

Pre-Service EFL Teachers' Identity Formation: A Longitudinal Study through E-Portfolio

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Abstract: *Pre-service teacher identity has gained relevance in teacher formation programs. The purpose of the study focuses on the exploration of EFL pre-service teacher identity formation during the transition to becoming EFL teachers in a four-year teacher-training program. A mixed methodological approach was used collecting data from the students' reflective self-assessments uploaded in their e-portfolio for four years and a survey at the end of the program. Grounded theory was used to analyze the qualitative data and a statistical descriptive approach for quantitative data. Results show four stages along this identity process: support, discouragement, adaptation, and self-reflection mixed with emotions.*

Keywords: EFL, E-Portfolio, Pre-Service Teachers, Teacher Education,

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1. Introduction

Language teacher identity has been studied for more than two decades and its intensity has grown (Gallardo, 2019). Teacher identity is also considered a construct in the field of teacher formation programs nowadays due to the relevance this educational process has in shaping pre-service teachers' identity. Different factors have been addressed in the topic, such as emotions and dilemmas pre-service teachers face in their practicums (Deng et al., 2018), development of their reflection (Antonek et al., 2011), learner construction of identity and identity negotiation through intercultural conflicts (Cai et al., 2022), and self-image, learning environment and practicum experiences (Salinas & Ayala, 2018). Pre-service teacher experience, from the beginning of the teacher formation process, changes as they assume more responsibilities and positions as actual teachers during the study program (Beauchamp & Thomas, 2009; Coldron & Smith, 1999). Most pre-service teachers have their own images of being a teacher and about themselves as a future teacher when they start their teaching formation programs. Early experiences as students, the context of their preparation, and teachers' concepts of self in the formation process are some of the factors that are present during student-teachers' formation process (Chong et al., 2011) that impact on their pre-service teacher identity. If we consider the external contextual factors, we cannot deny that technology has an undeniable role to play and "there is an increasing need for pre-service teachers to develop an identity that meets the requirements of the modern world" (Can & Karacan, 2021, p. 57).

Education has taken the challenge and a plethora of online educational platforms have been created. Though apparently created to mimic the work formerly done on paper, e-portfolios have begun to take on a life of their own with their own features and challenges. The space normally covered by the paper is now in the cyberspace where young students feel at ease. In this context, e-portfolios make use of the new technology available while at the same time take the best of their paper predecessor. As Ponti (2011) states, this cyber tool is not a mere electronically polished version of a paper portfolio, it also provides public collaboration and reflection. E-portfolios are used for both, displaying students' tasks and skill and for reflecting on the development of their practices and knowledge. Self-reflection elucidates already existing beliefs about being a teacher and consequently it results in possible changes about these beliefs and perceptions (Utley & Showalter, 2007). The current study adopts a reflective approach, examining the reflections and knowledge of pre-service teachers as depicted in their e-portfolios throughout their four-year teacher education program.

Teacher education implies not only developing the specific discipline, teaching/learning theories, and pedagogical content knowledge, but also an identity making process (Beijaard, 2019). Different individual and contextual factors influence this pre-service teacher identity process. Agency (Ye & Zhao, 2019), emotions (Loo, 2023), events, activities and feelings (Leeferink et al., 2019) are some of the factors and contexts that are present in any pre-service teacher identity process.

Teacher education serves as a fundamental source for the development of teacher identity. In accordance with Richards' (2021) findings, EFL teachers gain knowledge, principles, beliefs, and practices that shape their identity and define their roles as language educators. Later, during their teaching practices, these elements are maintained, modified, or replaced due to their experiences or teacher training. However, university studies always impact teacher identity over time (Hsieh, 2010).

Pre-service teachers change their "learner identity" as they progress in their teacher formation programmes (Richards, 2021). During this process, the nature of identity influences how they see themselves in their social contexts and classroom practices (Beijaard, 2019). This learner identity process is a socially constructed temporary identity (Macfarlane, 2016) and is shaped through the interactions and experiences the pre-service-teachers have in their daily routines within the context of the higher education institution. The undergraduate students regularly participate in the academic process by investing time and effort (Osterman, 2000), but they also make contacts and meet friends in this environment (Kuh, 2009). Similarly, Richards (2021) argues that learner identity reflects interactions, social context, intent, and self-image. This self-image, during their teacher formation process, is illustrated as an ideal teacher, that is, committed, achieving excellence as a language teacher which, in a way, motivates them to actively participate in the academic courses engaging in critical reflections and goal settings (Richards, 2021). Hence, gaining insights into pre-service teachers' self-perception, objectives, and emotions through reflections and comments documented in an e-portfolio throughout their teacher education program will enhance comprehension of the nature, influences, and evolution of their identity. Language teachers' identity research in a new digital context provides a deeper understanding of their own development (Nazari & Seyri, 2021), such is the case of the use of e-portfolio in the current study.

