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Research Article

Exploring Pre-Service English Teachers' Early Teacher Identity in Relation to Emerging ICT Technologies Training

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Abstract: In a time when the use of digital technologies is an essential part of teaching, there is an increasing need for pre-service teachers to develop an identity that meets the requirements of the modern world. In accordance with this need, this study aims to explore pre-service English teachers' early teacher identities in relation to Emerging ICT Technologies Training. Guided by the explanatory sequential design, this mixed-method study employed Early Teacher Identity Measure (Friesen & Besley, 2013) to explore participants' development of teacher identity by relying on Erikson's (1993) theory of identity development and self-categorization theory of Turner et al. (1994) and reflection papers (Schön, 1983). Findings revealed participants' high self-efficacy in becoming teachers and self-categorization as teachers with high natural inclination. Moreover, participants reported developing a variety of identities, namely, productive teacher identity, technologically-competent teacher identity, social teacher identity, and modern-teacher identity upon receiving the Emerging ICT Technologies course.

Anahtar Sözcükler:
Meslek öncesi İngilizce öğretmeni kimliği, Gelişen teknolojilerle zenginleştirilmiş öğretim teknolojileri, kimlik gelişimi

Gelişen Teknolojilerle Zenginleştirilmiş Öğretim Teknolojileri Eğitimi Bağlamında İngilizce Öğretmeni Adaylarının Meslek Öncesi Öğretmen Kimliğinin İncelenmesi

Özet: Dijital teknoloji kullanımının öğretimin önemli bir parçası olduğu bu zamanda, öğretmen adaylarının modern dünyanın gereksinimlerini karşılayabilen bir kimlik geliştirmelerine yönelik ihtiyacın arttığı görülmektedir. Bu ihtiyaç doğrultusunda bu çalışma, "Gelişen Teknolojilerle Zenginleştirilmiş Öğretim Teknolojileri Eğitimi" bağlamında, İngilizce öğretmen adaylarının meslek öncesi öğretmen kimliklerini araştırmayı amaçlamaktadır. Açımlayıcı sıralı desenle gerçekleştirilen bu karma yöntemli çalışma, Erikson'ın (1993) Kimlik Gelişimi ve Turner ve arkadaşlarının (1994) Benlik Kategorizasyonu Kuramı'na dayanmaktadır. Katılımcıların öğretmen kimliğini incelemek amacıyla Erken Öğretmen Kimlik Ölçeği (Friesen ve Besley, 2013) ve yansıtma kâğıtları (Schön, 1983) veri toplama aracı olarak kullanılmıştır. Bulgular, katılımcıların öğretmen olma konusunda yüksek öz yeterliğe ve yüksek doğal eğilime sahip olduklarını ve bunun yanı sıra, kendilerini öğretmen olarak sınıflandırdıklarını ortaya koymuştur. Ayrıca katılımcıların, aldıkları "Gelişen Teknolojilerle Zenginleştirilmiş Öğretim Teknolojileri" dersinin üretken öğretmen kimliği, teknolojik açıdan yetkin öğretmen kimliği, sosyal öğretmen kimliği ve modern öğretmen kimliği gibi çeşitli kimlikler geliştirmelerine yardımcı olduğunu belirttikleri görülmüştür.

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1. Introduction

Technology is advancing at an unbelievable speed, and the use of technology in the classroom changes lesson dynamics (Tondeur et al., 2017). With the changing dynamics, teachers' practices are altered upon students' interest in technology (Leibowitz, 2016). Changing dynamics also lead to changes in teachers' practices and their characteristics. Teacher identity is regarded as an indispensable part of the teaching profession (Rodgers & Scott, 2008; Stenberg et al., 2014). Teacher education programs worldwide are thriving to raise teachers' quality; however, this requires high-quality pre-service teacher training, which is the exact time period for forming the foundation of well-grounded teacher identity (Timoštšuk & Ugaste, 2010). Hence, pre-service teachers' (PSTs hereafter) emerging identities should be understood clearly by teacher educators to effectively prepare them for their upcoming teaching career "through facilitating the development of a professional identity as teachers, and eventually the development of effective teachers who thrive in the profession" (Mifsud, 2018, p. 8). Also, owing to the notorious COVID-19 outbreak and its massive impact on education, it has become even more crucial for PSTs to equip themselves with emerging ICT technologies and develop a digital teacher identity. Despite the abundance of studies on in-service and pre-service teacher identities, to our knowledge, no prior studies have ever examined pre-service English teacher identity development with the prolonged engagement with emerging ICT technologies training. This study addresses this gap in the literature by examining pre-service English language teachers' identity development and the role of the Emerging ICT Technologies course.

2. Literature Review

As the world is becoming a more globalized place and technology is developing rapidly, all communication forms started to take place instantly, which leads language to bypass the physical boundaries (Brunn & Kehrein, 2020). Correspondingly, information communication technology (ICT) has started to penetrate education at all levels (Bray & Tangney, 2017). As a natural outcome of this, ICT has begun to strengthen its place in language pedagogy as well (Akpabio & Ogiriki, 2017). Thanks to ICTs being employed for various instructional purposes, today's classrooms have transformed into more dynamic and complex structures, and traditional face-to-face instruction has been subject to change (White, 2016). During the COVID-19 pandemic, it has become evident that teachers could no more apply traditional approaches to remote synchronous instruction. This is because traditional face-to-face classroom skills cannot be applied to technology-enhanced environments as they are context-specific (Nunan, 2016). Also, the transformation in educational practices leads to various changes in teachers and their identities (Colliander, 2019).

2.1. Teacher Identity

In order to understand the phenomena of teacher identity, first, the concept of identity should be discussed. Norton (2000) defines identity as a process in which "a person understands his or her relationship to the world, how that relationship structures across time and space, and how a person understands possibilities for the future" (p. 5). Identity is a dynamic, constantly negotiated, and shifted phenomenon (Farrell, 2018; Trent & Shroff, 2013), and it is always in the process of reconstructing itself (Danielewicz, 2014). Personal identity and professional self cannot be thought of separately (Barkhuizen, 2017), and thus,

teacher identity is unanimously agreed to be the center stage of teacher development (Rodgers & Scott, 2008; Stenberg et al., 2014).

