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Digital Echoes: Crafting Chinese EFL Teacher Identity in the Era of AI-Enhanced Instruction—A Qualitative Exploration

Qing Zhou 1,2* 10 , Harwati Hashim 1 10 , Nur Ainil Sulaiman 1 10

ABSTRACT

This study examines the impact of artificial intelligence (AI) integration on the professional identities of Chinese tertiary English as a Foreign Language (EFL) teachers. It explores how these educators perceive and adapt to the incorporation of AI tools into their teaching practices, focusing on both the opportunities and challenges encountered. Through qualitative analysis of semi-structured interviews with 16 tertiary EFL teachers, the study identifies key factors influencing their professional identities, including institutional support, professional development, peer influence, personal attitudes towards technology, and ethical considerations. The findings indicate that AI integration enhances personalized learning and reduces the burden of administrative tasks. However, it also challenges teachers to reshape their roles and manage both technological and ethical complexities effectively. The study highlights the necessity for ongoing professional development and robust institutional support to effectively integrate AI in educational settings, ensuring it enhances rather than undermines the teaching and learning process.

Keywords: Artificial Intelligence; EFL Teaching; Professional Identity; Educational Technology; AI in Education

*CORRESPONDING AUTHOR:

Oing Zhou, Faculty of Education, Universiti Kebangsaan Malaysia, Bangi 43600, Selangor, Malaysia; Email: p114381@siswa.ukm.edu.my

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¹Faculty of Education, Universiti Kebangsaan Malaysia, Bangi 43600, Selangor, Malaysia

²Foreign Language Department, Science and Technology College GanNan Normal University, Ganzhou 341000, China

1. Introduction

In recent years, the integration of artificial intelligence (AI) technology into educational settings has gained significant momentum. AI tools and applications are increasingly employed to enhance the learning experience, streamline administrative tasks, and provide personalized educational support^[1,2]. In the realm of English as a Foreign Language (EFL) instruction, AI-assisted tools, including intelligent tutoring systems, automated feedback mechanisms, and adaptive learning platforms, have not only transformed student engagement but also redefined the role of teachers in the classroom^[3–5].

The role of the teacher in the Chinese tertiary EFL classroom is evolving in response to these technological advancements. Traditionally, EFL teachers in China have been the primary source of linguistic input, instructional guidance, and feedback [6]. However, with the advent of AI-assisted instruction, the dynamics of the classroom are shifting. AI tools now provide immediate and tailored feedback, offer diverse linguistic inputs, and facilitate individualized learning pathways [7]. This technological shift necessitates a reexamination of the teacher's role and consequently, their professional identity.

Teacher identity, a multifaceted construct that encompasses beliefs, self-perceptions, and professional roles, is crucial to understanding how educators navigate changes in their teaching environments [8]. Identity construction is an ongoing process influenced by various factors, including personal experiences, social interactions, and contextual elements [9]. In the context of AI-assisted instruction, Chinese tertiary EFL teachers may experience shifts in their identities as they adapt to new roles, integrate technology into their pedagogical practices, and negotiate their professional boundaries [10].

Despite the growing body of research on AI in education, there remains a notable paucity of studies that specifically address how Chinese tertiary EFL teachers construct their professional identities in the context of AI-assisted instruction. Existing literature predominantly focuses on the technical aspects of AI tools and their efficacy in language learning [11]. However, the implications of these technologies for teachers, particularly in terms of their identity, professional roles, and self-perceptions, remain underexplored.

Understanding the construction of Chinese tertiary EFL

teacher identity in the context of AI-assisted instruction is crucial for advancing both theoretical and practical domains in EFL teaching and educational technology. Theoretically, this study enriches the discourse on teacher identity by exploring the impacts of AI technologies on teachers' self-perceptions and roles. Practically, this research informs the design of targeted professional development programs, aiding educational institutions in effectively supporting teachers in integrating AI tools. The findings offer evidence-based recommendations for policymakers to develop supportive policies and enhance institutional support structures. Additionally, this study identifies critical research gaps, promoting interdisciplinary collaboration and further exploration. In summary, this research aims to enhance our understanding of Chinese tertiary EFL teacher identity in AI-assisted instruction, providing valuable insights and practical strategies to support teachers and advance the field. To systematically explore this problem, the study is guided by the following research questions:

> RQ1: How do Chinese tertiary EFL teachers perceive their professional identities in the context of AI-assisted instruction?

> RQ2: What key factors influence the construction of Chinese tertiary EFL teacher identities during AI-assisted instruction?

RQ3: How do Chinese tertiary EFL teachers navigate and negotiate their professional roles and responsibilities in AI-assisted instructional settings?

RQ4: What challenges and opportunities do Chinese tertiary EFL teachers encounter in the process of integrating AI tools into their instruction, and how do these experiences impact their professional identity?

2. Literature Review

2.1. Theoretical Framework

2.1.1. Definitions and Concepts of Teacher Identity

Teacher identity is recognized as a multidimensional and evolving construct that includes a wide range of beliefs, values, self-perceptions, and roles integral to teachers' professional lives [8]. Teacher identity is continuously formed and reformed through teachers' engagement with their sur-

roundings, including interactions with students, colleagues, and the broader educational framework [12]. Teacher identity incorporates both personal and professional dimensions [13]. The personal dimension involves a teacher's individual beliefs, values, and emotional investments in their profession, while the professional dimension pertains to the roles, responsibilities, and expectations imposed by the educational system and societal norms. This dual nature underscores the complexity of teacher identity, highlighting the need for teachers to constantly balance their personal and professional personas.