Electronic portfolios have evolved from a folder (portfolio) containing a piece of artwork to a form of higher education technological resource (e-portfolio) in the late twentieth and early 21st century (Farrell, 2020). Huang and Huang (2010) define e-portfolios as "multimedia environments wherein students can showcase their artifacts and reflections, which represent their growth and competencies" (p. 84). One of the most outstanding features of e-portfolio is self-reflection because it allows students to assess their own learning and progress through its three features: self-expression, self-evaluation, and metacognition (Trajtemberg & Androula, 2011). Consequently, e-portfolios are a viable and effective tool that documents and reveals students' growth and development from personal, academic, and contextual factors promoting reflective practice which shows the autobiographical nature of e-portfolios (Antonek et al., 2011).

Considering that a vital concern to teacher education is pre-service teachers' perceptions and beliefs about their own process (Bullough, 1997) which give shape to their teacher identity, the present research aims at exploring pre-service teachers' identity formation during their transition to becoming English as a Foreign Language (EFL) teachers in a four-year teacher-training programme. The main research question is: how do EFL pre-service teachers construct their professional identity as they embark on the process of becoming teachers?

2. Materials and Methods

This study uses a longitudinal design and a mixed methodological approach. On one hand, a longitudinal study aims at examining the dynamic nature of the substantive construct, in this case pre-service EFL teacher identity, and how it changes over time (Ployhart & Vanderberg, 2010) by collecting repeated measures from the same units. This longitudinal design will allow the researchers to explore how pre-

service teachers' identity is shaped over time focusing on the factors that are involved and their interplay. On the other hand, mixed method research aims at expanding and strengthening conclusions drawn from the findings of the investigation from a qualitative and quantitative lens.

The group of participants in the research involves nineteen pre-service teachers who entered the university in March in 2019 to become English teachers. All of them are Spanish-speaking students. Most of them studied in public and subsidized schools in Chile and their linguistic competence in the foreign language (English) is very low as most high school students who finish their secondary education in public or subsidized schools. Their age ranges between 18 and 21 years old and this is their first career option. The higher educational institution is private and has three campuses in three different cities in the country. This group of pre-service teachers belongs to the campus in the city of Viña del Mar and some of them come from small towns near the city and belong to low- and middle-income families. The EFL teacher formation program lasts 4 years which are divided into 8 academic semesters. Most of the subjects are delivered in the English language to develop their linguistic competence in the foreign language. They also have some subjects in Spanish, those related to general knowledge.

The instruments used to collect data in the current longitudinal study were the transcripts from the students' reflective self-assessments uploaded in their e-portfolio during their four-year EFL teacher formation program, and a survey at the end of the program.

E-portfolios are a useful research and assessment tool for collecting and keeping learners' data obtained across different tasks over time. Even though e-portfolios are not per se instruments to collect data, they are a source to reflectively assess and research students' own personal, social, and academic contents which are presented in the multi-media (McNeill & Cram, 2011). E-portfolios have already been used as an instrument for research as an assessment and research tool to evidence the developmental trends of individuals' interlanguage across different contexts (Shin, 2013) and to portray self-constructed identity from narratives (Mcalpine, 2005). These e-portfolios have public access; however, a consent message was sent to all students describing the current research purpose and the use of their e-portfolios, which they all acknowledged.

In the present research, pre-service teachers upload tasks, learning experiences, short narratives, individual or group audios, reflections, comments, goals/challenges, and a reflective self-assessment task at the end of each of the seven language courses. This self-assessment task is considered in the evaluation check-list of each Language course. These uploads are stored in the students' individual e-portfolios, which were uploaded during their four-year teacher formation program and had free access.

