makes it easier for the researchers to investigate this part of teachers' professional identity. In the current study, thus, EFL teachers' willingness to participate in CALL teacher education programs and their willingness to utilize and integrate CALL-related materials in their classes would be regarded as the development of EFL teachers' affiliation, which in its own place shows the development in their professional identity.

The second indicator in the 3ATIF framework is the attachment described as teachers' ideology about the teaching process and their preferences about different approaches, methods, and techniques (Werbińska, 2016; 2017). It is conceptually close to *A-Identity* (Gee, 2000), *Identity-in-practice* (Varghese *et al.*, 2005), *Self-practice* (Clarke, 2009), and *instructional identity* (Pennington, 2015). In the current study, EFL teachers' attachment was addressed through examining their ideology about CALL teacher education programs, their preferences to use CALL materials over other options in their teaching profession, and their attempts to self-design CALL materials.

Autonomy is defined in the 3ATIF framework as EFL teachers' self-dependency to accept the responsibility of teaching and selecting among different options and choices (Werbińska, 2016; 2017). In this model, autonomy is in line with what has already been proposed in other frameworks such as *D-Identity* (Gee, 2000), *identity-in-discourse* (Varghese *et al.*, 2005), *reflexivity* (Benson *et al.*, 2013), and *professional identity* (Pennington, 2015). EFL teachers who are autonomous can use their critical reflexivity and interpretation to design and develop their teaching practices.

Methodology

A narrative research design

A narrative research design was followed in the current study to address the study's primary purpose, investigating the role of CALL teacher preparation programs in EFL teachers' professional identity development. There were some reasons for following a narrative research design in this study. First, there are close connections between narrative and identity (De Fina, 2015), which consider narrative the primary vehicle for expressing identity. Second, a narrative research design can throw light on an individual's experiences (Creswell & Poth, 2018), and the researchers can track an individual's identity through the dynamicity of his/her experiences. Third, since temporality is addressed through narratives (Freeman, 2015), researchers can comprehensively

understand the research phenomenon: In our case, EFL teachers' professional identity development.

We went through different steps to make a narrative research design for this study; however, it is essential to mention that it does not mean we follow a linear procedure (Clandinin, 2013) while doing a narrative research design. The following procedures adapted from Creswell and Poth (2018) were followed:

- ▶ *Identify whether narrative research is appropriate to address the research quest:* As we stated above, some reasons made narrative research design an appropriate design for this study. The most critical reason was that since we wanted to track EFL teachers' professional identity development, narrative research could be helpful (De Fina, 2015).
- ▶ *Choose one or more participants who have experiences or are experiencing a phenomenon:* The phenomenon under study in this investigation was the CALL teacher preparation program in which we tracked the professional identity development of two EFL teachers. They produced interactionally-oriented narratives during the CALL teacher preparation program.
- ▶ *Determine the collection of narratives:* After we instructed the participants how to produce their narratives to include an abstract, introduction, evaluation, resolution, and coda (Riessman, 2008), they provided us with their narratives, both in oral and written forms.
- ▶ *Consider and embed information about the context in which the study is done:* When we analyzed the narratives, we embedded information about the context where EFL teachers were involved. The information includes the EFL context of Iran, the EFL teacher education/preparation programs run in Iran, and the CALL infrastructures.
- ▶ *Analysis of the narratives:* Through the analysis of narratives produced by the EFL teachers, we examined *epiphanies* or turning points showing us the development in EFL teachers' professional identity. This step is explained further in the data analysis section.

There were different interrelationships among different steps in the narrative design explained above. Thus, we followed a retrospective procedure in which we went back and forth among different steps to analyze the narratives comprehensively to reach valid interpretations (Ary *et al.*, 2014).