2.1.2. Theories on Identity Construction

Several theoretical perspectives offer insights into the process of identity construction. Wenger's theory of communities of practice is particularly relevant [14], that is identity is formed through participation in social practices and communities [14]. Teachers, as members of educational communities, construct their identities through interactions with colleagues, students, and institutional norms. This perspective emphasizes the social and relational aspects of identity formation.

Another significant theoretical framework is the concept of "identity as an analytic lens" [15]. The identity can be understood through four perspectives: nature-identity, institution-identity, discourse-identity, and affinity-identity. For teachers, these identities are shaped by their inherent traits, institutional roles, social interactions, and affiliations with particular groups or practices. This framework helps to understand the multiple layers of teacher identity and how they are influenced by various social and institutional factors.

The idea of "professional identity" was introduced which focuses on the identity teachers construct in relation to their professional roles and responsibilities [16]. Professional identity is influenced by factors such as policy changes, professional development opportunities, and the evolving demands of the teaching profession. Sachs highlights the importance of agency, suggesting that teachers actively negotiate and construct their professional identities in response to these influences.

Among the pivotal theories and frameworks for understanding the professional identity of language teachers, profound insights and concepts were offered into the dynamics of language teacher identity (LTI)^[17]. This framework emphasizes the importance of viewing teacher identity as a multifaceted and evolving entity, deeply intertwined with the

teacher's experiences and interactions within professional communities.

LTI is constructed through the interplay of various core elements: teacher learning, teacher cognition, contextual factors, teacher biographies, and emotional experiences [17]. Each of these elements contributes significantly to how teachers perceive themselves and their roles within educational settings. By participating in communities of practice, teachers continually negotiate and reshape their identities, reflecting an ongoing process influenced by both personal and professional experiences. This dynamic nature of LTI is crucial for understanding how teachers integrate new pedagogical approaches, such as technology, into their teaching practices and how they evolve in response to changing educational environments.

Central to the framework ^[17], is the assertion that teacher identity is not static but is continually developed through active engagement in professional settings, highlighting the importance of contextual and relational factors in shaping identity. This perspective is particularly relevant for examining the implications of AI-enhanced instructions in language education, as it allows for an exploration of how such innovations influence teacher identity construction and professional development.

This grounding framework not only enriches the theoretical underpinnings of the study but also aligns with the investigative pursuit of understanding the nuanced impacts of technological integration on language teacher identities.

2.2. AI in Education

2.2.1. Overview of AI Applications in Language Teaching

The landscape of language teaching is being transformed by the integration of Artificial Intelligence (AI), which includes a variety of applications aimed at enhancing learning processes and outcomes. In the field of EFL, AI-driven tools such as intelligent tutoring systems, natural language processing applications, and interactive learning platforms are increasingly prevalent [18]. These tools support personalized learning experiences by adapting to individual learning styles and needs, thereby enhancing student engagement and mastery of language skills [1]. Intelligent tutoring systems provide personalized instructions that adapt to the

learner's pace, delivering targeted exercises and feedback. NLP applications facilitate language learning through conversational agents and voice recognition software, allowing students to practice speaking and listening skills in simulated real-world scenarios. Furthermore, adaptive learning platforms analyze learner responses and adjust instructional content in real time, ensuring that each student's learning path is optimized to their specific requirements. These technologies not only foster greater student interaction but also support diverse learning strategies within the same classroom environment.

2.2.2. Benefits and Challenges of AI-Assisted Instruction

The integration of AI into educational settings offers substantial benefits that can transform the efficacy of language teaching. A significant advantage is the personalization of learning, where AI tools customize content to align with individual learning speeds and styles, addressing the diverse needs within a classroom^[19]. This approach not only improves engagement but also potentially elevates learning outcomes. AI's capability to provide immediate, precise feedback is another key benefit, fostering a continuous learning loop that helps maintain student motivation by allowing learners to quickly identify and rectify errors [7]. Moreover, AI alleviates the burden of routine tasks such as grading, thereby enabling educators to dedicate more time to curriculum enhancement and direct student interaction, which are crucial for effective education^[11]. However, the adoption of AI technologies comes with several challenges [20-22]. Foremost among these challenges is the need for technical proficiency among teachers, necessitating ongoing professional development to ensure that educators are equipped to utilize AI tools effectively. Additionally, disparities in technology access can exacerbate educational inequalities, making it imperative to ensure equitable access to AI resources across different educational environments. The shift toward AI-assisted instruction also requires teachers to transition from traditional teaching roles to facilitators of learning, demanding substantial adjustments in both pedagogical approaches and classroom management. Ethical considerations, especially regarding data privacy and the responsible use of AI, also pose significant challenges. The use of AI systems for collecting and analyzing student data raises privacy concerns and necessitates robust policies and ethical standards

to safeguard student information.

In conclusion, while AI offers significant opportunities to enhance language education, it also presents challenges that educators must navigate carefully. Understanding the full spectrum of AI's benefits and challenges is crucial for effectively integrating these technologies into language teaching, thereby optimizing both educational practices and student learning experiences.

2.3. Teacher Identity in EFL Contexts

2.3.1. Previous Research on EFL Teacher Identity

Research within the context of English as a Foreign Language (EFL) has extensively explored the multidimensional nature of teacher identity, underlining how it evolves in response to diverse educational challenges. Moreover, EFL teacher identity is profoundly shaped by the interplay of linguistic competence, pedagogical methodologies, and cultural dynamics within educational settings [23]. Their study highlighted how institutional policies and cultural expectations influence EFL teachers' professional identities, especially in multicultural classrooms. Similarly, the challenges EFL teachers face, such as adapting teaching methods to accommodate diverse student needs and managing the complex expectations of different stakeholders. The ongoing negotiation and re-negotiation of roles that EFL teachers undergo are driven by the continuous need to align personal pedagogical beliefs with professional demands [24].

