



## Influence of ICT Integration in High Education on University Faculty Members' Professional Identities: A Multiple-Case Study of Saudi TEFL Instructors

تأثير دمج تكنولوجيا المعلومات والاتصال في التعليم العالي على هوية أعضاء هيئة التدريس الجامعية: دراسة حالات متعددة لأساتذة اللغة الإنجليزية كلغة أجنبية في المملكة العربية السعودية

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### الملخص:

تهدف هذه الدراسة إلى البحث في تأثير ثورة تكنولوجيا المعلومات والاتصال على الهوية المهنية لأعضاء هيئة التدريس السعوديين المتخصصين بتدريس اللغة الإنجليزية كلغة أجنبية، خصوصاً في الجامعات السعودية. تستخدم الدراسة نظرية فنجر (1997) كإطار نظري لتحليل البيانات نوعياً، لدراسة التحول الذي يطرأ على الهوية المهنية لأعضاء هيئة التدريس متأثراً باستخدامهم لتقنيات التكنولوجيا في التعليم، مع التركيز على الأدوار التي أشار لها في نظريته الاجتماعية وهي الانتماء، والمشاركة، والتخيل، والتوافق. تتبّع الدراسة المنهج نوعي، حيث يتم استخلاص البيانات من الوثائق التاريخية المكتوبة من قبل المشاركين، وكذلك إجراء مقابلات شبه منظمة كأساليب جمع البيانات. ويتضح من النتائج أن المشاركين يواجهون تحديات خارجية وداخلية في استخدام تكنولوجيا المعلومات والاتصال. ومع ذلك، فإنها تظهر أيضاً أن التعاون مع زملاء العمل والخبرات التراكمية التي يكوّنها المجتمع تجاه التكنولوجيا الحديثة، بالإضافة إلى إسهاماتهم بطرح أفكار تعليمية جديدة ضمن سياقات البيئة التعليمية التي ينتمون إليها، مما يلعب دوراً هاماً في تشكيل هويتهم المهنية كأعضاء هيئة تدريس في مؤسسات التعليم العالي.

**الكلمات المفتاحية:** الكلمات المفتاحية: هوية المعلم؛ تكنولوجيا المعلومات والاتصالات في التعليم، التقنيات الرقمية؛ الهوية المهنية

### Abstract:

This case study aims to investigate the effects of the Information and Communication Technologies (ICT) revolution on teachers' professional identity, with a particular focus on English instructors in Saudi Arabia, especially during the pandemic. The study adopts Wenger's (1997) social theory of learning as its theoretical framework, examining how these teachers' professional identities are shaped by their use of ICT. Specifically, it highlights three modes of belonging, engagement, imagination, and alignment. The study employs a qualitative approach, utilizing written history documents and conducting semi-structured interviews as data collection methods. The findings are analyzed through deductive thematic analysis, revealing that teachers face both external and internal challenges in their use of ICT. However, they also demonstrate that collaboration, community expertise, and contribution of new ideas within their school contexts play a significant role in shaping their professional identity. While the adoption of new digital technologies generally enables them to embrace a positive and contemporary teacher identity in their teaching environments, it also leads some teachers to question their professional identity due to limited knowledge and competence in ICT.

**Keywords:** teacher identity; ICT, digital technologies; professional identity; digital identity

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## 1. Introduction

The integration ICT into teaching practices has become a prominent trend in today's digitalized society<sup>(1,2)</sup>. This trend has expanded the framework of teacher knowledge, which was originally focused on content knowledge<sup>(3)</sup>, then pedagogical content knowledge<sup>(4)</sup>, and pedagogical and technological content knowledge<sup>(5)</sup>. This revised understanding of teacher knowledge emphasizes the interconnectedness of pedagogy, content, and technology knowledge. Consequently, the dynamics of teacher concepts and teaching processes have changed, leading to an increased demand for digitally competent teachers<sup>(6)</sup>.

As pedagogy and student-teacher interaction are reemerging in importance<sup>(7)</sup>, new roles have emerged for teachers in relation to ICT integration in educational contexts. However, it is important to note that not every use of technology in the classroom guarantees effective utilization and integration due to its complex nature<sup>(8)</sup>. Technology use/utilization generally implies employing technology as a tool or resource within the teaching and learning process. It involves utilizing technology for specific tasks or activities, such as using educational apps, online resources, or multimedia presentations to enhance lessons or facilitate language learning. In this approach, technology serves as an additional aid to support the teaching methods or material. Technology integration, on the other hand, goes beyond mere use or utilization. It involves seamlessly incorporating technology into various aspects of the curriculum and instructional strategies. In this approach, technology becomes an integral part of the teaching and learning process, deeply connected to the learning objectives and activities. It aims to enhance the overall learning experience by embedding technology into different facets of language teaching, encouraging interactive, collaborative, and innovative learning environments. Therefore, digitally competent teachers are expected to possess several key abilities. Firstly, they should be able to employ new approaches for integrating ICT into education to enhance teaching and learning effectiveness<sup>(6,9)</sup>. Secondly, they should possess the skills necessary to utilize technology in a way that promotes higher-order cognitive skills such as critical thinking, problem-solving, and communication skills<sup>(10)</sup>. Lastly, they should be competent in facilitating individualized learning through student-centered teaching methods<sup>(11)</sup>.