Research context: EFL teacher education in Iran

There are two ways to become an EFL teacher in Iran. The first way is to study Teaching English as a Second Language (TEFL), English translation, or English literature at a university and, when obtaining a BA or an MA in one of these majors, participate in teacher-recruiting exams held by the Ministry of Education. Those accepted in this exam will participate in pre-service programs for at least a year before starting their teaching career in schools. The second way is to study TEFL at Farhangian Universities, universities affiliated with the Ministry of Education. Those who get their BA degree in TEFL at these



universities do not need to participate in teacher recruiting exams or any pre-service teacher education program. Instead, they start their teaching profession at schools when they are still junior students of TEFL. Either of these ways to train an EFL teacher can be approached via CALL teacher education programs.

CALL teacher education programs, however, have not been properly considered in Iran (Khanjani, Vahdany, & Jafarigohar, 2016; Marandi, 2019; Meihami, 2021b). This issue can be due to some reasons. First of all, CALL teacher education is a new educational phenomenon in Iran. Moreover, it can be stated that the necessary infrastructure for CALL teacher education has not been prepared (Meihami, 2021b). One more reason may be that EFL teachers do not yet internalize the need for using technology in language pedagogy. Finally, since there is a paucity of practical investigations about CALL teacher education in Iran, there are not many practical guidelines for the EFL instructors to use CALL in their classes. All of the reasons mentioned above make it difficult for educators in Iran to address CALL teacher education.

Participants

This study aimed to address EFL teachers' professional identity development participating in CALL teacher preparation programs. Since there was no such program in the Iranian context, when we were doing this study, the researchers tried to develop a CALL teacher preparation program. They described the program to several EFL teachers and asked them to participate in it. Finally, two EFL teachers agreed to participate in the program. Ava (pseudonym), the female participant, had an MA in TEFL, and she was an EFL teacher with seven years of teaching experience at different schools. Parsa (pseudonym), the male participant of the study, had an MA in TEFL from Farhangian university, and he had 12 years of teaching experience at different schools. Ava was 35 years old, and Parsa was 36. The reason for Parsa's greater teaching experience was that he had been a student of Farhangian university; thus, he had started his teaching profession sooner in comparison with Ava (see above, EFL teacher education in Iran).

To anticipate ethical issues in qualitative studies, we informed the participants about the research essence of the program (Creswell & Poth, 2018). Moreover, we intentionally let them know about the purpose of the study to help them illustrate their experiences in their narratives (van Manen, 2014). Thus, since reality is inseparable from one's consciousness about an object (Stewart & Mickunas, 1990), we could obtain the real experiences of the participants when they were conscious about the purpose of the study. Furthermore, to address the referential and interpretive adequacy of qualitative findings, we needed to use member checks and participants' feedback (Ary *et al.*, 2014), requiring participants' awareness about the purpose of the study.

CALL teacher preparation: Approach, syllabus, and process

The approach used in this study to run CALL teacher preparation was a blended one. Based on a blended instruction model that took eight months, the researchers used both online and face-to-face facilities to help the two EFL teachers understand the theoretical and practical sides of integrating CALL into their teaching profession. For the online part of the blended instruction in this program, the researchers used Skype. Moreover, other applications such as WhatsApp were used as asynchronous communication modes through which the researchers sent different CALL materials and articles to the teachers. For the face-to-face part, the researchers prepared a session per month with the two EFL teachers and negotiated different CALL issues with them. The whole program lasted eight months. Each month, the researchers held a Skype session, a face-to-face session, and multiple asynchronous negotiations with the EFL teachers.

The syllabus of this blended CALL teacher preparation program aimed to prepare EFL teachers to integrate CALL into their classes. To that end, the syllabus was designed to address the theoretical and practical aspects of CALL. Table 1 (overleaf) shows the subjects of each session during the program.

To run this CALL teacher preparation program, we used a project-based process. As shown in Table 1, teachers were responsible for doing different projects while participating in the program. Learning in a project-based process happens “on the basis of accumulating the skills and knowledge necessary to accomplish the project goals” (Hubbard, 2008, p. 183). Moreover, as a project-based process asks for telecollaboration in which “projects [are] completed collaboratively by students and teachers through the use of online tools” (Gooding Oran, 2011, p. 14), we asked the teachers to collaborate with their students using CALL to address their teaching and learning goals.