Further studies have delved into how EFL teachers navigate and integrate the local cultural nuances with global English teaching standards [25]. This research points out that EFL teachers often undergo identity shifts as they balance the expectations of the global English language community against the local educational context, impacting their teaching practices and professional self-perception. Moreover, the sociocultural factors that influence teacher identity in EFL settings were explored [26]. Their study investigates how societal norms and educational practices in different countries shape the professional identities of EFL teachers, often requiring them to adopt new teaching roles that challenge their previous educational experiences and personal beliefs.

These studies collectively suggest that EFL teacher identity is not static but continuously shaped by a complex set of factors including linguistic skills, pedagogical approaches, cultural understandings, and institutional demands. Understanding these dynamics is essential for supporting EFL teachers in their professional development and adapting to the global landscape of language teaching.

2.3.2. Impact of Technology on Teacher Identity

The incorporation of technology into EFL teaching has brought about transformative changes in the roles and identities of teachers. As digital tools become more integrated into the classroom, teachers are finding themselves navigating new terrains of pedagogical strategies, student interaction, and classroom management. The integration of technology in language teaching can redefine teacher identities by altering their traditional roles and introducing new competencies and challenges [27]. Teachers are no longer just sources of knowledge but facilitators of a technology-mediated learning process where they must balance direct instruction with guiding student engagement in digital platforms. Furthermore, the adoption of technology impacts teacher identity by requiring a continuous adaptation to new tools and methods that can significantly alter teaching dynamics [28]. For instance, the use of AI-powered tools in language teaching necessitates that teachers develop new skills and potentially redefine their professional self-concept to include roles such as digital mediator or technical expert. These evolving roles can influence teachers' sense of efficacy and their identity as educators, often requiring a reevaluation of pedagogical beliefs and teaching practices^[29]. Additionally, technology's role in connecting teachers across global communities provides opportunities for professional growth and identity expansion, allowing EFL teachers to participate in broader educational dialogues and reshape their professional identities in light of global teaching practices [30]. The literature on EFL teacher identity reveals a field marked by complexity and continual adaptation, significantly influenced by cultural and institutional contexts as well as the increasing integration of technological tools in education. Understanding how these factors interplay to shape EFL teacher identity is crucial for devising support mechanisms that help educators navigate their professional roles effectively in the ever-evolving landscape of language teaching. This insight not only aids in enhancing educational outcomes but also supports the personal and professional growth of teachers in global and technologically advanced learning environments.

2.4. Gaps in the Literature

The current body of research into EFL teacher identity provides a broad understanding but leaves several crucial gaps, particularly in the context of rapidly evolving educational technologies like AI. Most studies have traditionally focused on the sociocultural, pedagogical, and institutional factors that shape EFL teacher identity without extensively considering the impact of advanced digital tools and platforms. Notably absent are studies that delve into the subjective experiences of Chinese tertiary EFL teachers integrating AI into their teaching, leaving a crucial aspect of identity construction underexplored.

Additionally, while it is recognized that teacher identity is influenced by a combination of personal experiences, technological affordances, institutional support, and peer interactions, there is insufficient research exploring how these factors interact specifically within AI-enhanced educational environments. The strategies employed by teachers to navigate and negotiate the blend of traditional and new roles introduced by AI are also poorly documented, leaving a gap in understanding the adaptive processes teachers undergo.

Moreover, the specific challenges and opportunities that Chinese tertiary EFL teachers face with the integration of AI tools and how these experiences impact their professional identity are not comprehensively examined. The lack of empirical evidence linking practical classroom experiences with shifts in teacher identity indicates a significant gap in the literature.

2.5. Bridging the Gaps

This research intends to address these gaps by providing a focused exploration of Chinese tertiary EFL teacher identity in AI-assisted contexts. By examining how teachers perceive their identities amidst the integration of AI tools, the study will shed light on the internal and external changes they experience. It will also investigate the complex interplay of personal experiences, institutional support, technological affordances, and peer interactions, and how these collectively influence identity in technologically enhanced teaching environments. Furthermore, this study will explore the specific strategies that teachers employ to navigate their evolving roles, providing insights into the adaptive processes required in the shift toward AI-enhanced instruction. Lastly, by detail-

ing the challenges and opportunities presented by AI tools, this research aims to elucidate their practical implications for EFL teaching, offering a comprehensive understanding of how these technologies impact teacher identity over time.

3. Methodology

This study adopts a qualitative research approach to explore the complex and nuanced process of Chinese tertiary EFL teacher identity construction in the context of AI-assisted instruction. Qualitative research is particularly suited to investigating phenomena that involve subjective experiences, personal narratives, and the intricate interplay of various contextual factors [31]. By employing a qualitative approach, this study aims to gain in-depth insights into the lived experiences of Chinese tertiary EFL teachers as they integrate AI tools into their teaching practices, capturing the richness and diversity of their professional identities.

The selection of participants for this study was guided by specific criteria designed to ensure a representative sample of Chinese tertiary EFL teachers who are currently incorporating AI tools into their teaching practices. Participants were selected based on the following criteria:

- They must be currently employed as EFL teachers at the tertiary level in China;
- They must have at least one year of experience using AI-assisted instructional tools in their teaching;
- They should be willing to participate in in-depth interviews and share their experiences and perceptions regarding the integration of AI in their teaching practices.

The sampling technique used for this study is purposive sampling. This technique was chosen because it allows for the deliberate selection of participants who have specific characteristics or experiences that are relevant to the research questions [32]. By focusing on teachers with firsthand experience in AI-assisted instruction, the study aims to gather rich, detailed data that can provide deep insights into the research topic.