However, the Covid-19 pandemic in 2019 has highlighted the challenges faced by teachers in adapting to digital teaching methods. While some teachers have successfully embraced the new era of teaching and updated their understanding of teacher knowledge, others struggle due to various reasons<sup>(5)</sup>. These reasons can be categorized as "fear of change" and "lack of time and support".

Further elaborating on these barriers, Ertmer<sup>(12)</sup> distinguishes between first order and second order barriers to technology use. First order barriers are external factors such as inadequate training, lack of support, or limited access to resources. On the other hand, second order barriers are internal obstacles that include low ICT self-efficacy or competence among teachers and their beliefs and attitudes towards the value of technology. In addition to these obstacles, Kopcha<sup>(13)</sup> emphasizes the lack of professional development opportunities in the field of technology integration for teachers. Consequently, integrating ICT into classrooms has become a stressful and challenging process for many educators. The outbreak of Covid-19 has highlighted the difficulties faced by teachers in adapting to digital teaching methods. These challenges stem from factors, such as fear of change, lack of time and support, inadequate training and resources, low ICT self-efficacy or competence among teachers, their beliefs, and attitudes towards technology's value, as well as a lack of professional development opportunities in this area.

Drawing upon the notion that identity is in a constant state of reconstruction<sup>(14)</sup> and that teacher identity is being reshaped due to changes in teaching practices, White<sup>(15)</sup> proposes that shifts in classroom dynamics and the integration of emerging ICT applications may lead to changes in teachers' professional identities. These changes are likely to be influenced by teachers' perceived digital competence and their effectiveness in incorporating ICT into their classes. Previous research has extensively examined the use of ICT in the classroom and the construction of teacher identities as separate topics<sup>(16,17)</sup>.

However, there is a limited number of studies exploring the interplay between ICT and teacher identity<sup>(18,19,20)</sup>. The present study underscores the pivotal role of ICT in redefining the landscape of education and its profound impact on the professional identities of L2 English instructors, as perceived by Saudi university-level instructors by addressing the following research questions:

1. How does ICT transformation in education affect the reshaping of Saudi L2 English instructors' professional identities?
2. In what way do Saudi L2 English instructors' professional identities change when they become part of their community of practice?

The integration of ICT into teaching practices is not only a trend but a necessary evolution in the educational sector, catalyzed by the urgent needs of the digital age and further highlighted by the Covid-19 pandemic. This paper posits that the effective use and integration of technology in education can significantly enhance teaching and learning processes, promoting a dynamic, interactive, and student-centered learning environment.

It also acknowledges the challenges and barriers that teachers face in this transition, emphasizing the need for comprehensive support systems, including professional development and access to resources. As educators navigate these changes, their professional identities undergo a transformation, reflecting their digital competence and the evolving demands of their teaching roles. Future research should continue to explore the relationship between ICT integration and teacher identity, providing deeper insights into how these factors interact and influence each other in the context of L2 English instruction. This will contribute to the development of strategies and policies that support teachers in effectively integrating technology into their pedagogical practices, ultimately leading to enhanced educational outcomes.

## 2. Theoretical Framework

To gain a comprehensive understanding of how teachers develop their identity in relation to their adaptation to ICT, this study examines teacher identity within the framework of Wenger's Social Theory of Learning<sup>(21)</sup>. According to Wenger, identity is not an inherent aspect of one's personality or something acquired at a specific point in time, but rather a process that occurs within a social context through negotiation and participation. In this study, the concept of identity as "becoming" is explored, highlighting the role of active engagement, imagination, and alignment within social communities in shaping teachers' identities. Engagement is defined as active participation and the mutual negotiation of meaning. Imagination involves flexible positioning to explore new ideas and relationships while also being aware of others' actions. Alignment refers to the process of coordinating one's actions to establish a shared understanding and agreement on how to proceed. It involves aligning oneself with the requirements and expectations of the community.

The present study explores how participants develop their knowledge of ICT and apply it within their respective contexts. It also investigates whether schools have specific demands regarding the use of digital technologies, how participants align themselves with these expectations, and ultimately, how this process of digitalization influences their teacher identity.

## 3. Literature Review

The construction and development of teacher identity are complex processes influenced by various contextual factors and personal experiences. To comprehend the concept of teacher identity fully, it is essential to first define the broader notion of identity itself, which is inherently dynamic and multidimensional. From sociological and psychosocial perspectives, identity can be understood as both a social construct and an internal

construction shaped by experiences and interactions. In the context of teaching, identity formation plays a significant role in shaping how educators perceive themselves and their roles within the profession. With the advent of digital technologies, the notion of being a "good teacher" has evolved to encompass not only traditional pedagogical practices but also the integration of ICT into teaching methods. However, this shift can pose challenges for educators as they navigate the transition from conventional to digital teaching approaches. Despite these challenges, the positive development of teacher identity is crucial for promoting effective teaching outcomes. Various studies have explored how the integration of ICT influences teacher identity formation, highlighting both the opportunities and challenges associated with adopting digital technologies in educational settings. Additionally, research conducted in Saudi Arabia has specifically examined the impact of ICT on English language teaching and learning, emphasizing the need for professional development and ongoing support for teachers. This literature review provides a foundation for understanding the complex interplay between ICT integration, teacher identity, and effective teaching practices, setting the stage for further exploration in this study.