Thus, in this program, we tried to help the EFL teachers practice what they had been instructed during different sessions to delve into how CALL could contribute to their teaching profession in L2 classes. We adapted Debski’s (2006) coursework for the project-based process used in this CALL teacher preparation program. According to Debski’s (2006, p. 101) coursework, the focus of the course is not on “a repertoire of unities to be systematically developed,” but “the course contents are put into practice whenever the result-oriented tasks offer the opportunity to do so” (Torsani, 2016, p. 114). By so doing, we guaranteed the authenticity of the content and the procedures. As a whole, we asked the teachers to use what they were instructed theoretically and practically in this CALL teacher preparation program in projects that they needed to do in their classes. However, since they used the content and procedures of this CALL teacher preparation where they thought they needed them, they produced authentic classroom procedures through CALL. Consequently, their narratives were reliable and valid instances of their authentic experiences.



Table 1. The syllabus covered during the CALL teacher preparation program

Session	Topics	Materials covered *	Teacher's projects
Session 1	History of CALL in L2 teaching and learning	<i>From Past to Present: A Hundred Years of Technology for L2 Learning</i>	To critically obtain the pros and cons of using CALL during the last 100 years
Session 2	Theoretical underpinnings of CALL	<ul style="list-style-type: none"> - <i>Exploring Theory in Computer Assisted Language Learning</i> - <i>Application of Cognitive and Socio-Cultural Theories in CALL</i> - <i>CALL in Context: A Brief Historical and Theoretical Perspective</i> 	Critically review CALL theories and how to bridge from theory to practice
Session 3	Introduction to CALL facilities (including applications, etc.)	Reviewing on synchronous and asynchronous facilities	To nominate a program used synchronous or asynchronous CALL
Session 4	CALL in teaching grammar and vocabulary	<ul style="list-style-type: none"> - <i>Technologies for Teaching and Learning L2 Grammar</i> - <i>Technologies for Teaching and Learning L2 Vocabulary</i> 	Using CALL to teach grammar and vocabulary and provide a demo and a report
Session 5	CALL in teaching reading and writing	<ul style="list-style-type: none"> - <i>Technologies for Teaching and Learning L2 Reading</i> - <i>Technologies for Teaching and Learning L2 Writing</i> 	Using CALL to teach reading and writing and provide a demo and a report
Session 6	CALL in teaching speaking and listening	<ul style="list-style-type: none"> - <i>Technologies for Teaching and Learning L2 Speaking</i> - <i>Technologies for Teaching and Learning L2 Listening</i> 	Using CALL to teach speaking and listening and provide a demo and a report
Session 7	CALL in L2 assessment	- <i>Integrating Assessment with Instruction through Technology</i>	Providing a report of using CALL in L2 assessment
Session 8	Integration, approaches, and process to use CALL in L2 pedagogy	<ul style="list-style-type: none"> - <i>Developing Collaborative Cyber Communities to Prepare Tomorrow's Teachers</i> - <i>Language Teacher Education and Technology</i> - <i>Technology for Task-based Language Teaching</i> 	Planning a CALL program for teaching L2. (including theories, language skills, assessment, etc.)

* Most of the covered materials were the chapter from *The Handbook of Technology and Second Language Teaching and Learning* edited by Carol A. Chapelle and Shannon Sauro (2017).