The study involves 16 tertiary EFL teachers currently teaching at various universities across China. These participants represent a diverse range of demographic and professional backgrounds to ensure a comprehensive understanding of the research questions. The sample includes both male

and female teachers, ensuring gender diversity. Participants range in age from their late twenties to early fifties, providing a mix of early-career, mid-career, and experienced teachers. They have varying levels of teaching experience, from a minimum of five years to over twenty years in EFL instruction. All participants have at least one year of experience using AI tools in their teaching, with some having up to three years of experience integrating these technologies into their instructional practices. Their educational backgrounds are diverse, including master's degrees, and doctoral degrees in fields related to English language teaching. The detailed demographics of the participants are as follows (Table 1):

By ensuring a diverse and representative sample, this study aims to capture a wide array of perspectives and experiences related to the construction of Chinese tertiary EFL teacher identity in the context of AI-enhanced instruction.

Semi-structured interviews are selected as the primary data collection method due to their flexibility and depth. This method allows for open-ended questions that encourage participants to share detailed and nuanced accounts of their experiences, while also providing the opportunity for the interviewer to probe further based on the participants' responses [33]. Moreover, semi-structured interviews facilitate a conversational and adaptive interaction, enabling the researcher to explore emerging themes and insights that may not have been anticipated [34].

The interviews were conducted individually and online in English via the Tencent Meeting application, which facilitated the recording of the entire procedure with the participants' consent. The interview questions were crafted to elicit detailed responses regarding how teachers balanced traditional teaching methods with new AI-assisted approaches, managed ethical considerations, and dealt with the benefits and challenges of using AI in their classrooms (Appendix A). Each interview was scheduled to last approximately 40 minutes, providing ample time for participants to elaborate on their experiences and insights. In addition, interviews were conducted once with each participant. In cases where further clarification was needed, follow-up interviews were arranged, not exceeding two sessions per participant. After the interviews, thematic analysis was then performed on the transcriptions of the recordings, following the steps of familiarization, coding, theme development, and refinement [35]. To ensure the trustworthiness of the study, various strategies

| Table 1 | Participants' | demographic | information. |
|----------|---------------|--------------|-----------------|
| Table 1. | 1 articipants | ucinographic | iiiioiiiiauoii. |

| Participant Researcher (PR) | Gender | Age | Years of Teaching Experience | Years of AI Integration Experience | Educational Background |
|-----------------------------------|--------|-----|------------------------------------|--|---------------------------|
| PR1 | Male | 29 | 5 | 2 | Master's |
| PR2 | Male | 34 | 4 | 1 | Doctoral |
| PR3 | Female | 42 | 16 | 3 | Master's |
| PR4 | Female | 30 | 4 | 2 | Master's |
| PR5 | Male | 36 | 8 | 1 | Doctoral |
| PR6 | Female | 45 | 19 | 2 | Master's |
| PR7 | Female | 31 | 6 | 2 | Master's |
| PR8 | Male | 40 | 13 | 2 | Doctoral |
| PR9 | Female | 33 | 7 | 1 | Master's |
| PR10 | Female | 50 | 23 | 2 | Doctoral |
| PR11 | Female | 28 | 3 | 1 | Master's |
| PR12 | Male | 38 | 12 | 2 | Master's |
| PR13 | Female | 47 | 20 | 1 | Doctoral |
| PR14 | Female | 32 | 6 | 2 | Master's |
| PR15 | Female | 44 | 15 | 2 | Doctoral |
| PR16 | Male | 39 | 13 | 1 | Master's |

were employed, including triangulation, member checking, peer reviews, external audits, and the provision of rich descriptions [31]. Specifically, the form of triangulation applied was data triangulation, which involves gathering data from different people to confirm the consistency of findings [36, 37]. In cases where consistency among responses was low and did not represent the majority of participants' perceptions, such data was not analyzed further. This approach helped to enhance the validity of the study by ensuring that the analyzed findings truly reflected the consensus among participants.

4. Findings of the Study

The thematic analysis procedures and trustworthiness enhancement strategies have identified four primary codes and a total of 16 associated themes [31, 35]. These were systematically derived from the data to ensure comprehensive coverage and depth in analyzing the impact of AI on educational practices. The thematic structure is outlined in **Table 2**:

Building on the established thematic framework, the subsequent sections of this analysis delved deeper into each code and its associated themes to interpret the findings of the study. To enrich the interpretation and provide concrete examples of the impact of AI on educational practices, selected responses from participants were incorporated.

4.1. Findings of RQ1: Navigating New Realities

Participants find themselves navigating a transformative educational landscape profoundly reshaped by the integration of AI tools. Their perceptions are shaped by a complex amalgam of excitement and apprehension, reflecting a dynamic interplay between traditional pedagogical roles and innovative technological paradigms. This juxtaposition not only influences their day-to-day teaching practices but also prompts a deep reevaluation of their professional identities. As they incorporate AI technologies into their pedagogy, these educators are compelled to balance the enduring values of conventional education with the disruptive potential of modern technology, leading to a continual negotiation between established educational norms and emergent instructional methodologies.

4.1.1. Adaptation to Technology-Driven Teaching Environments

The introduction of AI into teaching has initiated a profound shift in pedagogical approaches, necessitating significant adaptation by teachers. This adaptation is not merely technical but deeply pedagogical, requiring teachers to rethink their approaches to teaching and learning. Teachers expressed that mastering these tools involves a steep learning curve but ultimately leads to enhanced instructional capa-

| Table 2 | Thematic analysis results. |
|----------|---------------------------------|
| Table 2. | i ilciliatic alialysis icsuits. |

| Code | Theme | |
|------------------------------|-------------------------------------|--|
| | Adaptation | |
| Navigating New Realities | Conflict | |
| | Redefinition | |
| | New Professional Norms | |
| Catalonta of Clause | Institutional Support and Resources | |
| | PD Opportunities | |
| Catalysts of Change | Peer Influence and Collaboration | |
| | Personal Attitude | |
| | Strategic Adaptation | |
| Adapting to Innovation | Innovative Approaches | |
| | Professional Resilience | |
| | Personalized Learning Opportunities | |
| | Streamlining Administrative Task | |
| Challenges and Opportunities | Role Reconfiguration | |
| | Technological Challenges | |
| | Ethical Concern | |

bilities and a more personalized learning environment for students.