### 3.1 Instructor Identity

James Paul Gee<sup>(22)</sup> defines discourse (with a little *d*) as stretches of oral or written language-in-use and Discourse (with a big *D*) as distinctive ways of using discourse, coupled with ways of acting, interacting, valuing, feeling, dressing, thinking, and believing. Gee's theory of Discourse is grounded in social and cultural views of literacy, which suggest that context, history, culture, discourse, power, and beliefs influence teachers, literacy, and instruction. He defines identity as "The 'kind of person' one is recognized as 'being' at a given time and place" (p. 99). Tensions or conflicts among competing Discourses can be the source of struggle and resistance when individuals bring other Discourses to their day-to-day interactions.

Gee's theory of Discourse is crucial for teachers to understand because it can help them reflect on their own Discourses and identities, which in turn can contribute to more equitable and inclusive classrooms. By examining their Discourses and identities, teachers can work against uneven expectations and provide fair learning opportunities for all students in schools.

So, and in order to comprehend the concept of teacher identity, it is necessary to first define the concept of identity itself. Defining identity is a challenging task due to its elusive, dynamic, and multidimensional nature, which varies depending on the theoretical lens through which it is observed<sup>(23,24)</sup>. From a sociological perspective, identity can be understood as "who you are"<sup>(25)</sup>, while from a psychosocial approach, it is considered

a complex internal construction<sup>(26)</sup>. Pennington<sup>(27)</sup> defines identity as a set of characteristics uniquely associated with an individual. Cummins<sup>(28)</sup> further explores the concept and suggests that identity has two main aspects: one that is inherent in our genes and another that evolves over time through experiences and interactions with others. Overall, identity is a dynamic phenomenon that constantly evolves rather than being stable<sup>(23)</sup>.

Teaching, as a socially constructed activity influenced by negotiations of meaning and interaction<sup>(29)</sup> plays a significant role in the construction of teacher identity through ongoing processes involving the individual and others<sup>(30)</sup>. Teacher identity, described as a complex and ever-evolving construct<sup>(27)</sup>, refers to how teachers define themselves to both themselves and others<sup>(31)</sup>. The development of teacher identity is closely linked to teachers' perceptions of what it means to be a good teacher<sup>(32)</sup>. In the 21st century, being a good teacher entails not only keeping up with changes and advancements in the field but also being able to adapt to new technologies in teaching practices. This widely accepted notion has led to a shift in established identities for some teachers as they navigate the transfer of traditional teaching methods into digital ones (Norton, 2017; Nunan, 2016). According to Cheung et al. (2014), this transformation occurs when teachers push their boundaries and step out of their comfort zones by incorporating new teaching strategies such as ICT integration.

The development of a teacher is significantly influenced by a positive shift in teacher identity, which holds a central position. The professional identity of teachers plays a crucial role in the teaching profession as it provides a framework for teachers to shape their own understanding of their role and profession in society. This includes developing ideas about *how to be*, *how to act*, and *how to understand their role*. Furthermore, Hammerness et al.<sup>(33)</sup> emphasize the importance of self-development for teachers and argue that the identities teachers form have a profound impact on their dispositions, where they invest their efforts, how they seek professional development opportunities, and what obligations they perceive as intrinsic to their role.

Teacher identity is an essential concept as it acts as a mediator for promoting effective teaching outcomes. A positive formation and development of teacher identity are crucial in achieving this goal (Sachs, 2005; Hammerness et al., 2005). Valentyn<sup>(34)</sup> conducted a study on the integration of new technologies into the classroom and the development of innovative teacher identities. The study revealed that teachers who attempted to incorporate digital technologies into their teaching practices took on various roles such as supporter, mentor, coach, guide, and motivator. In the process, they also developed a new teacher identity. Similarly, Can and Karacan<sup>(18)</sup> conducted a study to explore how

a group of pre-service English language teachers shaped their early teacher identities through an Instructional Technologies course that utilized ICT and emerging technologies.

Consistent with Valentyn's<sup>(34)</sup> findings, the teachers in this group reported acquiring different identities such as modern teacher identity, social teacher identity, or technologically competent teacher identity as a result of the course. However, it is worth noting that these new identities can sometimes lead to challenges among teachers in the same educational context. Trent and Shroff<sup>(35)</sup> examined pre-service teachers who underwent an eight-week teaching practicum focused on using e-portfolios. The findings of this study indicate that while the majority of teachers experienced a positive teacher identity, characterized by being up-to-date with current teaching practices, the introduction of digitalization resulted in a division between two groups of pre-service teachers who identified themselves as either modern or traditional. This phenomenon is consistent with the findings of Trent and Shroff<sup>(35)</sup> who observed similar challenges faced by in-service teachers when adopting emerging ICT applications, which had the potential to negatively impact their professional identities.

Fransson et al.<sup>(19)</sup> investigation of two EFL teachers' self-perception in relation to digitalization demonstrated how a language teacher with extensive teaching experience may develop a negative professional self-concept due to lagging behind technological advancements. Conversely, other teachers with less teaching experience perceived themselves as innovative and effective due to their high ICT self-efficacy and skills. Furthermore, this study highlights the significance of a strong digital identity among teachers in facilitating effective and contemporary classroom activities.

In a recent study conducted by Lai and Jin<sup>(20)</sup>, the impact of digitalization on teacher identity was examined. Unlike previous studies that focused on the overall reshaping of teacher identity, this study specifically investigated how different teacher identity orientations influenced the selection of technology in classrooms. The researchers surveyed 280 English language teachers and found a significant correlation between teacher identity orientation and the type of technology implemented in classrooms. Notably, teachers with a learner-centered orientation were more likely to embrace and adapt to technology in their teaching practices. These findings highlight the importance of considering teacher identity orientations when integrating technology into educational settings<sup>(20)</sup>.