Data collection and data analysis

To address the purpose of this study, whether or not participating in CALL teacher preparation programs can develop the professional identity of the EFL teachers, we collected interactionally-oriented narratives (De Fina, 2015) authored by the two participants of the study. After each instruction session, the two EFL teachers were asked to develop their narratives and deliver them in the following session. Moreover, the reports provided by the participants while integrating CALL in their classes to address the projects were used as supplementary data to help us address the purpose of the study. Moreover, we tried to obtain the CALL commitments of the EFL teachers prior to starting the program to have a reliable and valid comparison when the EFL teachers participated in the CALL teacher preparation program. To that end, we administered a survey in which we asked some questions such as *how often have you used CALL in your classes? Do you participate in CALL workshops?*

We analyzed the narratives based on a dialogic and performance analysis (Riessman, 2008). There were three main reasons for using this analysis type to examine the narratives. First, since there were interactions between the researchers and the EFL teachers, EFL teachers developed their narratives interactionally. Thus, in such interactionally-oriented narratives, a dialogic concept might be developed so that a dialogic and performance analysis of the narratives could help us understand it comprehensively. Second, a dialogic and performance analysis helped us examine EFL teachers' professional identity development through performative symbols showing identity construction and reconstruction. Third, a dialogic and performance analysis has the features of thematic analysis and structural analysis – the other two methods to analyze narratives (Riessman, 2008) which can be used when working with predetermined codes – consequently, for the purpose of this study in which we had three predetermined codes (affiliation, attachment, and autonomy) a dialogic and performance analysis was an appropriate method to analyze the narratives.

We read the narratives, specified the semantically revealing parts, read the reports provided by the teachers, then repeated reading the narratives and the specified parts to link the related parts to the three predetermined codes. Moreover, in going through a dialogic and performance analysis of the narratives, we read the narratives for their performative aspects, revealing that teachers construct or reconstruct a new teaching performance by integrating CALL in their classes. The predetermined codes helped us to categorize our mindset about EFL teachers' professional identity development. As stated earlier (See literature review), the three concepts we used as three predetermined codes in this study were the indicators of professional identity development. Thus, changes in the status of each of them could direct us to EFL teachers' professional identity development. The description of each of these predetermined codes are as follows:

- ▶ **Affiliation:** what belonging to a profession of language teachers involves would stand for affiliation



- ▶ Attachment: how teachers approach professional commitments in the light of everyday classroom practices would signify attachment
- ▶ Autonomy: the extent to which they take control would constitute autonomy (Werbińska, 2017, p. 106).

Since the qualitative inquiry is emergent (Ary *et al.*, 2014) in which the researchers should go back and forth in different sections (data collection, data analysis, and theoretical underpinnings) to obtain a comprehensive understanding of the phenomenon, we used the integrative literature discussed above to understand the narratives comprehensively. In the following section, an example is shown.

Example 1

... during this month, I have the ***opportunity to use two vocabulary CALL-related materials*** for my classes to teach vocabulary ... ***I selected the materials by myself*** and through what we have already discussed in the program ...

This extract of the narratives produced by one of the participants (Ava) shows both attachment and autonomy development of this EFL teacher. The part “*opportunity to use two vocabulary CALL-related materials*” reveals that the teacher’s commitment to use CALL in teaching vocabulary developed. Moreover, the part “*I selected the materials by myself*” indicates that the teacher’s autonomy developed in that she could select the materials by herself. All of the narratives produced by the two teachers were analyzed this way.

Rigor of the study

Taking the rigor of the study into account is a critical issue in qualitative studies (Ary *et al.*, 2014). We enhance this qualitative study’s credibility (internal validity) through referential and interpretive adequacy in which the findings were checked with the EFL teachers. Moreover, we addressed credibility through using peer debriefing (Eisner, 1998). To do so, we gave the findings and the raw data obtained from the narratives to another person, helping us as the second coder in this study, to see whether she could reach the same interpretations. Furthermore, we addressed the transferability of the findings (external validity) through cross-case comparison. Thus, we examined the professional identity development of two EFL teachers from two different universities. Since the findings obtained from the narratives of the two EFL teachers were similar, we were assured about the transferability of the findings. Finally, we addressed the dependability (reliability) of the findings through inter-rater agreement (Ary *et al.*, 2014). To do so, we asked a second coder to read the narratives and codify them based on the three predetermined codes. Moreover, we used member checking to solve the ambiguous parts of the narratives authored by the teachers. In so doing, we asked the teachers to explain more about the vague parts of their narratives so that the researchers could analyze narratives correctly.