Teacher identity studies are gaining interest in twenty-first-century education (Mifsud, 2018). In the related field, various definitions of teacher identity have been proposed. It is acknowledged that defining teacher identity is one of the fundamental challenges (Beauchamp & Thomas, 2009). Valentyn (2019), in that direction, defines it as how teachers perceive themselves and how they construct relationships in various contexts. Thus, teacher identity is constructed not only with teaching practices that are instruction, classroom management, planning, and assessment but also with interactions they perform with their social, cultural, and institutional environments. Similarly, Lerseth (2013) defined teacher identity as "how a teacher identifies him or herself in the field of teaching" (p. 9). The aforementioned definitions are concise and clear; however, a more detailed and comprehensive definition was proposed by Bukor (2015), who expressed:

> Teacher identity is an intricate and tangled web of influences and imprints rooted in personal and professional life experiences… and it reflects not only the professional, educational, and pedagogical aspects of being a teacher but – more importantly – the imprints of the complex interconnectedness of one's cumulative life experiences as a human being. (p. 323)

Teacher identity development is very crucial in the sense that it is the fundamental process of becoming a teacher (Alsup, 2005; Friesen & Besley, 2013). Teachers who are aware of their identity are more sensitive in allocating more time and effort to their learners for engaging them in the learning process (Valentyn, 2019). Teachers, if they reflect on their teaching experiences in relation to the social environment, can be a guiding light for prospective teachers (Farrell, 2018).

White (2016) asserts that teacher identity is being redefined with the alterations happening in instructional methodologies and practices. Employment of ICTs in the classroom shapes teacher identity (Abbott, 2016; Trent & Shroff, 2013) and it has also brought about technology-related new teacher roles such as "expert of study materials, developer of materials" (Uibu & Kikas, 2008, p. 459). In a similar fashion, Norton (2017) features that the employment of technologies for instructional purposes broadens the concept of a teacher's existing identity. In order to be a good teacher in the 21st century, the necessity of being able to effectively use digital technologies cannot be denied (Abbott, 2016). Teachers who employ ICTs perceive themselves as more modern and up-to-date, as observed in a study by Trent and Shroff (2013). A narrative study that observed teachers in Estonia contemplated that participants' teacher identity was affected by the implementation of ICTs (Uibu & Kikas, 2008). The participants in that study also commented that the use of ICTs contributed to their identity of a "modern teacher." It is previously stated that classrooms' boundaries start to be outstretched; thus, teacher identity is bound to transform since pedagogy, the role of teacher, required traits, and instruction types continuously change (White, 2016).

2.2. Language Teacher Identity

Researchers started to focus on teacher identity in language teacher education in recent years (Barkhuizen, 2017). With the advent of ICTs into language pedagogy, language teachers also need to "undergo a shift in their identity as language teachers" (White, 2007, p. 98). There is a steady but a growing interest in language teacher identity (Miller, 2009; Valentyn, 2019; Varghese et al., 2005) and "…yet relatively little attention has been paid to the ways in which teacher identity is theorized" (Varghese et al., 2005, p. 21). Valentyn (2019) proposes an

unequivocal definition regarding language teacher identity by saying, "TI is shaped by teachers' connection to the education system, the language they teach, their classroom experiences and their students" (p. 38). On the other hand, pre-service teacher identity is a considerably different concept than teacher identity.

2.3. Pre-service Teacher Identity

PSTs' emerging identities should also be understood, and this might make way for teacher educators to lay the groundwork for preparing future teachers by providing professional identity development (Beltman et al., 2015). Lerseth (2013) stated that exploration of PSTs' identity formation could be a huge help for teacher educators. PSTs, on the other hand, need to be aware of their early teacher identities since being cognizant of teacher roles and identity will lead them to have an innovative point of view (Freeman, 2013). In the creation of pre-service teacher identity, PSTs' life experiences, interactions with teachers and superiors, instructional pedagogy, and classroom management play a dynamic and interchangeable role (Lerseth, 2013). Other studies also emphasize PSTs' identity creation and prose that teacher educators need to feel the interest regarding their identity formation to help PSTs to construct their teacher identities (Tigchelaar & Korthagen, 2004).

As reviewed above, PSTs' emerging identities need to be clearly grasped by teacher educators for a sounder preparation for the upcoming teaching profession (Mifsud, 2018). The literature is rich in, for example, factors affecting pre-service teacher identity (Aykac et al., 2017), educational beliefs' impact on pre-service teacher identity (Eğmir & Çelik, 2019), and impact of practicum on pre-service teacher identity (Teng, 2017); however, research lacks how prolonged engagement with emerging ICT course shape pre-service English teachers' emerging identities. Thus, the current study, to address the gap in the literature, is driven by the following research questions:

1. How do pre-service English teachers report their early teacher identities in terms of self-efficacy in becoming a teacher, natural inclination towards children and teaching, and self-categorization as a teacher?
2. How does the Emerging ICT Technologies Training shape the construction of teacher identities amongst a group of pre-service English language teachers?
3. How do pre-service English teachers construe their teacher identities overall?
4. What kind of teacher identity do pre-service English teachers intend to take on in their future careers?

3. Method

3.1. Research Design

This study employed a mixed-method design that combines qualitative and quantitative approaches in a single study (Creswell & Clark, 2017). Many patterns have been developed in terms of collecting qualitative and quantitative data for the mixed method (Creswell & Clark, 2017; Leech & Onwuegbuzie, 2009). In this study, an explanatory sequential design, which refers to the gradual collection of quantitative and qualitative data from mixed methods, was used. The data were collected over a period of time in two subsequent phases. In the first phase, the quantitative data were collected and analyzed. Subsequently, qualitative data were collected and analyzed to interpret and clarify the quantitative data (Edmonds & Kennedy, 2017).

3.2. Participants

In participant selection, convenience sampling was used. The participants were 69 pre-service English teachers aged between 19 and 20 in their second year of study at a foundation university located in Istanbul, Turkey.