The survey used to collect quantitative data was adapted from Leeferink et al.'s (2019) and Gee's (2000) investigations which are directly related to the teaching profession and characteristics involved in teacher identity. It was carried out at the end of the teacher formation program. The survey had 21 statements with a five-option Likert scale ranging from "Strongly Agree" to "Strongly Disagree". The topics of the statements were related to: teaching capacity, expertise, training, feelings, techniques, resources, motivation, self-esteem, self-image, students, and commitment. The administration of the survey after the completion of pre-service teachers' studies served two main purposes: (i) to capture their perceptions concerning the factors influencing teaching and teacher identity, and (ii) to triangulate the findings obtained from the self-assessment of their e-portfolios over the span of four years.

The research has drawn upon Strauss and Corbin's (1998) grounded theory to analyze qualitative data. This methodological strategy allows the researchers to either derive or complement a theory through a process that starts from the description of the phenomena to explain the unit of investigation through interpretation of data collected from main sources. The primary source of data collection was taken from pre-service teachers' reflective self-assessments registered in their e-portfolios over a four-year teacher formation program. Due to the longitudinal nature of the present research, it was necessary to delimit the

data into four stages (one per year). Due to the rich and extensive data gathered, the Atlas. TI software was used to support this process. The first step in data analysis procedure was open coding, a process through which concepts are identified by breaking down the data into discrete parts (Strauss & Corbin, 1998). Then, the axial coding was developed which involves re-building the data fragmented in the open coding to establish relationships between categories by linking some of them. Finally, the selective coding took place to refine the categories into conceptual units which accounts for the phenomenon under investigation (Strauss & Corbin, 1998).

The quantitative data collected in the survey was statistically and descriptively analyzed. It includes measures of frequency, intervals, and position (Kaur et al., 2018). Tendencies are presented in the current research considering frequency patterns.

3. Results

3.1. Stages in PST's Developmental Process

Throughout the developmental journey of these 19 pre-service teachers, four transitional stages emerged: (i) support, (ii) obstacle clearance, (iii) enlightenment, and (iv) awareness. The rationale behind identifying these stages was not solely based on aligning them with each academic year, but rather on recognizing the evolving nature and focal points of the pre-service teachers' developmental process, influenced by a combination of external and internal factors.

Stage 1-Support: The initial stage considers the transcripts from the PSTs' self-assessments collected during the first and second semesters (2019). As with all the other academic periods, the students were required to write a personal self-assessment in their brand-new e-portfolios. It is worth noting that most of the narrative during this period is marked by two external events that took place during that year. These are: (i) a student strike caused by a movement demanding respect and protection in the light of a couple of sexual harassment scandals within the campus which lasted three weeks during the first semester, and (ii) a social outbreak in the country in October with a wave of demonstrations demanding social justice. This led to weeks of instability in the country and the university was not the exception. The students and teachers had to accommodate a virtual format of learning/teaching, something that was new to them.

Based on the students' self-reflections collected during the first and second semester of a year with these turbulent times, we can trace some common threads represented in three categories that emerged from the grounded theory coding procedures. All the excerpts presented hereafter are PSTs' verbatim extracts; so, some of them have syntax or lexical mistakes, which were not corrected by the researchers. Table 1 for Stage 1: Support, is presented as follow:

Categories	Excerpts
Friend support entry 1	"I have my groups of friends and I feel so comfortable with my section that I'm not even embarrassed to be wrong when I answer something."
Mixed feelings entry 2	" Well, I'm in my fourth month at university in English Pedagogy. In this months, I experimented all feelings... I cried, I laughed, I felt anxious, frustrated, scare, happiness, sadness... I really mean, everything."ta
Teacher support	"I am thankful for having the teachers that we have for Language 1 because they are very professional and human, they understand that sometimes we get nervous and smile at us so we can get to the point. They always show interest and concern about our learning."

Friend support was a highly valued aspect in the students' self-assessment. They attributed their resilience and success to the support of friends, especially the new friends that they made during this first year of the academic program.

Mixed feelings were also highlighted at this stage, from both a personal and a social level. The students reflected a degree of anxiety in the face of the new challenges coming from a somehow protected environment in secondary. Added to this is the above-mentioned social situation both at the university and national levels.

Teacher support is a category that refers to the way PSTs saw their teachers in the programme. One other aspect that they incorporated in their narrative was the feeling of thankfulness and at times, surprise, for the support they found in their teachers both on an academic level and on a personal one. They narrated that they did not expect such a close emotional contact which also helped during this period of personal and social uncertainty.