As far as Arab World is concerned, only two studies conducted in Palestine and Saudi Arabia have been published in peer-reviewed journals, addressing the topic at hand. These articles, originating from the Arab world, specifically examine the influence of technostress on individuals' sustained inclination to adopt novel

technologies like augmented reality<sup>(36)</sup> and mobile technology.

On the other hand, Baabdullah, Alsulaimani, Allamnakhrah, Alalwan, Dwivedi, and Rana<sup>(36)</sup> conducted a study on the usage of augmented reality (AR) and its impact on e-learning outcomes. The researchers evaluated students' e-learning experiences and found that the use of AR positively influenced their e-learning outcomes. The study suggests that incorporating AR into e-learning platforms can enhance students' learning experiences and improve their academic performance.

### 3.2 ICT in Saudi TEFL Context

In a study conducted by Alharbi, the use of ICT in EFL teaching among Saudi Arabian teachers was examined. The research revealed that incorporating technology in language instruction had a positive impact on language learning outcomes. It also emphasized the need for professional development to effectively integrate technology into teaching practices. This finding is consistent with the study by Alghamdi and Alshumaimeri<sup>(37)</sup>, which found that incorporating technology in language instruction enhanced students' motivation and led to improved academic performance.

Another relevant study by Al-Seghayer and Al-Jarf<sup>(38)</sup> focused on the effect of computer-assisted language learning on Saudi English as a foreign language pre-service teachers' pedagogical beliefs and attitudes. The research demonstrated that utilizing technology in teacher education programs positively influenced their beliefs about language teaching and their attitudes towards using technology in the classroom.

Furthermore, Al-Mohanna and Al-Mohanna<sup>(39)</sup> investigated the role of technology in teaching English as a foreign language among female instructors at Qassim University in Saudi Arabia. The findings indicated that while instructors recognized the potential benefits of technology, they faced challenges related to limited access to resources, lack of training, and cultural barriers. These studies collectively highlight the importance of integrating ICT into EFL teaching practices among Saudi Arabian teachers. They emphasize the positive impact of technology on language learning outcomes, student motivation, and academic performance. Additionally, they underscore the need for professional development programs to effectively incorporate technology into teaching practices.

In a mixed-methods study conducted by Alharbi and Drew<sup>(40)</sup> the focus was on investigating the use of technology by Saudi EFL students. The study revealed that students primarily utilized technology for communication and information-seeking purposes. Additionally, the students displayed positive attitudes towards incorporating technology in their language

learning process. Another study by Alghamdi and Liaw<sup>(41)</sup> found that mobile learning had the potential to enhance student engagement, motivation, and language skills. Their research emphasized the positive impact of mobile devices on language learning. Alshumaimeri and Alshumaimeri (2017) conducted a case study in Saudi Arabia to examine how ICT integration affected EFL learners' motivation and achievement. The results indicated that integrating ICT positively influenced students' motivation and led to improved academic performance. Students reported increased interest, engagement, and autonomy in their language learning process. Teachers also recognized the benefits of using technology for enhancing language skills, engagement, and motivation<sup>(42)</sup>. However, they faced challenges related to limited access to resources, lack of training, and concerns about classroom management.

Aldhafeeri and Smith-Sloan<sup>(43)</sup> explored teachers' perspectives on the impact of ICT on English language teaching and learning in Saudi Arabia. The findings indicated that teachers perceived ICT as a valuable tool for enhancing language learning, promoting student-centered approaches, and facilitating communication and collaboration. However, teachers also expressed concerns about technical issues, lack of training, and the need for ongoing support in effectively integrating ICT into their teaching practices.

## 4. Methodology

This study has employed qualitative methodology, specifically a multiple case study, to gain a comprehensive understanding of teacher identity construction and development. The qualitative approach used in this study is characterized as inductive, aiming to describe multiple realities, develop deep understanding, and capture everyday life and human perspectives. While it is acknowledged that the limited number of participants in this study prevents the generalization of the findings to the wider population, the use of a multiple case study design allows for an effective exploration of the phenomenon within its specific context (Baxter & Jack, 2008).

Given that teacher identity construction and development can be influenced by various contextual factors and personal experiences, an interpretivist approach is deemed necessary for conducting an in-depth analysis of each case. This approach will facilitate a better understanding of the topic under investigation.

### 4.1. The setting of the Study

The study employed a multiple case study design, utilizing a purposive sampling method to select three volunteers as participants. The selection criteria were based on the participants' diverse teaching experiences

and contexts, aiming to provide a comprehensive understanding of the issue from various perspectives. The first participant had 21 years of teaching experience, while the second participant was nearing the end of her 8th year of experience. The third participant has 3 years of teaching experience. Additionally, the participants taught at different educational levels, including both undergraduate students and preparatory year students. The demographic profile of the participants is presented in Table 1 below.