3.3. Data Collection

Early Teacher Identity Measure (ETIM) was used as the quantitative data collection instrument with 17 items under three categories given in Table 1. This five-point Likert scale measures PSTs' perceptions of their early teacher identity development (Friesen & Besley, 2013). Required permissions were obtained from the scale's developers. In the context of our study, the reliability score of Cronbach's Alpha for the scale was found .85, which signifies a very reliable score (Cronbach, 1984).

As for the qualitative data collection instrument, reflection papers (Schön, 1983) were collected. PSTs were asked to reflect upon their experiences throughout the course regarding mostly its impact on their pre-service teacher identities. The retrospective reaction is "a conscious, collaborative effort to systematically re-examine a process in order to learn from it" (Krogstie, 2009, p. 418). Through this, the current study's researchers aspire to gain more conscious and well-thought manifestation of their experiences.

Instructional Technologies course enriched with ICT and emerging technologies were offered to pre-service English teachers in their second year. It lasts for a full semester in length and meets two credit hours per week. During this course period, the course covered ICT as well as emerging technologies, and each week students were asked to use a different ICT tool and reflect on it on their blogs. Emerging technologies such as virtual reality and augmented reality were introduced to students, and they were given a chance to create their own experiences. Even though the course takes only 14 weeks in total, the data were collected at a specific time; thus, violating the criteria of credibility (Guba & Lincoln, 1994).

Table 1.

The Flow of the Course

Week	Stages (Procedures)	Tools and Instructions
1st Week	Introduction to Instructional Technologies, Technology in the classroom Web 1.0/2.0/3.0/4.0	Create your blogs using portfoliobox.net, blogspot.com, wordpress.com, or others.
2nd Week	The Internet, what can the World Wide Web offer for ESL teachers? The Internet for English Teaching: Guidelines for teachers & (Word Processors in the classroom)	Use of Padlet
3rd Week	Technologies in the Classroom: Communicative Language Teaching Using Technologies to Teach Oral Communication Skills	Write a review of one of the tools (Seesaw, Journi, edPuzzle, NearPod, Mindmeister, biteable) in teaching oral communication skills.
4th Week	Internet-based project work Using Technology to Teach Vocabulary Using Technology to Teach Reading and Writing	Open a class on Edmodo and write a comprehensive review of it for your current and future classroom practices. Create a blog post about TPACK and SAMR models.

5th Week	Teaching Thinking and Inquiry-Based Learning with English Language Learners Blogs, wikis, and podcasts	Produce a podcast about language learning and link it to your BLOG, write an intro as well. Share this with your classmates and discuss on online instant communication tools.
6th Week	Technology-Based courseware Producing electronic materials	Produce VidCast about language learning and link it to your BLOG, Flipgrid, VOKI (create a video) and talk about language teaching and learning.
7th Week	Network-Based Learning/Social Networking	Start to develop your friend circle on LinkedIn by engaging in online networking.
8th Week	Learning Management Systems	Learn about Moodle and Edmodo platforms and write a review of learning management systems.
9th Week	Mobile Learning: How to teach with Mobile Devices	Create an animation using Animoto, Film Flicker, Toondoo, Toontastic, Powtoon, Animatron, or Animaker to teach a specific language skill of your choice. Create a GISTORY on the app.
10th Week	Smartboards & IWB	Learn the working dynamics of smartboards and interactive whiteboards using Storybird: Digital Book, Pixton.com, Kahoot, Socrative, Canva, or Quizlet. Write a review of one of the platforms.
11th Week	Virtual Learning Environments	Experience virtual learning environment for language learning such as Mondly VR, ImmerseMe, Vroom, VirtualSpeech. Write a review of these environments on your blog.
12th Week	Machinima	Second Life: open an account, log on to IU Virtual Campus, take a selfie and share on Facebook, Post this on your BLOG and write a review of your experience
13th Week	Gamification	Busuu, Memrise, Duolingo
14th Week	Virtual Reality & Augmented Reality	Discover apps on the market and create various VR and AR experiences.

4. Findings

The first part of this section presents quantitative findings in relation to three categories of early teacher identity measure, and this is followed by the interpretation of the qualitative data.

4.1. Quantitative Findings

Table 2 shows PSTs' early teacher identity in terms of three aspects, namely, Self-Categorization, Natural Inclination towards Children and Teaching towards Children and Teaching, and Self-Self-Efficacy in Becoming a Teacher.

Table 2.

Descriptive Statistics of Preservice English Teachers' Early Teacher Identity

	M	SE	Med.	SD
Self-Efficacy in Becoming a Teacher	4.04	.07	4.20	.63
Natural Inclination towards Children and Teaching	4.18	.06	4.16	.52
Self-Categorization	4.07	.06	4.20	.52
TOTAL	4.10	.05	4.18	.44

[a] More than one mode exists, only the first is reported

Table 2 shows that the total mean score of all categories is 4.10 (SD= .05). The subcategories had high mean scores as well. Pre-service English teachers' Self-Efficacy in Becoming a

Teacher is very high with a mean score of 4.04 (SD= .07). Their perceived Natural Inclination towards Children and Teaching towards children and teaching had the highest mean with a score of 4.18 (SD= .06). Pre-service English teachers in this study categorized themselves as teachers with a high score of 4.07 in the subcategory of Self-Categorization (M= 4.07, SD= .06).

4.1.1. Pre-service English Teachers' Self-Efficacy in Becoming a Teacher Identity Category

The Preservice English teachers taking part in this study reported a high mean score for *self-efficacy in becoming a teacher* category, Table 4 shows the item distribution in this specific category. Table 4 shows that Item 2, Item 4, Item 5, and Item 6 had high mean scores exceeding 4.20. Item 2 "*I have confidence in my ability to one day be a good teacher"* is the statement with the highest mean score. This is followed by Item 4 "*I have no idea what it means to be a good teacher"* which is reverse-coded. These two statements with the highest mean scores reveal that pre-service English teachers in this study are confident in becoming good teachers, and they know the characteristics of a good teacher. The statements with the lowest mean scores in this category are Item 1 "*I often doubt if I am the right person to become a teacher*" and Item 3 "I am satisfied with the progress I am making in my teacher education." This reflects that they hold a neutral view towards being the right person to teach and the progress they've been making in the teacher education program. At this point, it should be noted that single items such as the ones given above cannot provide a holistic and accurate view of early teacher identity; therefore, they should not be regarded as definite findings. Table 4 shows the statements in the category of self-efficacy in becoming a teacher.