Stage 2-Obstacle Clearance: Undoubtedly, this second stage was marked by the beginning of the worldwide pandemic which had a profound impact at all levels of society. This stage considered the PSTs' reflections from their self-assessments during semester 3 and semester 4 (2020).

If we could sum up one common thread during this one-year period, it was the mental health issues the students had to face. Added to this was the immersion into the online format of learning which the students saw as inefficient and which after a while took a toll on their mental and emotional resources. Table 2, for Stage 2-obstacle clearance, is presented as follows:

Categories	Excerpts
Frustration and burnout	"I have been so stressed, and I am not able to go to the gym because it is closed so I have not been releasing all this stress inside me."
Struggling with technology	"At the beginning we were all confused, especially the teachers because many of them did not know how to move their classes online, and we students had a hard time adapting to this model."
Crumbling academic performance	"...As a consequence of all that is happening, this has been the most difficult year with respect to my studies, being that 2019 was not the most normal either."
Teachers as role models	"Despite all the negative things happening this last time, I feel very thankful for the effort made by the teachers in adapting to this new way of teaching and for the things learned."
Positive outlook	"One last thing I would like to mention is that even though this year has been a nightmare for most human in earth, it is good to stay positive and knowing that this will stop in no time".

The first category was tainted by the pandemic because the students felt a sense of frustration and at times hopelessness in view of the uncertainty both in their private lives and in society. At the same time, some of them began to see and figure out ways to cope with burnout and quarantine.

The 'struggling with technology' category refers to the problems both students and teachers faced with online classes. Students had a hard time trying to figure out how best to use technology in their learning process. At the same time, they realized that teachers were also having a hard time trying to find their way into the cyber world. Failed connections, not enough bandwidth, and classes which just imitated a face-to-face environment were some of the complaints referred to in the self-assessments. At this point, we could see students' frustrations. The 'crumbling academic performance' category has a root. Many began to see how their academic performance was way below what they had expected. The fact that they were not prepared for so much workload just added to this.

The 'teachers as role models' category shows the impact teachers had on these PSTs at this stage of the program. By the end of the second year, PSTs also began to acknowledge their teachers' resilience in the face of all these challenges and amid the worst of the pandemic. Regardless of their teachers' lack of strategies to manage online classes, PSTs saw them as models:

The ‘positive outlook’ gives evidence of a more positive note. Some students seemed to start to come to grips with this new reality and this new way of learning at a distance. This way of seeing things more positively was probably the starting point to the transitional process going to the following stage.

The categories raised in this stage show a sense of discouragement as an obstacle marked with feelings of frustration due to external factors: (i) the pandemic, which forced them to deal with, and (ii) technological challenges. However, their teachers, who were aware of this situation and were also struggling with technology, played an important role in those difficult times, mainly due to the flexibility and resilience they showed. These teachers’ attitude promoted an emotional resilience which will be a starting point for the next stage.

Stage 3-Enlightenment: This stage considers the fifth semester in the PSTs’ teacher education program (2021). Although being still in a state of pandemic, this stage had unmistakably positive elements. Table 3, for Stage 3-Enlightenment, is presented as follows:

Categories	Excerpts
New Normal	“The good news is that this semester I’ve had just one mental breakdown so far, and that’s a new record. Last semester I was a disaster, I wasn’t doing homework, Aside from still being in quarantine Im feeling very good with myself and this semester in general!”
Positive outlook on teaching practicum	“This semester I also started my internship, at the beginning I was scared to death, it was something very new to me and I was afraid that the children would not like me. I had to teach first grade, ..., but I must say that I fell in love with teaching children.”
Self-reflection on language progress	“My descriptions have improved as well, ... I don’t have troubles describing from General to Particular and now is easier for me remember the order of adjectives.”

The ‘new normal’ category shows how positive changes had flourished as regards PSTs’ mental health. It seems to stem from the fact that they had learned to adapt to the changes and to the “new normal.” After a little more than two years of pandemic, many PSTs related how they had developed, so to say, strategies to cope with the different restrictions that the health authorities had imposed.

Another positive highlight was the beginning of the students' teaching practicum. Although it was challenging for most of them, they seemed to embrace this new experience in a very positive way. Some even talked about their unforgettable experience with their own students who in different ways expressed their affection toward these would-be teachers at the end of the practicum period.