"Integrating AI into my teaching initially felt overwhelming due to the new skills required. However, as I adapted, I found that AI could drastically enhance how I address individual learning needs." (PR4)

4.1.2. Conflict Between Traditional and Technological Roles

Teachers often experience a professional identity conflict as they integrate AI tools. This conflict arises from a perceived tension between traditional teaching methods and the facilitative, often automated, approaches introduced by AI. While some teachers fear that this might undermine their authority or the authenticity of their teaching, others see it as an opportunity to enrich their teaching methods and engage students more effectively.

"There is a tug of war within me. On one hand, the traditional methods I grew up with; on the other, these new, innovative AI tools that challenge how I've always taught." (PR9)

"Integrating AI into my teaching practice has been a double-edged sword. On one hand, it

offers an array of tools that can enrich the educational experience, but on the other, it sometimes feels like it's eroding the essence of traditional teaching, where personal interaction and nuanced understanding play key roles. Navigating this blend of old and new is a daily challenge." (PR6)

4.1.3. Redefinition of Professional Identity

As teachers become more familiar with AI technology, there is a noticeable shift towards accepting a redefined professional identity. This new identity embraces a more collaborative and facilitative role in the classroom, where the teacher acts as a guide and mentor rather than solely as a source of knowledge.

"As I've become more accustomed to using AI in the classroom, I've noticed a shift in how I view my role as an educator. I'm no longer just a dispenser of knowledge but a facilitator who harnesses technology to create a more engaging and individualized learning environment. This shift has fundamentally changed how I perceive my contributions to my students' learning journey." (PR15)

4.1.4. Emergence of New Professional Norms

With the normalization of AI in education, new professional norms are emerging among tertiary EFL teachers. These norms prioritize adaptability, lifelong learning, and collaborative exchange of best practices. Teachers are finding it essential to remain agile and open to continuous professional development to keep up with technological advances.

"The incorporation of AI in our teaching has introduced a new set of professional norms. Now, there's an expectation not just to keep up with traditional teaching methodologies but also to continuously update our skills with the latest AI applications. It's about merging pedagogical expertise with technological proficiency, which has become a new benchmark for professional competence in our field." (PR2)

4.2. Findings of RQ2: Catalysts of Change

The construction of professional identities among the participants in the context of AI-assisted instruction is profoundly shaped by a constellation of interconnected factors. These elements critically influence how participants perceive and enact their roles and responsibilities, fundamentally molding their adaptation processes to fit within the rapidly evolving technological landscape of education. Teachers navigate a complex interplay of institutional support, professional development opportunities, peer influences, personal attitudes toward technology, and ethical considerations, all of which collectively contribute to their evolving professional identities. This multifaceted influence not only dictates their approach to integrating AI tools but also significantly impacts their pedagogical strategies, engagement with students, and their broader educational philosophies. As these educators incorporate advanced technologies into their teaching practices, their identities undergo dynamic transformations, reflecting a continuous negotiation between traditional teaching methodologies and the innovative demands of AI-enhanced environments.

4.2.1. Institutional Support and Resources

The level of institutional support available to teachers, such as access to AI tools, training programs, and technical assistance, significantly impacts their ability to utilize

these technologies effectively. Institutions that provide robust support systems foster a smoother transition for teachers, enabling them to explore and adopt AI functionalities confidently. This support extends beyond mere access to resources; it encompasses a culture of encouragement and recognition of innovative teaching practices, which is crucial for teachers to feel secure and valued in their evolving roles.

"The proactive approach of our institution in equipping us with the latest AI tools and providing ongoing training has significantly influenced how effectively I can use these tools in my classes. It's about more than just having the tools; it's about really understanding how to integrate them into my teaching to benefit my students the most." (PR2)

4.2.2. Professional Development Opportunities

Continuous professional development (PD) specific to the integration of AI in teaching is vital for teachers to remain proficient and innovative. PD opportunities that focus on the pedagogical, rather than just technical, aspects of AI tools help teachers integrate these technologies into their teaching more holistically. Effective PD fosters an environment where teachers can experiment with and reflect on the use of AI, thereby enhancing their instructional strategies and contributing to a more refined sense of professional identity.

"The workshops I've attended have not just shown me the mechanics of AI tools but have deeply influenced how I think about their application in pedagogy. These professional development sessions have helped me see AI as a partner in crafting more engaging and effective lessons, rather than just a new gadget to master." (PR11)

4.2.3. Peer Influence and Collaboration

The role of peer influence is instrumental in shaping teachers' attitudes and practices toward AI integration. Collaboration with colleagues provides a support network where teachers can share insights, challenges, and successes related to AI use. This communal learning environment encourages teachers to adopt new technologies and fosters a sense of

collective advancement in professional identity within the context of AI-assisted instruction.

"Engaging in discussions with my peers about AI has been invaluable. We share what works and what doesn't, and these conversations have made a huge difference. It feels like we are all together steering through these new territories, and these collective experiences have significantly honed my method of integrating AI into my teaching." (PR5)

"The introduction of AI in our teaching practices has significantly enhanced the way my colleagues and I collaborate. We regularly exchange insights on how best to use AI tools, discussing both the successes and the obstacles. This peer-to-peer exchange has been invaluable for refining our approaches and overcoming the challenges presented by new technologies." (PR15)

4.2.4. Personal Attitude Towards Technology

Individual attitudes towards technology significantly influence how teachers perceive and integrate AI into their teaching. Teachers with a positive disposition towards technological innovation are more likely to embrace AI-assisted tools and view them as beneficial to their professional development and identity. Conversely, those with reservations may experience a slower adaptation process, potentially impacting their professional efficacy and satisfaction.