Table 4.

Self-Efficacy in Becoming a Teacher

Items	Statements	Mean	SD	Median
Item 1	I often doubt if I am the right person to become a teacher	3.55	1.10	Agree
Item 2	I have confidence in my ability to one day be a good teacher.	4.44	.75	Agree
Item 3	I am satisfied with the progress I am making in my teacher education.	3.55	1.03	Strongly Agree
Item 4	I have no idea what it means to be a good teacher.	4.37	.64	Agree
Item 5	I am confident that I will develop the resources and strategies necessary to be a good teacher.	4.29	.73	Strongly Agree
Item 6	I often doubt my ability to be a good teacher.	4.23	.80	Agree

4.1.2. Pre-service English Teachers' Natural Inclination towards Children and Teaching Identity Category

The Preservice English teachers taking part in this study reported a high mean score for *natural inclination towards children and teaching* category, and Table 5 shows the item distribution in this specific category. Table 5 that Item 3, Item 5, and Item 6 had high mean scores, all of which are above 4.30. Item *5, "I enjoy helping children discover and learn"* is the statement with the highest mean score. This is followed by Item 3, *"Family and friends often look to me when it comes to caring for or working with children/adolescents."* These two statements with the highest mean scores reveal that PSTs in this study perceive themselves as teachers who are aspired to help people discover and learn, and they enjoy this. As stated previously, discrete items such as the ones given above cannot provide a holistic and accurate view of early teacher identity;

therefore, they should not be regarded as definite findings. Table 5 shows all items in the natural inclination towards children and teaching items.

Table 5.

Natural Inclination Towards Children and Teaching Items

Items	Statements	Mean	SD	Median
Item 1	I look for opportunities to work with children/adolescents in my own time.	3.94	.87	Agree
Item 2	I enjoy helping out with children's activities.	3.76	.87	Agree
Item 3	Family and friends often look to me when it comes to caring for or working with children/adolescents.	4.50	.63	Strongly Agree
Item 4	If I had more time to volunteer my services, I would choose to work with children.	3.89	1.01	Agree
Item 5	I enjoy helping children discover and learn.	4.66	.53	Strongly Agree
Item 6	Helping a child learn something new is very rewarding.	4.34	.63	Agree

4.1.3. Pre-service English Teachers' Self-Categorization as a Teacher Identity Category

Pre-service English teachers taking part in this study reported a high mean score for the *self-categorization* category, Table 6 shows the item distribution in this specific category.

Table 6.

Items of Self-Categorization

Items	Statements	Mean	SD	Median
Item 1	I see myself as a teacher (either currently or one day).	4.29	.62	Agree
Item 2	I feel comfortable identifying myself as a teacher.	4.34	.74	Agree
Item 3	I am a natural teacher.	4.10	.82	Agree
Item 4	I can easily see myself working with children/adolescents and helping them to learn and develop.	3.63	.93	Agree
Item 5	I find it difficult to see myself in charge of teaching a group of children/adolescents.	4.01	.91	Agree

Table 6 shows that Item 2, Item 1, and Item 3 had high mean scores all of which are above 4.10. Item 2 "I feel comfortable identifying myself as a teacher." is the statement with the highest mean score. This is followed by Item 2 "*I see myself as a teacher (either currently or one day)"*. These two statements with the highest mean scores reveal that pre-service English teachers in this study see themselves as teachers. The statement with a rather low mean score (M=3.60) in this category is Item 4 *"I can easily see myself working with children/adolescents and helping them to learn and develop"*. This reflects that pre-service English teachers in this study do not easily see themselves as working with learners. However, this might result from the answers of those who are not thinking of becoming a teacher. It is important to mention once again that the interpretation of data analysis of discrete test items cannot provide a complete picture of early teacher identity.

5. Qualitative Findings

5.1. How do pre-service English teachers construe their teacher identities in general?

In the reflection papers, the PSTs were asked to elaborate on how they would define their teacher identity. In the light of the qualitative analysis, 12 codes emerged regarding how the participants define their teacher identity. For a more precise look and structural interpretation, these codes are themed under three categories that also have a foundation in the related literature, namely, professional identity, personal identity, and social identity. professional identity (Beijaard et al., 2004; Ruohotie-Lyhty, 2018) is about teachers' in-class practices they perform during the class, and the examples of professional identity include being a technologically competent teacher, productive teacher, and creative teacher. Personal identity (Beijaard et al., 2004) refers to the personal traits or characteristics of their teacher identities such as being patient, kind, or open-minded teacher. Lastly, social identity (Akkerman & Meijer, 2011) refers to the identity role taken on during personal interactions such as social teacher and mentor teacher. The findings of the analysis in relation to the themes are given in Table 7.

Table 7.

Pre-service English Teachers' Reported Identities

Themes	*Codes*	*Sample Statements*
Professional Identity	Productive Teacher	I can describe my teacher identity see as productive . . . And I can create blogs and do design . . . To engage my students in the learning process.
	Technologically-Competent Teacher	I'm a technological teacher and I'm familiar with the tools and devices that's being used in classrooms such as computers, tablets, and media tools etc.
	Creative Teacher	I am a teacher who loves to be creative in class doing a new activity every day . . .
	Modern Teacher	I possess a modern teacher identity as I'm familiar with the tools and devices that's being used in classrooms.
Personal Identity	Open-minded Teacher	I would describe my teacher identity as open-minded I would welcome new things and wouldn't be afraid to try those my teacher identity is kind and understanding.
	Life-long Learner	My goal is to learn continuously . . . I'd like to research and prepare a lot to give my students the most. Learning never ends and just because I am a teacher doesn't mean I should just stay where I am and teach the same things the same way for years.
	Self-determined Teacher	It's a very complex issue but my passion for teaching creates my teacher identity. I can teach in any circumstances. I am self-determined also I can detect my students' needs and solve their problems to make them prepared for the lesson.
	Non-discriminating Teacher	I'm a teacher treating students equally regardless of religion, race, and gender.
Social Identity	Social Teacher	I can describe myself as a teacher who has got a good relationship with students like their friends or a parent.