Self-reflection on language progress shows something that had been missing, at least partially, in many previous self-assessments: the PSTs’ introspective analysis of their own progress in language. It appears that after having reached a degree of normality and routine in their academic work, they then had the capacity to look beyond the immediate and focus on what originally had been the purpose of this self-assessment: reflect on their progress on specific areas of language.

There was a turning point in this third stage, mainly due the adaptation to the “new normal.” This transition in the PSTs’ developmental process considered mostly external factors. On one hand, they were experiencing for the first time a situation directly related to their future profession in the practicum setting; on the other hand, they were conscious of their progress in their EFL language skills.

Stage 4-Awareness: The students’ narrative, at this point, was full of emotional expressions in particular because they realized that they were about to finish their professional program. On the other hand, something had also changed on the outside. They could finally come back to face-to-face classes after almost two years of online classes. Table 4, for Stage 4-Awareness, is presented as follows:

Categories	Excerpts
Emotional and mental issues	“This semester has been an emotional rollercoaster for me. I was very anxious about this semester because of the face-to-face classes after two years being online, but it went better than I thought.”
Self-analysis: introspection /retrospection	“My first post was called “About me”, ... I wasn’t sure what to write about, what I remember is that I checked the grammar over and over again, I was so scared to make a mistake...but with time I learnt that making mistakes is part of the process.”
Thankfulness	“Wow! I can’t believe it. This is my last self-assessment. I still remember 2019 when I had to create this blog and start posting. I was so nervous; I didn’t know how to express myself in English... I never thought that I was going to improve so much in English and in my confidence speaking the language.”

The recurrent topic of emotion was back and it was due not only to the effect of the pandemic. The students felt at times overwhelmed by the academic demands. This could also be attributed to the fact that they had not reached certain goals at an earlier time in the program. Besides, they seemed to have become more mature and acquired a greater sense of responsibility.

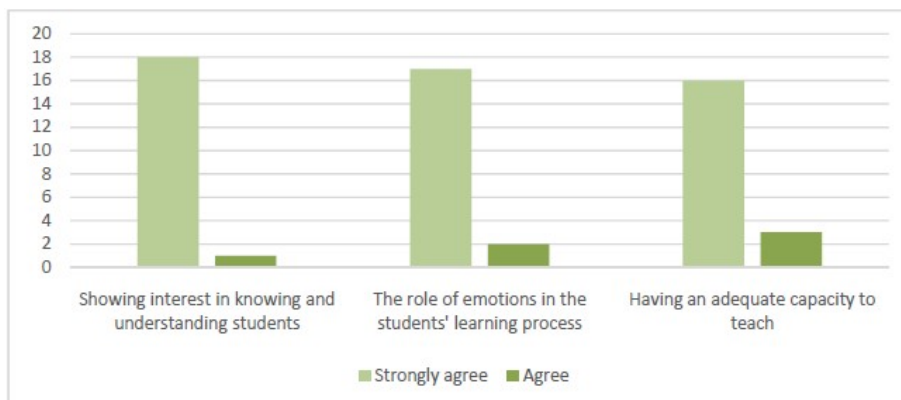
Having realized that this was the last formal stage in learning the elements of foreign language, PSTs took time to evaluate themselves honestly through introspection/retrospection. Interestingly, too many had put their thoughts in perspective and analyzed their progress in the last 3 years.

A final highlight refers to the feeling of thankfulness that PSTs reflected. They referred to the efforts that all their teachers had made during the process. Again, this could not be taken for granted after all the hard times of adaptation and confusion, which at times, had put their own teachers as the culprit.

In this final stage, it seems that at least some PSTs had made the transition from being merely a student to becoming a trainee teacher, with a different outlook on what learning and teaching entail. Emotions played a role again, together with a reflective perspective which took the role of assessing their own performance and experiences towards the practicum and language proficiency. Once again, the role of their teachers was highlighted as an important factor in this process and the e-portfolio as a venue of reflection.

3.2. PST’s Teaching and Teacher Identity Perceptions at the End of the Process

The survey related to teaching and teacher identity carried out at the end of the formation period helped us visualize our participants’ perceptions of the teaching profession. The 19 PSTs’ most frequent choices from the 21 survey statements for “Strongly Agree” and “Agree” are presented in graph 1.