"My enthusiasm for technology has been a driving force in how smoothly I've integrated AI into my lessons. It has transformed my teaching into a more dynamic interaction between the students and the content, making the classroom a more vibrant learning environment." (PR14)

4.3. Findings of RQ3: Adapting to Innovation

As the participants incorporate AI tools into their teaching methodologies, they embark on a comprehensive journey of adaptation that demands meticulous strategic thinking,

creative pedagogical innovations, and robust resilience. This adaptation process is characterized by a concerted effort to sustain educational effectiveness and stay relevant within an ever-changing, technology-driven educational landscape. Teachers are challenged to continuously evolve, crafting a harmonious blend between traditional educational practices and cutting-edge technological advancements. This dynamic adaptation not only enhances their teaching practices but also deeply influences their professional identities, pushing them to redefine their roles as educators in a digitally integrated world.

4.3.1. Strategic Adaptation to Technological Integration

As Chinese tertiary EFL teachers incorporate AI into their classrooms, they employ strategic adaptations to blend these new tools with traditional teaching methods effectively. This involves not merely implementing technology for its own sake but integrating it in ways that enhance pedagogical outcomes. Teachers must carefully consider how AI can augment the learning experience without overshadowing the essential teacher-student interaction that is fundamental to effective education. They often plan their lessons to use AI as a supplementary tool, enhancing engagement without diminishing their role as the primary facilitator of knowledge.

"When integrating AI, I carefully balance it with traditional teaching to ensure it supports rather than overtakes the learning process. I strategically incorporate AI to provide supplementary resources and interactive experiences, enhancing student engagement without undermining the fundamental teacher-led discussions." (PR4)

4.3.2. Innovative Pedagogical Approaches

The advent of AI tools in education has prompted teachers to explore innovative pedagogical approaches that cater to diverse learning styles and needs. By leveraging AI's capabilities, such as data-driven insights into student performance and personalized learning pathways, teachers can create a more engaging and effective learning environment. This innovation often leads to developing blended learning models where digital and traditional pedagogies coexist and complement each other, allowing teachers to deliver more

tailored educational experiences.

"Leveraging AI has transformed my instructional approach. I now utilize a blend of direct instruction and AI-facilitated activities, which helps me cater to various learning styles effectively. AI's ability to analyze student data in real-time allows me to tailor my teaching methods dynamically, offering a truly personalized learning journey for each student." (PR8)

4.3.3. Professional Resilience in the Face of Change

Adapting to AI-driven instruction requires a high degree of professional resilience, as teachers must continually update their skills and teaching strategies. This resilience is manifested in their commitment to lifelong learning and their flexibility in adjusting to new educational technologies. Such adaptability ensures they remain effective educators, even as the digital landscape evolves rapidly.

"Adapting to rapid technological changes requires a resilient attitude. Continuously updating my skills to integrate new AI tools has become a regular part of my professional development. This ongoing learning process ensures that I can provide the most current and effective teaching strategies to my students." (PR12)

4.4. Findings of RQ4: Challenges and Opportunities

The integration of AI tools into Chinese tertiary EFL instruction significantly reshapes teacher practices and professional identities, introducing both profound challenges and transformative opportunities. Educators are navigating a complex terrain where traditional teaching methodologies intersect with cutting-edge technological advancements. This dynamic interplay is thoroughly altering the educational landscape, compelling teachers to adapt and innovate. These adaptations are not trivial; they require educators to rethink pedagogical strategies and student interactions, ensuring that AI tools enhance rather than detract from the educational experience. As these tools become increasingly integrated

into daily teaching practices, they profoundly influence the overall educational ethos, pushing teachers to explore new roles and redefine their professional identities in light of these technological shifts. This deep integration of AI challenges the status quo but also opens up myriad possibilities for enriching educational outcomes and streamlining educational processes.

4.4.1. Enhanced Personalized Learning Opportunities

AI tools significantly enhance personalized learning by providing teachers with advanced resources to tailor instruction to individual student needs. These technologies leverage algorithms to analyze student performance and learning habits, enabling teachers to modify their teaching strategies in real time. This capability not only supports differentiated instruction but also helps in identifying students who may need additional support, ensuring that all learners can benefit from a more customized educational experience.

"AI has truly revolutionized the way I approach personalized learning in my classroom. With the ability to quickly adjust lessons based on real-time data about student performance, I can ensure that each student receives the attention and tailored resources they need to succeed. This has made my teaching not only more effective but also more inclusive." (PR6)

4.4.2. Enhanced Personalized Learning Opportunities

AI's ability to automate administrative tasks presents significant time-saving opportunities for teachers. By automating routine tasks such as grading, attendance, and even certain aspects of communication with students, AI allows teachers to dedicate more time to critical pedagogical activities, such as lesson planning, student engagement, and professional development. This shift not only enhances the efficiency of educational processes but also contributes to a more focused and student-centered teaching approach.

"The impact of AI on reducing the burden of administrative tasks cannot be overstated. By automating the grading of assignments and managing attendance records, AI has freed up a significant amount of my time, allowing me to focus more on creative teaching and direct interaction with my students. This shift has not only improved my job satisfaction but also enhanced the quality of education that I can provide." (PR10)

4.4.3. Professional Growth and Role Reconfiguration

The advent of AI in education compels teachers to reassess and often expand their professional roles. This evolution involves acquiring new technological skills and rethinking how these tools can be integrated into effective teaching practices. As teachers adapt to these changes, they experience professional growth, which not only enhances their ability to use new tools but also influences their overall teaching philosophy and approach.