Social Identity	Mentor Teacher	I'd describe my teacher identity as a mentor model and guide learners towards successful learning.
	Kind but Firm Teacher	I'm a teacher who is good with students in and out of class, like friends but also disciplined.

In terms of professional identity, the pre-service English teachers defined themselves as technologically competent teachers who are aware of technological development and can make use of various digital tools in their classes to further improve student learning. They perceive themselves as modern teachers who can creatively produce lesson materials providing better learning opportunities for their learners.

> S35: *"I'm a technological teacher, and I'm familiar with the tools and devices that's being used in classrooms such as computers, tablets, and media tools, etc."*

The pre-service English teacher participants present their personal teacher identity with certain characteristics such as being open-minded, self-determined, non-discriminating, and life-long learner. These reported traits by pre-service English teacher participants build up the concept of a global teacher. The pre-service English teacher participants will keep an open mind towards their future students and cultures from a non-discriminating point of view.

> S44: *"I would describe my teacher identity as open-minded I would welcome new things and wouldn't be afraid to try those my teacher identity is kind and understanding."*

The personal identity findings also show that they are self-determined and, as the main characteristic of being life-long learners, they will continue to learn and teach under any circumstances.

In their interpretation of their instructional and personal identities, the PSTs emphasized their teaching practices and personal characteristics. However, the qualitative analysis of reflection papers brought about another theme, which is social identity. The pre-service English teachers taking part in this study extensively reported and highlighted being a social teacher. They attach a great deal of importance to the social aspect of being a teacher. How they see their teacher identity and how they approach their students are given in the quotations as follows:

> S39*: "I'm a friend more than a teacher."*

> S9: *"My identity as a teacher is idealistic, I firstly teach how to love."*

The pre-service teacher participants set forth their social teacher identity and recognize the teaching profession as an Interpersonal endeavor kneaded with love and understanding. Their enthusiasm for leading their students by mentoring them was also unfolded.

> S58: *"I see myself as a mentor teacher thanks to helping out students . . . I am a teacher who wants to teach anybody who needs education, and I can be a consultant to them."*

> S17: *"We as teachers do not only instill teaching but also guidance and inspiration . . . We inspire our students to grow. We need to guide them to take future decisions, help them which road they should take, and reach a proper destination."*

The pre-service English teacher participants perceive the teaching profession as something more. They define their teacher identity as helping and leading. While they aspire to be social, mentor, and kind teacher; they also stress that discipline needs to be borne in mind.

In essence, the pre-service English teachers see themselves as modern teachers who are productive, technologically competent, and creative. They also regard themselves as open-minded and life-long learners. In addition to these professional and personal features, they attach a great deal of importance to their relationships with students.

5.2. How does Emerging ICT Technologies Training shape the construction of teacher identities amongst a group of pre-service English language teachers?

The pre-service English teacher participants were asked to reflect on how ICT enhanced with emerging technologies course affected their teacher identity. In the light of the qualitative analysis conducted, many codes related to teacher identity emerged, and these codes were themed under two main identity types, one of which is professional identity referring to the in-class teaching practices of teachers, and the second is personal identity.

Table 8.

The Impact of Emerging ICT Training on Pre-service English Teachers' Identities

Identity Theme	*Specific Teacher Identities*	*Sample Data*
Professional Identity	Technology-competent teacher	My experiences with VR and ar helped me to inspire I will use those technologies in my classes, and I will try to create virtual environments for students to increase the interaction and collaboration in my class.
	Creative Teacher	I'm planning to be a cool and creative teacher . . . Emerging technologies are very helpful for me I can use them to get the attention of my students to the lessons as it becomes more creative and interesting for them.
	Productive Teacher	I'm more productive and functional than ever thanks to the educational technology course. I learned how to use Kahoot, hot potatoes, Pinterest storybird, Voki, ARize, and Canva.
	Efficient Teacher	These helped me to become on more effective teacher and show me how to reach out to the students of our time who are very dependent on technology and enjoy using technology.
Personal Identity	Empowered Teacher	Learning these kinds of new technologies made me feel more confident because as a teacher we need to keep up with this technology.
	Respected Teacher	I think I will be a good respected loved teacher in the eye of my students.
	Widened perspective	Web 2.0 and VR and AR technologies enlightened my horizon it was a very different experience as a teacher it opened my horizon it made me think that everything's possible.

Following the ICT course, pre-service English teacher participants put forward that their teacher identities have been significantly affected, and they have become technologically competent, creative, productive, and efficient teachers. With the power gained through technological tools, they are confident in their ability to enrich their instruction as well as teaching materials.