**Table 1: Demographic Distribution of Participants**

Pseudonyms	Teaching Experience (Years)	Major	Education Type
PNU-1	21	Applied Linguistics	Hybrid teaching
SU-1	8	Translation	Online-only teaching
MU-1	3	Applied Linguistics	Hybrid teaching

Participant PNU-1 is an English instructor with 21 years of experience in the Applied Linguistics Department. She has taught various courses, including Language Teaching Practice, Syllabus and Materials Design, and Community Services. While she considers herself proficient in using ICT, she faces challenges in effectively integrating novel digital technologies into her instructional practices. PNU-1 employs a hybrid teaching approach, combining traditional face-to-face instruction with online classes. Although the university does not mandate specific ICT applications for academic staff, PNU-1 diligently seeks to enhance her digital skills to meet evolving educational demands.

Participant SU-1 is an English lecturer at a public university, with over seven years of teaching experience primarily focused on online platforms. Despite being relatively new to teaching, SU-1 demonstrates confidence and proficiency in utilizing ICT. She operates within an educational environment that employs both online and traditional face-to-face instructional methods, navigating a comprehensive online platform for virtual classes, assessments, and feedback. The misalignment between her ICT proficiency and institutional expectations prompts her to reassess her professional identity. To integrate ICT into her teaching, SU-1 utilizes specific techniques such as dictation programs for feedback and voice readers for student work. However, her teacher identity is primarily influenced by interactions with colleagues rather than individual strategies, fostering a sense of community within the teaching environment.

Finally, MU-1 is an English Language lecturer who has been teaching at a public university for about three years, commencing her career coincidentally with the onset of the pandemic. As a newly qualified teacher, her first teaching experience was online. Although she is not experienced, she has a perceived high self-confidence and knowledge of ICT.

Each participant was acquainted with both the definition and utilization of ICT, as these were explicitly outlined in the Program Specification of the study plan within their respective departments. Additionally, the Course Learning Outcomes of the courses they instructed distinctly articulated the incorporation of ICT as one of the specified objectives.

## 4.2. Data Collection and Data Analysis

The data was collected during the Second semester of 2021 using written history documents and semi-structured interviews. Prior to the research, all participants were informed about the purpose of the study and their identities were kept anonymous. Verbal consent was obtained from each participant. Given that professional identity development is a complex process that involves reflective thinking, participants were asked to provide written responses to a set of 10 questions regarding their experiences and strategies related to the use of ICT in their teaching contexts. These written history documents served as a foundation for developing follow-up semi-structured interview questions, which aimed to further explore participants' histories with ICT implementation. Due to geographical constraints, all interviews were conducted online using ZOOM meetings. A total of two interviews, lasting approximately 90 minutes in total, were conducted with participant PNU-1, and the sessions were recorded with the participant's consent. Participant SU-1 participated in a 60-minute interview, while MU-1 also engaged in an interview of similar duration. All interviews were conducted in English since all participants were professional English language instructors.

## 4.3. Data Analysis

To analyze the data, the researcher transcribed written history documents and semi-structured interviews verbatim into a Word document. The data were then narrowed down through purposive selection, which involves selecting cases that provide rich information to address the research questions. Next, deductive identification of themes was conducted based on Wenger's<sup>(21)</sup> three main categories: Engagement, Imagination, and Alignment. Each case was described in detail, including the participants' reflections presented separately. To enhance the research's credibility, member checking was employed. This involved having participants review their quoted responses to ensure they accurately represented their genuine ideas.

To assure the credibility of the research findings, Synthesized Member Checking (SMC) was applied. SMC allows participants to add comments, which are then searched for confirmation or disconfirming resonance with the analyzed study data, thereby enhancing the credibility of the research results. This method is seen as appropriate within an objectivist epistemology and a subtle realist theoretical stance<sup>(44)</sup>. In this study, SMC was employed, presenting participants with synthesized data derived from the final stages of analysis, accompanied by illustrative quotes. Participants were then invited to reflect on whether these findings aligned with their own experiences, facilitating deeper engagement. This is a significant step in tackling epistemological and ethical considerations, as it offers a systematic method for member checking that bolsters the reliability of research findings.

## 5. Findings

This section details the perceptions and reflections of three participants, namely PNU-1, SU-1, and MU-1, regarding their experiences with integrating ICT into their teaching practices. The narratives highlight the challenges, strategies, and evolving identities of these instructors as they navigate the complex landscape of ICT integration in education.

### 5.1. Participant PNU-1 perceptions and reflections

PNU-1, an experienced educator with a teaching background spanning over 21 years across various educational levels, including intermediate school to tertiary education, faces a significant hurdle in ICT into her teaching practices. This challenge arises primarily from her limited understanding and proficiency in utilizing modern technological tools. PNU-1 elaborates on the struggles encountered in staying abreast of the rapid advancements in technology, which have hindered her effective integration of ICT into her pedagogical approach:

*I started teaching with only a chalk and a bunch of flashcards, and I faced many challenges, especially from 2020 to 2021. Before the pandemic, I only needed technology for emailing and making worksheets. But now, it's the main tool I need for teaching. I often feel unskilled and like this is a completely different way of teaching. If you can't find the right button to click, you feel like you're not doing anything right.*

PNU-1 is employed at a prestigious and rigorous institution of higher education, characterized by a diverse student body and complex administrative processes. The university's environment and its expectations regarding the incorporation of ICT occasionally hinder PNU-1's sense of professional identity as an instructor, despite her extensive teaching background. She elucidates that seemingly trivial

technological challenges, such as downloading files or establishing internet connectivity, can pose significant burdens even for an instructor of her caliber:

*I understand that times have changed, but what makes me anxious is not how to teach things but how to use technology in my classes. We use an online platform called Blackboard, and every class can be a new surprise for me. Will I be able to download the correct document from that platform? Can I upload assignments there? Am I making mistakes again? It's very stressful for me. It feels like starting a new job even though I've been doing this for many years.*

During the course of PNU-1's identity development, her involvement primarily revolved around interaction, mutual engagement, seeking assistance, and collaborative endeavors. The subsequent excerpt provides a more comprehensive elucidation of this phenomenon:

*When I first started, the department didn't give me any information about the online platforms we were supposed to use. It was difficult for me to understand how to hold exams, use Turnitin, or access digital tools. So, I asked if someone could help me with these technology problems. This way, I could learn how to use the system.*

PNU-1's instructor identity is influenced by her interactions with colleagues and their attitudes toward technology use. This leads her to experience a combination of engagement, both through active participation and nonparticipation. At times, she feels helpless and undervalued as an instructor, as asking too many questions can bother others and make them hesitant to assist. However, she acknowledges the support she received from a few younger instructors who provided guidance on using technology tools such as Turnitin and giving online feedback to students. Without their assistance, she believes she would not have been able to effectively manage ICT-related challenges.

In terms of constructing her identity through imagination, PNU-1 undergoes a significant shift in her perception of technology use. In the past, her teaching materials consisted of a typewriter, which made lesson preparation relatively simple. She reflects on how teaching only required basic tools like pens or board markers, making it easy to conduct classes. However, the concept of imagination as described by Wenger<sup>(21)</sup> suggests that it involves creating new images of the world and oneself. PNU-1's transformation of her instructor identity involves updating herself in relation to ICT advancements. This process is best understood through her own words as she reflects:

*I can see that times have changed, and I am now a different teacher with better digital skills. If only I had these abilities a few years ago.*

Finally, the alignment of PNU-1 with the requirements of higher education institutions in terms of integrating

information and communication technology (ICT) appears to have facilitated a transformation in her role as an instructor. PNU-1 now perceives a heightened sense of accountability for her teaching practices and endeavors to enhance her digital proficiency. In relation to this matter, she articulates the following viewpoint:

*Working at this university made me realize how important technology is. Before, the department head would handle most technological things. But now, we have virtual classes and a specific online teaching platform for classes, homework, and tests. To meet the university's and students' expectations, you have to follow all the requirements. Technology and young people are changing so quickly that I need to update my skills every year. Last year was challenging for me, but now I feel more confident in my ability to use technology effectively.*

PNU-1 establishes a correlation between digital competence and increased effectiveness in teaching. The author emphasizes the dynamic nature of instructor identity, which can evolve over time. According to PNU-1, it is imperative for educators to continuously update their knowledge and skills in ICT to remain proficient. Failing to keep up with advancements in ICT would result in inadequacy.

## 5.2. Participant SU-1 perceptions and reflections

SU-1, a faculty member at the Department of English Language at a Saudi public university, to which we shall refer as SU, is currently engaged in hybrid education. She delivers elective courses online while conducting compulsory courses face-to-face. However, despite her eagerness to develop an ICT-based teaching plan, the school environment may not be conducive to its implementation:

*The technology opportunities are not up to the expected where I work. During the pandemic, online learning doesn't meet all the requirements for good online teaching. Some students can't connect to the internet because of bad internet connection. Also, students often complain about not being able to hear the teacher clearly.*

This situation poses challenges not only for SU-1 but also for her students. Due to inadequate internet connectivity, some students are compelled to attend online classes at internet cafes, which negatively impacts the quality of instruction. SU-1 believes that regardless of her proficiency in utilizing digital tools, technical issues overshadow her teaching sessions. Consequently, she has to carry her personal laptop and mini projector to ensure smooth delivery of classes. Additionally, she relies on assistance from colleagues when faced with technical difficulties such as the absence of a screen.

In order to incorporate ICT into her teaching practices, SU-1 employs individual strategies such as utilizing dictating programs for providing feedback and employing a voice reader for reading students' papers. Nevertheless, her teacher identity primarily stems from her collaborative engagement within the teaching context rather than relying solely on personal strategies. Her direct involvement with colleagues serves as a means of belonging to the community and significantly influences her teacher identity:

*Luckily, I have a great teamwork spirit in my department. When I need to make a PowerPoint presentation, my colleagues help me. I am responsible for planning classes and programs. I may not be good at using a computer for making tables, but I am good at remembering things. So, I tell them what needs to be done and they help me with the technology. This doesn't bother me because we support each other. We are stronger together this way.*

The construction and reformulation of SU-1's instructor's identity are not only influenced by her direct engagement but also by the role of imagination. Wenger<sup>(21)</sup> provides a metaphor to clarify the concept of imagination, stating that it is akin to looking at an apple seed and envisioning a tree. In this sense, SU-1 directs her energy towards contributing to a broader picture beyond her immediate teaching context:

*In the past, students weren't very good at technology and language. But now, they are really good at using technology and making creative teaching materials. In the future, every student in my class will be a language teacher. So, I need to teach them about technology to prepare them for their jobs.*

In the current study, alignment emerges as the final mode of identification for SU-1, primarily occurring through alignment with community expectations. Despite the absence of any requirement for ICT integration in classes prior to the pandemic, SU-1 has been utilizing technology for teaching purposes for several years in order to satisfy her status as an English instructor:

*As English instructors, we need to be ahead of others. We are seen as the modern face of education. So, we have to keep up with new digital technologies and use them in our classes. I haven't used paper for many years. Also, we are online teachers all the time now. Even though I am 45 years old, I see myself as a skilled and modern teacher when it comes to technology.*

The above quote highlights SU-1's awareness of the educational shift from traditional pen and paper methods towards digitalization. By adopting a modern teacher identity through ICT usage, she experiences feelings of being different, important, more powerful, distinctive, and successful compared to other teachers. She firmly believes that incorporating ICT-based instruction into her teaching practice has resulted in more effective and

positive educational outcomes in her classroom over the years.