"The introduction of AI into our curriculum has necessitated a significant reconfiguration of my professional role. I find myself constantly learning new skills and updating my knowledge not just about AI, but about how it can be best utilized to enhance learning outcomes. This ongoing professional development is challenging but also incredibly rewarding as it pushes me to grow as an educator and adapt to the future of teaching." (PR11)

4.4.4. Technological Challenges and Reliability Issues

While AI offers numerous benefits, its integration is not without technical challenges. Issues such as software reliability, compatibility with existing systems, and the learning curve associated with new technologies can disrupt educational activities. Teachers must navigate these technological hurdles, which can vary widely in their impact, from minor annoyances to significant disruptions that affect the learning environment.

"While the potential of AI in education is immense, the reality of dealing with technological glitches and reliability issues can be quite frustrating. There are days when I plan to use AI-driven activities that end up being sidelined due to technical failures. These challenges test my patience and adaptability, but they also highlight the need for robust support systems to ensure the smooth integration of technology in education." (PR2)

4.4.5. Data Privacy and Ethical Concerns

The integration of AI in education raises significant ethical concerns, particularly regarding the management and protection of student data. Teachers are increasingly aware of the need to safeguard student information and maintain confidentiality in digital spaces. This awareness necessitates a careful approach to using AI tools, ensuring that they comply with ethical standards and legal requirements related to data privacy.

"The ethical implications of using AI, especially around data privacy, are always at the forefront of our discussions. We need to ensure we're using these tools responsibly and protecting our students' privacy." (PR14)

"Dealing with the ethical aspects of AI in the classroom has forced me to be more conscientious about how I use these tools. It's crucial to balance the efficiency and personalization offered by AI with a commitment to maintaining academic integrity and protecting student data. This balance has become a fundamental aspect of my professional identity." (PR7)

"Integrating AI into our teaching practices brings a multitude of ethical challenges, particularly concerning student privacy and data security. I strive to use AI tools responsibly, ensuring that I am aware of and compliant with all ethical standards to protect my students and their information." (PR3)

5. Discussion of the Findings

5.1. Navigating Identity Transformation in Al-Enhanced Education

In examining how Chinese tertiary EFL teachers perceive their professional identities amidst AI integration, it becomes apparent that the integration of these technologies is a double-edged sword. On one hand, AI tools promise to enhance personalized learning and increase student engagement by providing capabilities that tailor educational experiences to individual student needs [2, 7, 38]. On the other hand, teachers face the challenge of integrating these tools while preserving the essence of their traditional teaching roles, balancing the use of technology with maintaining personal interactions that are crucial for effective education [39].

This transformation requires teachers to not only adapt to using new tools but also to fundamentally rethink their roles—from being the primary source of knowledge to becoming facilitators who guide and support students in a technology-driven learning environment. The necessity for continual professional development emerges prominently, reflecting a shift in the educational landscape where static knowledge bases are inadequate. Instead, an ongoing, dynamic learning process is essential for teachers to remain effective and satisfied in their roles [40].

Integrating a framework ^[17], which highlights the dynamic and constructed nature of professional identity in educational contexts, helps further understand this transformation. Yazan posits that teacher identity evolves through their active participation and engagement within their professional communities and contexts. In the AI-enhanced educational setting, this involves adapting and integrating AI tools into teaching practices, thereby reshaping their professional identity to encompass roles such as technology integrator and innovator.

Moreover, robust training programs are crucial. These programs should extend beyond simple technical training to include pedagogical integration of AI, enhancing teachers' understanding of how AI can complement traditional teaching methods to enrich the learning experience. This recommendation resonates with the necessity of comprehensive training but goes further by emphasizing the integration of pedagogical considerations [41, 42].

Lastly, teachers' apprehensions about AI reflect broader societal and ethical concerns, particularly regarding how the deployment of such technologies might alter the teaching profession. These concerns underscore the need for thoughtful implementation of AI in education, ensuring that it supports rather than undermines the fundamental goals of teaching and learning [43].

In conclusion, the discussion around RQ1 reveals the complex impact of AI on the professional identities of Chinese tertiary EFL teachers. It underscores the necessity for a holistic approach that not only enhances teaching capabilities through technological means but also preserves core pedagogical values, ensuring that AI serves as a complement to, rather than a replacement for, traditional educational methods. This approach aligns with Yazan's (2018) perspective that identity is not a static attribute but a dynamic construct that evolves with changes in the professional practices and contexts of teachers.

5.2. Shaping Teacher Identity in the AI Era

The integration of AI into Chinese tertiary EFL class-rooms is profoundly reshaping teacher identities, influenced by a web of interconnected factors including institutional support, professional development, peer influence, personal attitudes towards technology, and ethical considerations. According to one study [44], educational institutions that provide robust support and resources are pivotal in facilitating AI adoption, helping demystify the technology, and encouraging its effective pedagogical integration. Such institutional backing, crucial for both technical mastery and pedagogical effectiveness, needs to be complemented by targeted professional development programs.

Moreover, the role of peer influence through collaborative networks cannot be overstated. Regular interactions and the sharing of experiences within professional communities foster a positive outlook toward AI, encouraging teachers to view these advancements as opportunities for collective growth rather than individual challenges. This collaborative approach enriches the professional community and fosters a culture of support and shared innovation [45]. This phenomenon is consistent with research findings [46], which emphasize the sense of community support is instrumental in facilitating the transition into AI-enhanced teaching environments. According to one framework [17], such interactions are critical for the continuous construction and negotiation of teacher identity, as they enable teachers to integrate new technological roles into their professional identity.