Pre-service English teacher participants expressed their technologically competent teacher identity in the following quotations:

S43: *"As a student, I never expected to use VR and AR in my classes, but when I become a teacher, I would certainly like to use this technology in my classes if there is enough opportunity, I want to be a modern teacher and follow the latest technology."*

S3: *"The use of web 2.0 tools showed me a new way to teach a way that will be fun for students and going their interest a way that will turn an ordinary lesson into an engaging activity; it showed me as a teacher there are many tools in my disposal I can use."*

S6: *"I can use augmented reality to teach whatever subject they need from the alphabet to geography to chemistry about its story students can be taken virtually back in time technology is making its way to the classroom increasing the interactive elements that many students are benefitting from."*

Pre-service English teacher participants expressed their creative teacher identity in the following quotations:

S4: *"ICT helps teachers to interact with students, and it helps them prepare their teaching games quizzes and activities like those are much easier to use rather than preparing my activity cards or trying to find pictures from books we use mail to communicate which is easier and sending letter videos and pictures makes our lesson more colorful fund and creative."*

S9: *"I think we of web 2.0 tools in ICT course affected my teacher identity I will be more productive and creative thanks to these tools."*

Pre-service English teacher participants expressed their productive teacher identity in the following quotations:

S16: *"I'm trying to create an application to support the language learning of students in the future I will definitely use those technologies in my classes."*

S55: *"I use these applications these applications make me more productive in my teacher self."*

Pre-service English teacher participants expressed their efficient teacher identity in the following quotations:

S22: *"There is a lot of crowded classrooms in Turkey 40-50 students in each class and of course teacher cannot evaluate everyone in a classroom, but Web 2.0 tools provide it every student can get feedback from their teacher also I feel more efficient for my future students."*

S38: *"Web 2.0 presents a more participative environment in which building and sharing knowledge make lessons more fun and useful. These tools provide course materials which taught me how to become an effective teacher."*

S11: *"To become more effective in my lessons and now in my lessons, I'm using the tools we learn in instructional technologies so far we used Voki and Kahoot."*

The personal identity of pre-service English teachers has also been affected by the ICT course. They feel empowered and respected. Besides, they also underline that their perspectives have been widened by these digital tools.

The participants expressed their empowered teacher identity in the following quotations:

S42: *"The technologies made me more equipped and . . . technology has given me power."*

S28: *"At first, I was much more fearful I did not know what to do in the classroom how to behave, and which tools I can use since then I have learned many techniques and activity ideas that I can use in my classroom having information made me feel more confident."*

The participants also conveyed their respected teacher identity by saying:

> S58: *"All this makes me more equipped and makes my lessons more interesting my students respected me for believing and loving me and my methods."*
>
> S36: *"I feel much more confident I know that I will be a respected teacher by using these technologies."*

The participants noted that the ICT course, with the technological tools used, widened their perspectives. Their remarks have been given in the following quotations:

> S54: *"This course gave me a different perspective. My self-confidence increased through my experiences I realized the diversity of education and now I know that there are various ways to make learning fun and permanent."*
>
> S51: *"Virtual reality and augmented reality are going to change the way we as teachers teach."*
>
> S16: *"I am as a teacher of the future prepare students for the demands of the future."*
>
> S57: *"VR and AR technologies are part of our lives and we must use it in education in terms of broadening our perspective."*

Overall, the pre-service English teachers report that the emerging ICT technologies training has affected their professional identity in the sense that they are now more creative, productive, efficient, and technologically competent. With the knowledge and skills received during the training, the pre-service English teachers feel empowered and respected, not to mention the widened perspective.

5.3. What kind of teacher identity do pre-service English teachers intend to take on in their future careers?

The pre-service English teachers were asked what kind of teacher they would be in the future. Several teacher identities were surfaced; to simplify, these were coded into two themes that are social identity and professional identity. Social teacher identity refers to the teachers' interactional characteristics. It is neither fully personal nor completely related to the other party. The other main identity theme is professional teacher identity referring to in-class teacher practices. The findings related to interpersonal and professional identities are given in Table 9.

Table 9.

Pre-service English Teachers' Reported Future Identities

Identity Theme	*Specific Teacher Identities*	*Sample Data*
Professional Identity	Technologically Competent Teacher	Thanks to these tools I will be a tech-savvy teacher I will be able to use these activities and make my lessons out of the ordinary.
	Student-Centered Teacher	I would listen to my students and consider their thoughts as feedback of mine I would make the lessons relevant to their lives I would have a time plan.
	Productive Teacher	We need to open our minds to new things, gather all we have experienced, and learn to create new techniques by using technologies so we can lead our pupils to reach their path.

Social Identity	Social Teacher	I would be understanding, and comprehensive I would possibly be an enjoyable teacher I am sensitive, and I will be sensitive in a good way to my students I will take care of them.
	Role-Model Teacher	I want to inspire the next generation and I want to be a good role model.
	Global Teacher	When I become a teacher, my mission will be to show people how important it is to observe other people from different perspectives since it is crucial to have the quality to be a citizen of a world that is totally globalized that's why all my goals aim to.
	Life-long Learner Teacher	I will keep learning for the rest of my life because learning is a never-ending process lastly, I am planning to improve my teaching skills better than if possible, I want to make a difference create new ways of teaching.

The pre-service English teacher participants drew a social teacher identity combined of social, role-model, global, and life-long learner identities for their future teaching career. The interpersonal teacher identity category findings show that the participants attach considerable importance to their relationship with students, and they desire to be a role-model for them. They underline the importance of being a global teacher who values freedom and creativity. In addition to performing these practices, the pre-service English teacher participants will continue to stay current and follow recent developments.

Concerning social teacher identity, pre-service English teachers said:

> S33*: "I will be both their friend and teacher they will share their ideas freely since I believe that learning is a never-ending process and since I find amazing children's minds our lessons will be like a conversation with your friend."*
>
> S1*: "I want to be friendly with my students I think is beneficial for both of us I will feel more comfortable being taught so I will get to know my students and also their needs."*

In the role model teacher identity, the pre-service English teachers expressed:

> S23*: "I harder than working with children bout I believe I can be successful at it and become a good role model."*
>
> S47*: "I want to be exemplary I mean I will set them a good example."*

About the global teacher identity, the pre-service English teacher participants uttered:

> S53*: "I will always teach my students something equivalent to the world education system not in customary form."*
>
> S29*: "I want my students to have freedom with whatever creativity they want and to allow them to express themselves at any time."*

Pre-service English teacher participants intend to continue to learn throughout their lives. In terms of life-long learner teacher identity, the participants said:

> S3*: "I will be a teacher who follows the recent developments in the area and technology."*

> S17*: "I want to be a lifelong learner stay current, and on top of what's new in education I must use teaching strategies to ensure that the focus in education is on preparing today's children for the future."*

Pre-service English teacher participants intend to be technologically competent teachers, and their desire to be such teachers are shown in the following statements:

> S51*: "I think I will be a technological teacher thanks to the ICT course."*

> S31*: "I want to be a teacher who uses technology well in my classes. With these lessons, I learned what app I can use and how to use it. I believe that I will be a teacher who learns new things and uses those in the lessons."*

The pre-service English teacher participants intend to be student-centered teachers who can address their wellbeing.