### 5.3. Participant MU-1 perceptions and reflections

MU-1 has had a keen interest in utilizing digital tools since her time as a university student. Shortly prior to this study, she was pursuing her PhD in the College of Languages and Translation and excelled in all Computer-Mediated Language Learning and Teaching (CALLT) courses during both her Master's and PhD programs, earning A+ grades. She believes that her proficiency in digital literacy and ICT skills is quite advanced. Nevertheless, she encounters difficulties when it comes to effectively incorporating technology into her teaching practices, which will be further explained below.

*I am not able to use technology tools as much as I want to. Most of my students are not interested in using technology for learning because they are not open to new ways of learning. They only want to pass the course and prefer traditional teaching methods focused on grammar. It is difficult to create a learning community with these types of students. I try to find digital materials that will engage my students, but it doesn't work well at vocational school. Sometimes, what I do in practice doesn't align with my professional goals and interests. This makes me lose my enthusiasm and motivation sometimes.*

Despite the absence of enthusiasm for digital tools among her students, MU-1 consistently endeavors to alter their attitudes towards digitalization by creating an interactive and technologically advanced classroom environment through the implementation of interactive games and digital tools. The following excerpt serves as a more illustrative example:

*In my undergraduate classes, I often use **Web 2.0** tools. Sometimes, I share **YouTube** videos for listening activities that match my students' level and interests. I also use YouTube videos with cultural aspects for warm-up activities. When it comes to practicing speaking skills, I prefer using the **Flipgrid** platform. Occasionally, I assign writing activities on **Padlet**. For online assessments, I like using in-class response systems like **Quizzes**.*

As evidenced by her testimonials, MU-1's identity as an instructor has been influenced by her utilization of digital tools such as *Quizzes*. This engagement with technology serves as a disguise for her lack of experience in teaching. However, she effectively turns this situation to her advantage through technology-mediated activities. She presents this issue from her own perspective:

*As a new EFL instructor without much experience, my strength lies in being digitally competent. Since most of my classes are online, it's important to have good*

*knowledge of ICT. It's not just about using computers or knowing the online platform; I also know about educational tools designed for teaching language to adults. Even though I lack experience, my digital skills help me develop a positive identity as an instructor.*

In addition to engaging with digital tools, MU-1 also shapes her identity as an instructor by actively exploring new ideas and relationships within her educational context. The digital tools she employs in her classes serve as a shared platform between herself and her students. She emphasizes this point by stating that:

*Last year, I took an online course on "Fostering student motivation and engagement." It taught me many useful strategies for English classes and increased my awareness of integrating Web 2.0 tools into language teaching. Hearing about innovative classroom practices from colleagues at other universities expanded my perspective. Now, by incorporating virtual games into my online classes, I can take my students on exciting language teaching adventures outside of their rooms.*

Wenger 21 (p. 181) argues that "alignment requires a personal investment of energy" in order to expand one's identity. Similarly, MU-1 strives to align herself with her teaching philosophy regarding the use of information and communication technology (ICT) by developing personal practices.

*Honestly, our institution's language teaching policy allows instructors to choose whether or not to use digital tools. The only important thing is to stay on schedule. However, my teaching philosophy goes beyond simply covering the syllabus or teaching language skills. I want to be a role model who integrates technology into both teaching practice and life itself.*

Based on the findings derived from interview data, it can be asserted that instructors face various challenges when attempting to incorporate new digital technologies into their teaching practices. These challenges include inadequate technical facilities, limited technological knowledge, and a lack of student motivation towards technology. In response to these obstacles and through effective management strategies employed by instructors, their identities as educators are shaped through engagement with digital tools and community expertise, imaginative thinking beyond traditional boundaries, and ultimately aligning with the demands of the school, community expectations, and their own teaching philosophies.

## 6. Discussion of the Findings

The primary objective of this study was to enhance our comprehension of the dynamic role that digitalization plays in the renegotiation of teacher identity. The findings of this study indicate that the challenges associated with implementing digital technologies in education can vary

among teachers, even if they teach the same subject and are at the same level of teaching. Drawing on Ertmer's<sup>(12)</sup> classification, it is evident that the teachers in this study face both first and second-order barriers, such as a lack of technical resources or inadequate technological knowledge. It appears that each teacher in this study modifies their teacher identity based on their individual approach to managing these digital challenges, their unique teaching contexts, and their proficiency with ICT.

Furthermore, the study identified three prominent themes related to language teachers' professional identities within the realm of ICT transformation: Technological Competence and Adaptation, Pedagogical Transformation, and Teacher Autonomy and Agency. These themes underscored the significance of acquiring technological skills, effectively integrating ICT tools into pedagogical practices, and preserving educators' autonomy in decision-making processes.