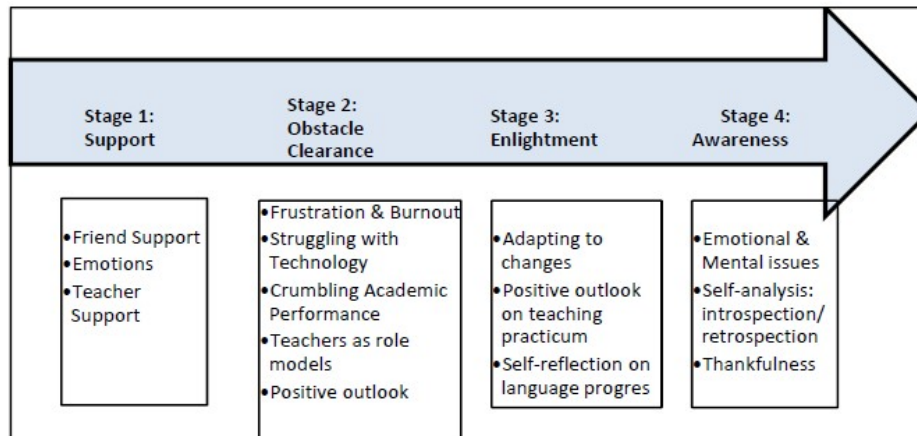
Considering all the topics displayed in the survey (see Instruments above), the statement with the highest frequency show that the most important aspect for these PSTs is feelings, followed by teaching capacity.

As to the lowest strongest agreement (3 out of 19 students), we find the following statement: “Being an expert in one's discipline”, which is related to teachers’ expertise.

Based on the results, these trainee teachers appear to prioritize the emotional and personal aspects of their future students, over classroom management or being an expert in their discipline. It is clearly seen that the more technical or professional aspects of the teaching profession seem to stand, if not in the background, at least in secondary place.

PSTs’ developmental identity process and their teaching and teacher identity perceptions at the end of the process

After having analyzed both the qualitative and the quantitative elements, we are able to contrast both data to get a better understanding of the participants’ professional identity development. Figure 1 summarizes the main findings from the longitudinal qualitative perspective:



PSTs started shaping their identity based on the support they had received from their classmates and teachers reflected in their emotions. Then, discouragement plays the main role in the second stage of their identity formation process due to the sense of frustration that emerged from lack of technological competences and low academic performance. Despite this, teachers again play a role enhancing a positive outlook, which turns into a period of adaptation and reflection (third stage). Finally, they appraise the complexity of their own identity formation process by being aware of what they had been and what they were then, having emotions again as a one of the main factors and thanking teachers for the role they had played during their process shaping their identity.

Regarding the results from the quantitative analysis (survey), the statements with the highest frequency for agreement were: (i) Showing an interest in knowing and understanding students, (ii) Having an adequate capacity to teach, and (iii) the role of emotions in the students’ learning process.

From the qualitative and quantitative results, we can state that emotions played a very important role through the whole educational process of the trainee teachers. It appears as an important theme throughout the four stages and it reappears in the survey answered as top 2 most agreed upon statement. Social factors were also relevant, mainly at the very beginning, as observed in the category “friend support.” However, it lost pace as other issues took a more important role in the student's lives, such as their teachers’ roles.

The four stages in the students' reflections of their process give us a sense of their evolution toward a more mature learner. We see how they transit from emotions and social issues toward a more objective introspective and even retrospective appraisal of their growth in foreign language learning and 'being a teacher.' In the final stages of their training, they had changed their perceptions regarding themselves, being their pedagogical role as a teacher more relevant than their content knowledge (EFL).

4. Discussion

The exploration of English as a foreign language PSTs' identity formation during their four-year program has shown that the process is dynamic and influenced by contextual and individual factors, as Beijaard (2019) argues that the features of identity change due to social exposure and how students see themselves. Accordingly, with the support of the e-portfolio in the present study, PSTs could reflect and see themselves not only on the present circumstances but also on the past (as far as 3 years before) recalling their experiences, expectations, contexts, and level of language proficiency they had. In the same line, what becomes apparent is the change from an expectant newcomer in the university life (stage 1) into a thankful and reflective individual in the final stage (stage 4). Similarly, results in Taghizadeh and Amirkhani's (2022) study with pre-service EFL teachers showed that "teachers have a key role in building rapport as well as creating a positive, safe, and friendly atmosphere" (p. 1).