> S6*: "I will be aware of the world of adolescents."*

> S47*: "I would listen to my students and consider their thoughts as feedback of mine. I would make the lessons relevant to their lives, and I would have a time plan."*

Also, the desire to be a productive teacher was also seen in the papers:

> S7*: "I'm trying to create an application to support the language learning of students. In the future, I will definitely use those technologies in my classes."*

> S47*: "When I am going to be a teacher, I will use these technologies in my classroom that way my students will looking forward to my classes because I believe that every student should enjoy the classes which they get."*

In conclusion, the pre-service English teacher participants intend to be modern teachers who follow the developments in the area and sustain productivity. They also emphasize their strong sense of being a social teacher who guides their students.

6. Discussion and Conclusion

Initially, in this study, we explored pre-service English teachers' early teacher identity in three dimensions and sought to find out the difference between genders, if any. Participants were found to report that they were the right person for teaching and were relatively neutral in their self-efficacy in becoming a teacher. They also perceived themselves as aspired teachers who love to help students discover and learn. Furthermore, the participants mostly identify themselves as teachers and envisage themselves teaching in the future.

As the scale was not sufficient enough in defining PSTs' identity formation, we, through reflection papers, aimed to discover how they construed their pre-service teacher identities in general, how emerging ICT technologies training course shaped their identities, and what kind of teacher identities they would intend to take on in their future careers. This approach helped us to enrich and contribute to our preliminary findings, the aforementioned three pre-defined dimensions.

In the reflection papers, the participants exhibited three main pre-service teacher identities, namely, professional identity, personal identity, and social identity, all of which have been previously acknowledged in the related literature (Akkerman & Meijer, 2011; Beijaard et al., 2004; Ruohotie-Lyhty, 2018). Our participants report possessing a technologically-competent teacher identity by emphasizing the need to effectively use digital technologies in classrooms. Trent and Shroff (2013), in their study, also emphasized that the employment of

emerging digital technologies contributed to PSTs' modern teacher identity. Likewise, following the emerging ICT training course, our participants reported gaining a "modern teacher" identity, identical to Trent and Shroff's (2013) classification. As can be inferred from the previous statement, the notion of teacher identity has been undergoing a transformation. Correspondingly, White (2016) emphasized teachers' changing identities in relation to changes happening in the field of education. In a similar vein, our participants' definition of teacher identity was outstretched to possessing modern, creative, productive, and social teacher traits. In relation to our research context, the employment of emerging digital technologies for instructional purposes was mentioned to broaden the concept of a teacher's identity (Norton, 2017). Respectively, after taking the emerging ICT technologies course, our participants emphasized gaining technologically competent, creative, productive, and efficient teacher identities. This is in alignment with a study's findings which found that employment of ICTs brought about technology-related teacher roles such as "expert of study materials, developer of materials" (Uibu & Kikas, 2008, p. 459). Moreover, our participants intend to take on a teacher identity combined with social, role-model, global, and life-long learner dimensions for their future teaching careers.

In short, the female and male pre-service English teachers did not differ in early teacher identity dimensions. The course experience, on the other hand, contributed to their teacher identity development by providing them with the new teacher identities, namely, productive teacher, technologically-competent teacher, and global teacher. Thus, it is safe to say that emerging ICT technologies training provided participants with a broader perspective into the teaching profession and teacher characteristics. On top of that, the participants do not ignore the importance of the social aspect of the teaching profession, and they attach a great deal of importance to taking on a social teacher identity by emphasizing its place in their future identities. They also reported feeling 'empowered' and 'respected' thanks to the emerging ICT technologies training they received. All in all, it can be concluded that emerging ICT technologies training courses contributed to pre-service English teachers' identity development as well as helping them to reach their potential.

As for the limitations of the study and further studies, the data were collected at a specific point of time which is not preferable, especially when exploring identity development. Future studies might collect data over a more extended period and possibly with different pre-service teacher majors.

Ethical Issues

The authors declare that there is no conflict of interest in the publication of this paper.

References

Abbott, R. C. (2016). Embracing digital technologies in classroom practice: The impact of teacher identity. *Australian Educational Computing*, *31*(2), 1-26.

Akkerman, S. F., & Meijer, P. C. (2011). A dialogical approach to conceptualizing teacher identity. *Teaching and Teacher Education*, *27*(2), 308-319.

Akpabio, E., & Ogiriki, I. B. (2017). Teachers use of information and communication technology (ICT) in teaching English language in senior secondary schools in Akwa Ibom state. *Equatorial Journal of Education and Curriculum Studies*, *2*(2), 28-3.

Alsup, J. (2005). Teacher identity discourses: Negotiating personal and professional spaces. Laurence Erlbaum Associates.

Aykac, N., Yildirim, K., Altinkurt, Y., & Marsh, M. M. (2017). Understanding the underlying factors affecting the perception of pre-service teachers' teacher identity: A new

instrument to support teacher education. *Üniversitepark Bülten [Universitypark Bulletin*, *6*(1), 67.

Barkhuizen, G. (2017). Reflections on language teacher identity research. Routledge.

Beauchamp, C., & Thomas, L. (2009). Understanding teacher identity: An overview of issues in the literature and implications for teacher education. *Cambridge Journal of Education*, *39*(2), 175-189.

Beijaard, D., Meijer, P. C., & Verloop, N. (2004). Reconsidering research on teachers' professional identity. *Teaching and teacher education*, *20*(2), 107-128.

Beltman, S., Glass, C., Dinham, J., Chalk, B., & Nguyen, B. (2015). Drawing identity: Beginning pre-service teachers' professional identities. *Issues in Educational Research, 25*(3), 225–245.