Furthermore, the reports of teachers' activities in their classes were used as supplementary materials to analyze the narratives.



Findings and discussion

As stated earlier in the data collection, we conducted a survey prior to starting the program to see EFL teachers' commitment toward CALL. The analysis of the teachers' responses showed that they were not eager to integrate CALL in their classes before participating in the CALL teacher preparation program. Table 2 shows the CALL commitment of the EFL teachers at the beginning of the program.

Table 2. CALL commitment of the EFL teachers at the beginning of the program

Themes of the questions	Ava	Parsa
Have you had CALL in the syllabus of your BA or MA degrees?	No	No
Have you participated in CALL workshop?	No	No
Have you participated in CALL conferences?	No	No
Have you used CALL in teaching grammar and vocabulary?	No	No, just using PowerPoint!!!
Have you used CALL in teaching reading and writing?	No. just Word Office, PowerPoint.	No, just using PowerPoint!!!
Have you used CALL in teaching speaking and listening?	Yes, for listening, I am using some podcasts, but No for speaking.	No, just podcasts for listening
Have you used CALL in L2 assessment?	No	No
What is your overall opinion about using CALL in L2 pedagogy?	It is difficult, time-consuming, far from the pedagogical reality of L2 teaching,	Integrating CALL is not easy in L2 classes because of students' lack of CALL literacy and technology infrastructure.

Table 2 indicates that the two teachers did not have CALL commitment at the start of the program. For Ava, CALL was limited to creating Word Office and PowerPoint files in her listening and writing classes. Furthermore, Ava had not participated in any CALL workshop or conference. She also thought that using CALL in L2 pedagogy was difficult, time-consuming, and far from the pedagogical reality of L2 teaching. This is also true about Parsa since he, similar to Ava, had not any CALL commitment. Using CALL material was limited to creating Word Office and PowerPoint files by Parsa. He also stated that the students' lack of CALL literacy is the reason that he did not use CALL. These answers showed that the two EFL teachers had a shallow commitment to using CALL in L2 pedagogy.

Affiliation: Developing willingness to become a CALL-oriented teacher

The analysis of narratives authored by the two EFL teachers showed a development in their willingness to become EFL teachers who used CALL in their classes. Extracts 1 and 2, respectively authored by Ava and Parsa, show the development in their willingness to become CALL-oriented teachers.

Extract 1 (Ava)

... in the time of writing this narrative, I am thinking with myself that as an EFL teacher, I have the responsibility to provide facility for our students to learn better ... ***during this program, I have figure out that CALL is a real facility in the current time and I am going to use it more than previous time in my classes ...***

Extract 2 (Parsa)

... ***CALL has many aspects which I should learn and use in my classes ... the aspects and tools of CALL make it more fascinating to act as an EFL teacher ...*** this is what I learned in the program ...

The development in the willingness to become a CALL-oriented EFL teacher can be due to the development in CALL literacy of these teachers as the two EFL teachers referred to the role of the program which they participated in how they thought about CALL. According to Dudeney and Hockly (2016), digital literacy is a deep understanding and use of technology. Therefore, the role of CALL teacher education to develop teachers' willingness to communicate may be due to the fact that by developing teachers' CALL literacy, their self-efficacy related to using CALL in their classes would develop (Kitade, 2015). Moreover, by developing their CALL literacy, the CALL teacher education would help the EFL teachers develop their advanced technological skills, leading them to be more willing to use technology in their teaching (Paraskeva, Bouta, & Papagianna, 2008).