Based on the aspects that have influenced our subjects, we can relate to what Le Huu Nghia & Ngoc Tai (2017) refer to as practices on campus as one of the many components in student identity. It is evident that the negative outlook students had due to the pandemic gave way to a more positive one in the third stage when they began their teaching practicum. This circumstance allowed them to engage with students outside the university venue, and in doing so they could gauge their own skills as future teachers in a very realistic setting at the same time unlocking some of their potential to deal with the difficult situations they had gone through in the past two years. As Hahl and Mikulec (2018) reveal, student identity is an ever-changing process which takes place in different contexts and not only in the classroom. This was definitely a game-changer in the formation of their identity.

Richards (2021) also puts emphasis on the effect of social context in shaping identity arguing that learner identity reflects interactions, social context, intent, and self-image. This is most noticeable when we observe the effect of the pandemic in the students' overall disposition. Although it is evident that this crisis left a negative mark on the students' psyche, we can also observe how students were also able to acknowledge that situation and rescued the most positive aspects of their process. Many positive comments and experiences were registered in their final reflections where they highly valued their own process of learning, their teachers, and the face-to-face setting. However, a factor that was present during the whole process was emotions. Similarly, Deng et al. (2018) reported tension in novice EFL teacher due to emotions such as eagerness, anxiety, and loneliness which had an impact on their initial teacher identity. Personal emotions figure prominently in school educators and must be present in the development of teacher education programmes (Nazari & Seyri, 2021; Loo, 2023).

Reflection and appraisal are features that were present during the last two years of the teacher formation programme. As Trajtemberg and Androula (2011) point out, self-expression, self-evaluation, and metacognition are the main features that self-reflection provides using e-portfolios. These three features were evident in the narrative of the PSTs' experience through the academic period while their identities evolved. In the same line, and considering that emotional factors were topics of analysis throughout the four stages, Farrell (2020) points to the fact that e-portfolios allow students to evidence not only academic issues in their lives but anything that has an impact on them is subject of analysis. Similarly, Chao (2022) states that digital tools are part of everyday life and can be used to plan robust learning experiences.

5. Conclusion

This longitudinal study aimed at exploring pre-service teachers' identity formation during their transition to becoming EFL teachers using the e-portfolios they elaborated during their four-year teacher-training program as the main data collection instrument. A survey, applied at the end of their program, was the second instrument for data collection.

The e-portfolio, as a learning tool, helped us delve into the PSTs' intellectual and emotional changes that took place in these four years. A transition from novice to trainee teacher, from someone needing emotional and social support to someone ready to embrace the teaching profession was reflected in this process. This developmental identity process started from supportive and emotional features, followed by a sense of discouragement to continue with an adaptation and reflection process to finally show self-reflective features mixed with emotions.

We have witnessed substantial changes in this transition. However, what seems to be somehow ironic was the fact that after all the ups and downs during these years, what remained in our participants was what they had found at the beginning of the process: the importance of emotions and social connection. However, teaching English took a somewhat secondary role in the whole process of shaping their identities.

As we pointed out, emotions remained, but PSTs made a transition. They mutated into a more mature version: in the first stages, they felt emotions from their own perspective as new learners, but as they approached the last stages, they began to see emotional issues from their future students' perspective. Only after our participants had made this transition, were they able to show signs of intellectual maturity in the form of introspection and retrospection in the last two stages.

Regarding the factors involved in this developmental process, external factors such as teachers' and peers' support are prominent at the starting point of these PSTs; whereas internal factors are portrayed in the form of introspective and retrospective self-analysis by the culmination of their teaching programme. However, contextual factors, as Beijaard (2019) states, impact on PSTs' identities and are mainly reflected through emotions which were present during the whole process.

Finally, it is evident that e-portfolios allowed us to dig deep into our students' perceptions and reflections during a long period of time. Yet, we as researchers tend to think that e-portfolios can perform a bigger task than that of an instrument for reflection or data collection. These digital tools help in shaping someone's identity by providing space to reflect, review ideas or events, and express emotions. As it has constantly been referred to throughout this study, teacher identity and emotions must be considered in teacher formation programs.

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