Bray, A., & Tangney, B. (2017). Technology usage in mathematics education research–A systematic review of recent trends. *Computers & Education*, *114*, 255-273.

Brunn, S. D., & Kehrein, R. (2020). Handbook of the changing world language map. Springer.

Bukor, E. (2015). Exploring teacher identity from a holistic perspective: Reconstructing and reconnecting personal and professional selves. *Teachers and Teaching: Theory and Practice, 21*(3), 305–327.

Colliander, H. (2019). Being transformed and transforming oneself in a time of change: A study of teacher identity in second language education for adults. *Studies in the Education of Adults*, *51*(1), 55-73.

Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research*. Sage.

Cronbach, L. J. (1984). Essentials of psychological testing (4th ed.). Harper & Row.

Danielewicz, J. (2014). *Teaching selves: Identity, pedagogy, and teacher education*. Suny Press.

Edmonds, W., & Kennedy, T. (2017). Explanatory-sequential approach. In An applied guide to research designs: Quantitative, qualitative, and mixed methods. (pp. 196-200). Sage.

Eğmir, E., & Çelik, S. (2019). The educational beliefs of pre-service teachers as an important predictor of teacher identity. *International Journal of Contemporary Educational Research*, *6*(2), 438-451.

Erikson, E. H. (1993). Childhood and society. WW Norton & Company.

Farrell, T. S. (2018). Operationalizing reflective practice in second language teacher education. *Journal of Second Language Teacher Education*, *1*(1), 1-20.

Freeman, D. (2013). Teacher thinking, learning, and identity in the process of educational change. *Innovation and change in English language education*, 123-136.

Friesen, M. D., & Besley, S. C. (2013). Teacher identity development in the first year of teacher education: A developmental and social psychological perspective. *Teaching and Teacher Education*, *36*, 23-32.

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y.S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105-117). Sage.

Krogstie, B. R. (2009). A model of retrospective reflection in project based learning utilizing historical data in collaborative tools. *Lecture Notes in Computer Science*, 418-432.

Leech, N. L., & Onwuegbuzie, A. J. (2009). A typology of mixed methods research designs. *Quality and Quantity*, *43*(2), 265–275.

Leibowitz, B. (2016). Language teacher identity in troubled times. In G. Barkhuizen (Ed.). *Reflections on language teacher identity research* (pp. 74-79). Routledge.

Lerseth, K. A. (2013). Identity development among pre-service teacher candidates [Unpublished Doctoral Dissertation, Iowa State University] Iowa State University Repository.

Mifsud, D. (2018). *Professional Identities in Initial Teacher Education: The Narratives and Questions of Teacher Agency*. Springer.

Miller, J. (2009). Teacher identity. In A. Burns & J. C. Richards (Eds.), *The Cambridge guide to second language teacher education* (pp. 163–171). Cambridge University Press.

Norton, B. (2000). *Identity and language learning: Gender, ethnicity and educational change*. Longman.

Norton, B. (2017). Learner investment and language teacher identity. In G. Barkhuizen (Ed.). *Reflections on language teacher identity research* (pp. 80-86). Routledge.

Nunan, D. (2016). Language teacher identity in teacher education. In G. Barkhuizen (Ed.). *Reflections on language teacher identity research* (pp. 164-169). Routledge.

Rodgers, C. R., & Scott, K. H. (2008). The development of the personal self and professional identity in learning to teach. In *Developing a Professional Identity* (pp.732-735).

Ruohotie-Lyhty, M. (2018). Identity-agency in progress: Teachers authoring their identities. In *research on teacher identity* (pp. 25-36). Springer.

Stake, R. E. (1995). *The art of case study research*. Sage.

Stenberg, K., Karlsson, L., Pitkaniemi, H., & Maaranen, K. (2014). Beginning student teachers' teacher identities based on their practical theories. *European Journal of Teacher Education*, *37*(2), 204-219.

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research techniques*. Sage.

Schön, D. A. (1983). The reflective practitioner: How professionals think in action. Basic Books.

Teng, M. F. (2017). Emotional development and construction of teacher identity: Narrative interactions about the pre-service teachers' practicum experiences. *Australian Journal of Teacher Education*, *42*(11), 117-134.

Tigchelaar, A., & Korthagen, F. (2004). Deepening the exchange of student teaching experiences: Implications for the pedagogy of teacher education of recent insights into teacher behaviour. *Teaching and Teacher Education, 20*, 665-679.

Timoštšuk, I., & Ugaste, A. (2010). Student teachers' professional identity. *Teaching and Teacher Education*, *26*(8), 1563-1570.

Tondeur, J., Pareja Roblin, N., Van Braak, J., Voogt, J., & Prestridge, S. (2017). Preparing beginning teachers for technology integration in education: Ready for take-off?. *Technology, Pedagogy and Education*, *26*(2), 157-177.

Trent, J., & Shroff, R. H. (2013). Technology, identity, and community: The role of electronic teaching portfolios in becoming a teacher. *Technology, Pedagogy and Education*, *22*(1), 3-20.

Turner, J. C., Oakes, P. J., Haslam, S. A., & McGarty, C. (1994). Self and collective: Cognition and social context. *Personality and Social Psychology Bulletin, 20*(5), 454-463.

Uibu, K., & Kikas, E. (2008). The roles of a primary school teacher in the information society. *Scandinavian Journal of Educational Research*, *52*(5), 459-480.

Valentyn, G. (2019). *Integrating new technology in the language classroom: innovative teacher identities* [Unpublished Master's Thesis, Stellenbosch University]. Stellenbosch University Repository.

Varghese, M., Morgan, B., Johnston, B., & Johnson, K. A. (2005). Theorizing language teacher identity: Three perspectives and beyond. *Journal of language, Identity, and Education, 4*(1), 21-44.

White, C. (2007). Innovation and identity in distance language learning and teaching. *International Journal of Innovation in Language Learning and Teaching*, *1*(1), 97-110.

White, C. J. (2016). Searching for identity in distance language teaching. In G. Barkhuizen (Ed.). *Reflections on language teacher identity research* (pp. 107-113). Routledge.