Furthermore, the study's findings underscore the significance of community expertise, collegiality, and mutual engagement in the process of teacher identity transformation. As argued by Wenger<sup>(21)</sup>, membership within a community plays a crucial role in shaping one's identity, and this membership can be validated through the demonstration of competence. Put simply, when individuals perceive themselves as competent and are recognized as such by others, it aids in the formation of a positive identity. In this regard, it can be inferred that PNU-1 and MU-1 appear to develop an identity centered around active participation. Moreover, when their proficiency in ICT is acknowledged and valued by their students, it greatly contributes to their adoption of a "modern" teacher identity. The participants' own statements support this assumption. MU-1 asserts that she believes she is viewed as a skilled and contemporary English teacher by her colleagues and students. Similarly, PNU-1 recounts that her students consistently acknowledge her technological prowess, leading her to consider herself a technologically advanced teacher despite her age. The significance of ICT in fostering an updated teacher identity has been emphasized in previous research<sup>(18,34)</sup>. These studies collectively indicate that the adoption of novel digital technologies has transformed teachers' perceptions regarding the cultivation of a contemporary teacher identity, leading to favorable educational outcomes for both educators and students. Furthermore, as underscored by Ballıdağ and Dikilitaş<sup>(45)</sup> an institutionally facilitated social environment that enables teachers to exchange their digitalization expertise also plays a role in their professional growth.

However, in the case of SU-1, it can be deduced that falling behind expected levels of digital competence may pose a risk to teacher identity. Despite her extensive teaching experience, SU-1's limited proficiency with digital tools has at times resulted in emotional strain in

her career, causing her to question her role as a teacher. As discussed by Wenger<sup>(21)</sup>, although an individual may envision themselves engaging in a community practice, certain factors can hinder their participation. For SU-1, the lack of camaraderie within her own community of practice not only leads to non-participation but also prevents her from taking risks. This finding aligns with the research conducted by Fransson et al.<sup>(19)</sup> on how digitalization can reshape teachers' self-perception. The study suggests that young teachers experience an increase in self-esteem when their digital teaching practices are valued, while experienced teachers suffer damage to their identity due to their limited knowledge of ICT.

This paper highlights the importance of teachers with established teaching practices and philosophies feeling secure in order to explore new ideas and expand their boundaries. The findings demonstrate that seeking assistance from certain teachers who are knowledgeable about digitalization significantly contributes to SU-1's transformation of her teacher identity, as she gains a sense of empowerment in the digital realm. Consequently, it is crucial for school settings to foster a welcoming environment that encourages teachers to freely share their expertise within the community, thus promoting their lifelong professional development. Furthermore, SU-1's experience reveals that even experienced teachers may require an inductive orientation program specifically tailored to meet the ICT requirements of their department. This aligns with Carlson and Gadio's argument<sup>(46)</sup> that merely providing technical skills training is insufficient; teachers also need professional development opportunities that focus on the pedagogical application of those skills to enhance teaching and learning outcomes.

It is essential to acknowledge the limitations of this study as they provide context for interpreting the findings and offer insights into potential areas for future research and practical applications in the field of education. Firstly, the relatively small sample size, consisting of three English instructors, may limit the generalizability of the results to a broader population of language teachers. Additionally, the study's focus on a specific educational context may restrict the transferability of the findings to different settings. Secondly, the data collection methods primarily relied on interviews, which might be subject to social desirability bias, potentially affecting the accuracy of participants' responses. Thirdly, the study predominantly employed qualitative techniques, which, while rich in depth, may not capture the full spectrum of quantitative data that could provide a more comprehensive understanding of the relationship between ICT integration and teacher identity. Finally, the research was conducted during a specific period, and the dynamics of ICT in education may evolve over time, requiring ongoing investigation. Despite these limitations, this study contributes valuable insights into the complex interplay

between ICT integration and language teacher identity, laying the groundwork for future research endeavors and informed educational practices.

## 7. Conclusion

The findings of this study underscored the pivotal role of technology in shaping and reshaping teacher identities. Notably, the level and quality of participants' engagement with technology emerged as a significant determinant. It became evident that a deficiency in ICT knowledge and competence posed a risk to the formation and consolidation of teacher identity, while digital proficiency bolstered it. A confident teacher identity, as our study demonstrated, carries positive implications for the educational landscape. Hence, stakeholders should prioritize initiatives that foster positive teacher identities by promoting collaborative interaction and collegiality within school environments.

The study underscored the urgency of raising awareness about the importance of investing in teachers' digital identities, particularly in the context of the pandemic, where technology played an increasingly pivotal role. It is imperative to facilitate effective teaching outcomes for students by equipping educators with the necessary digital skills and encouraging the cultivation of strong digital identities.

Despite the constraints of a limited sample size, this small-scale case study serves as an initial exploration into the intricate relationship between ICT and teacher identity. Hopefully, this study will catalyze future research endeavors, prompting further investigations into harnessing the potential of community of practice to enrich and empower teachers' digital identities.

This paper sheds light on the complex and multifaceted interplay between ICT transformation and language teachers' professional identities. It advocates for teacher training programs that not only emphasize the development of technological competence but also address the challenges associated with ICT integration. Additionally, it emphasizes the ongoing need for support and resources to aid language teachers in navigating the transformative journey successfully and emerging as empowered and adaptable educators in the digital age.

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The author has no conflict of interest to declare.

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## Data Availability Statement

The Data used in the course of this study are available on request from the author.

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