Moreover, through narrative analysis, we understood that the EFL teachers had a positive attitude toward the CALL teacher preparation program in this study, leading them to develop their willingness to become CALL-oriented teachers. For example, in one of her narratives, Ava stated that "*... the program itself was fascinating since it was with up-to-date theoretical and practical content.*" Likewise, Parsa believed that "*... the instructions were new helping me enhance my students' interest in learning the English language through new CALL applications.*" Thus, development in the EFL teachers' willingness to become CALL-oriented teachers can be explained using contemporary materials we covered in the CALL teacher preparation programs. Abdal-Haqq (1995) argued that since the technology training programs cannot address the needs of the teachers concerning up-to-date technology types, they will be demotivated to use technological materials in their classes. Moreover, becoming aware of

the current CALL materials motivated the EFL teachers to use CALL in their classes (Egbert & Thomas, 2001).

Further, we understand through narratives authored by the two EFL teachers that they believed that the CALL teacher preparation program they participated in was appropriately planned in terms of intensity. Ava mentioned that “... *the program was not an intense one, and I could practice what I have been instructed in the projects that I have to do in my classes.*” Parsa stated in one of his narratives that “... *I hope such CALL programs will be integrated with our in-service teacher education programs.*” Halttunen (2002) emphasizes an ongoing training and retraining of technological materials can be conducive to helping teachers be motivated and willing to use technology in their classes. Thus, one reason that EFL teachers wanted to affiliate themselves as CALL-oriented teachers might be the quality of the CALL teacher preparation program that they participated in. It was a project-based program that helped teachers learn by doing; thus, it can be conducive to developing EFL teachers’ professional development (Nami, 2021).

The EFL teachers’ narratives also showed that they wanted to maintain the convictions which they obtained through the CALL teacher preparation program throughout their teaching profession in the future. Extracts 3 and 4, respectively authored by Ava and Parsa, show how they wanted to maintain and utilize CALL in the future.

Extract 3 (Ava)

...although it was a short program, and its main purpose was to conduct a research study, ***I have learned a lot, and I will continue learning more about how to integrate CALL in my classes ... new directions may be needed for the future ...***

Extract 4 (Parsa)

... using CALL in teaching L2 will become one of the main priorities of my teaching now that I have known its benefits and facilities ... ***in the future, I will try to use it more ...***

According to Compton (2009), to use CALL in the future, the language teachers need to be aware of the educational aims of CALL so that they can benefit from the innovative technology. The CALL teacher preparation program in this study provided such awareness for the EFL teachers by their project-, skill- and knowledge-based syllabus. Consequently, it can be stated that CALL teacher preparation helps to make a balance between teachers’ CALL skills and knowledge and their ability to handle future CALL-based L2 teaching, which in its own place motivates teachers to use CALL in their classes (Paraskeva, Bouta, & Papagianna, 2008).

Attachment: Enhancing EFL teachers' preferences about CALL in L2 pedagogy

The analysis of the narratives authored by the teachers showed enhancing EFL teachers' preferences about integrating CALL into L2 pedagogy; thus, it indicates the development in their attachment toward CALL. Moreover, this showed that the opinions of the two EFL teachers changed about CALL. For example, in the narratives written after session 7 and 8, the EFL teachers stated that they did not think using and integrating CALL in L2 classes was challenging. Extracts 5 and 6, respectively authored by Ava and Parsa, show change in their opinions about CALL.

Extract 5 (Ava)

... before participating in their program, I believed that using CALL is very difficult and time consuming in L2 pedagogy; I think the other way around is true now. I have learned that CALL can save time if it is implemented correctly ...

Extract 6 (Parsa)

... I can say now that the main problem is not the inexistence of technological infrastructures, but how L2 teachers look around and use the many opportunities created by CALL in their classes...

EFL teachers' disinterest in CALL, more often than not, is because they have not experienced it. Jeong (2017) believed that many L2 teachers do not have enough educational training on CALL to be either competent or interested in using CALL in their classes. Moreover, since these teachers did not have any exposure to CALL in their school years, CALL is regarded as something complex and useless for them. By participating in the CALL teacher preparation program, the EFL teacher will find that it is not the herculean task they think. Thus, their attachment to CALL improves by the significant role of CALL teacher preparation, which encourages EFL teachers to step into the way (Gao, Choy, Wong, & Wu, 2009) and develop their CALL literacy.

Moreover, the analysis of the EFL teachers' narratives indicated the critical role of CALL practices in developing their attachment to use CALL in their classes. For example, Ava mentioned in one of her narratives that *"...the projects in which I have used CALL to teach English prepare the context for the CALL practice ...[thus] I understand practice makes perfect, and I hope to continue using CALL in my classes."* Furthermore, we understand the critical role of CALL practices in developing Parsa's attachment to CALL when he stated, *"being in a context to use CALL direct me to change my previous ideas about CALL."* Thus, it can be stated that CALL teacher preparation program acted as a context of transition (Nami *et al.*, 2015) which helped the EFL teachers change their opinions about CALL. The result of such a change in EFL teachers' ideas



about CALL, as seen in the narratives mentioned in this paragraph, is development in the teachers' attachment to CALL.

The development in the two EFL teachers' attachment toward CALL in their classes was also detected through their preferences to integrate CALL-related materials in teaching L2 skills. Extracts 7 and 8, respectively authored by Ava and Parsa, show how they used and integrated CALL in teaching L2 skills during the program.

Extract 7 (Ava)

... teaching speaking and listening skills are now more **applicable and interesting** for me ... I can also **provide some CALL-related tasks for my students** to do at home to **develop their speaking ability** ...

Extract 8 (Parsa)

... I have asked my students to install the **vocabulary and grammar apps** on their smartphones and tablets **to practice what we work in the classrooms** ... **I think in the future, I will try to use CALL to assess L2 skills**, but first, I need to develop my abilities in this regard ...

Research on the effectiveness of CALL in teaching different L2 skills showed that integrating CALL can develop learners' competencies in L2 skills (Stockwell, 2007, 2009). Since the EFL teachers who participated in this CALL teacher preparation program conducted some projects relating to teaching different skills, they might see the effectiveness of using CALL in teaching L2 skills. This could push them to integrate CALL into their teaching in the future.

However, the critical role of CALL literacy should be addressed to develop teachers' attachment toward CALL. As stated by Parsa in one of his narratives, "*I think in the future, I will try to use CALL to assess L2 skills, but first, I need to develop my abilities in this regard,*" it can be figured out that the EFL teachers need to have the required theoretical and practical literacy to use CALL for different purposes in their classes. This point was mentioned in different parts of Ava's narrative. For instance, she mentioned, "*...the knowledge of how to use CALL in real classroom context may lead me to address my teaching career through it.*" Therefore, developing the digital literacy of the EFL teachers might be effective in helping them design and use CALL-related materials in their classrooms (Dudeney & Hockly, 2016; Paraskeva *et al.*, 2008), leading to the development of EFL teachers' attachment toward CALL.

Autonomy: CALL as a platform for developing EFL teacher autonomy

The analysis revealed that EFL teachers took more control over their teaching, showing the development in their autonomy. Extracts 8 and 9, respectively authored by Ava and Parsa, show how the two teachers obtained more control over their teaching while participating in the CALL teacher preparation program.

Extract 8 (Ava)

... when I teach speaking and listening by integrating CALL materials, I will find extra time ***to plan new tasks to develop these skills in the learners ...***

Extract 9 (Parsa)

... CALL materials helped me run more than one language component simultaneously ... [for example] I worked on students' vocabulary knowledge and, simultaneously, addressed their pronunciation ...

As CALL can lead to learners' autonomy (Jones, 2001), it can also help the EFL teachers develop their autonomy by taking more control over their teaching practices. In addition, CALL teacher education programs can help teachers understand the benefits of CALL in L2 pedagogy. Consequently, it can develop teachers' autonomy (Torsani, 2016) to keep up with the realities of the teaching profession. Moreover, the analysis of the EFL teachers' narratives indicated that they became decision makers to select CALL materials when they wanted to integrate CALL materials in their teaching practices. Extracts 9 and 10, respectively authored by Ava and Parsa, show how CALL teacher education helped EFL teachers decide what CALL materials to use.

Extract 9 (Ava)

...the program that I participated in helped me become a good decision-maker of what to use regarding CALL materials ... it [CALL education program] is a procedural, project-based in which I learned both theory and practice ...

Extract 10 (Parsa)

... the main characteristic of this CALL teacher preparation program was that ***it was not just a mere explanation about how to use CALL, but it helped me decide better when I need to use CALL in my classrooms ...***

Grgurovic (2017) stated that the pedagogical decision should be clear for instructors. By the same token, CALL teacher preparation programs should make clear for the EFL teachers the how and what of CALL to become decision makers of their classes and become more autonomous in their teaching profession. If teacher educators want to have successful CALL teacher education/preparation programs that lead to more autonomous teachers concerning implementing CALL in their classes, they should follow technology standards, such as the approaches, processes, and syllabuses.

Moreover, the two EFL teachers mentioned that they could evaluate different CALL materials while participating in the CALL teacher preparation program. Ava stated, "*...there are various materials and software to be used for teaching purposes that I could select among them the one I thought was appropriate.*" Moreover, Parsa mentioned, "*I need to choose among different options, and*

I think I can do so after it [participating in CALL teacher preparation program].” Warschauer (2002, p. 457) stated that “[t]eachers should be able not only use today’s CALL software, but should have successful strategies for evaluating and adapting the new waves of software that will surely come.” This indicates that CALL teacher education programs need to help EFL teachers become competent to evaluate different CALL materials for their classes. This way, CALL teacher education programs can develop teachers’ autonomy.

Conclusion

This study attempted to investigate the role of the CALL teacher preparation program in developing EFL teachers’ professional identity. As a whole, the findings of the current study indicated the development in the three indicators of EFL professional identity, namely, affiliation, attachment, and autonomy. Furthermore, the findings showed that the EFL teachers’ commitment to integrating CALL in L2 pedagogy developed after participating in the CALL teacher preparation program. Thus, it can be concluded that the CALL teacher preparation program can have a constructive and positive role in developing EFL teachers’ professional identity. This can be due to the fact that the CALL teacher preparation programs can motivate the EFL teachers to integrate what they obtain from the programs in their teaching.

The findings of the current study were promising in showing the effectiveness of CALL teacher preparation programs on EFL teachers’ professional identity. Hence, language teacher educators should leave *inertia* (Hubbard, 2008), meaning that putting aside their beliefs that their past programs are successful, and there is no need to change. Moreover, it can be concluded from the findings of the study that CALL teacher education creates a venue as a community of practice (Wenger, 1998) for the EFL teachers. These teachers can engage in CALL-related activities and create the imagined identity which they have had for themselves. The process of engaging the imagined identity can lead to the reconstruction of a new identity.

There are some limitations concerning the current study which other researchers can address. First, due to the research essence, we were forced to run an intensive CALL teacher preparation program for eight months. Thus, others can administrate CALL teacher education programs including a more comprehensive syllabus. Second, we have just two participants in this qualitative study. Other researchers can replicate the study, preferably with quantitative or mixed-methods methodologies, with more participants. Such studies do not have the limitation of participants’ awareness of the research nature of the CALL teacher education program, the one we experienced as a limitation in this study. In addition, we had no access to EFL teachers with no commitment to CALL which might open our selection to bias. Further studies can be done with teachers who have not any commitment to CALL. Furthermore, examining CALL teacher education programs which have been planned and administrated through other approaches (e.g., breadth-first, depth-first, integrated, etc.) and processes (e.g., lecture/demonstration, situated learning, reflective

learning, portfolio-based, etc.) can be valuable follow-up studies for the current investigation.

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