Personal attitudes towards technology also play a crucial role. Educators who embrace technological innovations are more likely to integrate AI smoothly into their practices and view these tools as beneficial enhancements to their professional roles^[46]. Conversely, those with reservations about technology may experience challenges in adopting AI, which could negatively impact their professional identity and effectiveness^[47, 48]. These personal and professional experiences are central to identity formation, suggesting that how teachers perceive and interact with technology directly influences their ongoing identity development^[17].

In summary, the successful integration of AI in education requires a holistic approach that addresses the multifaceted influences on teacher identity. It necessitates robust institutional support, continuous professional development, an encouraging peer environment, and positive personal attitudes toward technology. Each of these elements plays a critical role in how teachers adapt to and perceive their evolving roles in an increasingly digital educational landscape. This complex interplay underscores the necessity for comprehensive strategies that support educators. As they navigate the opportunities and challenges posed by AI in education, these strategies help them continuously shape and reshape their professional identities.

5.3. Adaptive Strategies and Resilience in Al-Enhanced Teaching

The exploration of how Chinese tertiary EFL teachers adapt to and integrate AI technologies into their teaching practices reveals a dynamic interplay of strategic adaptation, professional resilience, and collaborative innovation. Teachers are reconfiguring their instructional strategies to ensure that AI tools complement traditional teaching methods, enhancing teaching effectiveness and student engagement without diminishing the essential teacher-student relationship. There is a broader shift in education where flexibility and adaptability are becoming essential traits for educators [49].

Resilience emerges as a key theme, with teachers continuously updating their skills and knowledge to keep pace with rapid technological advancements. This ongoing professional development is crucial, not just for mastering new tools but for understanding how to integrate these technologies in pedagogically sound ways. The resilience and adaptability displayed by these educators, as remarked [50], are the need for educational systems to support lifelong learning and flexibility in professional development. Meanwhile, this resilience is part of the identity negotiation process, where teachers actively engage in new learning opportunities,

thereby continuously shaping their professional identities in response to evolving educational demands [17].

5.4. Overcoming Challenges and Seizing Opportunities in AI-Driven Education

The integration of AI into Chinese tertiary EFL teaching brings a complex array of challenges and opportunities, each profoundly reshaping educational practices and outcomes. This dual nature of AI integration underscores a transformative impact on the educational landscape, particularly in terms of personalized learning and administrative efficiency.

AI's capability to enhance personalized learning is a notable benefit, allowing educators to tailor instruction to individual student needs effectively. This adaptive approach not only caters to diverse learning styles but also aims to boost engagement and achievement, echoing research that highlights the advantages of personalized education^[7]. Additionally, AI's automation of time-consuming administrative tasks is greatly valued for freeing educators to focus more on teaching and less on bureaucratic duties, thereby enhancing job satisfaction and educational quality^[51].

However, alongside these benefits, educators face significant challenges, including technological reliability issues that can hinder teaching and learning processes. These difficulties highlight the need for reliable AI tools and robust technical support to ensure smooth educational operations. Furthermore, ethical concerns such as data privacy and equitable AI usage necessitate careful consideration. Teachers must navigate these ethical waters to ensure that AI tools are employed responsibly, safeguarding student data and ensuring fair access to technology-enhanced learning opportunities. These ethical challenges have also been highlighted in many previous studies [18, 43, 46], thus confirming the widespread recognition of these issues across the educational technology field. This consensus underscores the urgency of developing robust ethical frameworks and regulatory guidelines to address these concerns effectively.

In synthesizing these points, it is clear that while AI offers substantial opportunities to enhance educational practices, it also presents challenges that require comprehensive management. Effective integration of AI in education depends on supportive institutional policies, continuous professional development, and stringent ethical guidelines. Addressing these elements is crucial to ensuring that AI tools

not only enhance educational practices but also align with the fundamental goals of equity, privacy, and effectiveness in education.

6. Conclusions

6.1. Summary of the Study

This study has elucidated the complex dynamics of AI integration within the context of Chinese tertiary EFL teaching. Key findings include the transformation of teacher identities, the impact of various support systems, and the negotiation between traditional teaching roles and new AI-enhanced responsibilities. Teachers are adapting to these changes by redefining their professional identities, employing strategic adaptations, and developing resilience in the face of technological advancements. The research highlighted both the opportunities provided by AI for personalized learning and the challenges of ensuring the reliable and ethical use of these technologies.

6.2. Theoretical Implications of the Study

The findings of this study illuminate the complex interplay between AI integration and teacher identity within Chinese tertiary EFL contexts, offering significant theoretical implications. By employing this framework [17], this research underscores the dynamic nature of teacher identity as not merely reactive but actively constructed through interactions with technology. This study extends Yazan's conceptualizations by demonstrating how specific AI tools redefine teacher roles, shifting from traditional didactic approaches to more facilitative and supportive functions. These roles reflect a deeper integration of technology within pedagogical practices, suggesting that teacher identity in the AI era involves a continuous negotiation with technological affordances and constraints.

This research contributes to the development of teacher identity theories by highlighting the role of AI as a catalyst for identity transformation. It suggests that the integration of AI not only challenges existing professional identities but also provides opportunities for teachers to construct new identities aligned with the evolving educational paradigms. This dual impact offers a nuanced perspective on identity construction, proposing that teacher identity is not only shaped

by technology but also by the teacher's ability to adapt and integrate these tools into their pedagogical repertoire.

6.3. Practical Implications for Stakeholders

The study's findings have profound practical implications for various stakeholders in the educational sector. For tertiary EFL teachers, the study underscores the importance of embracing AI as a tool that can significantly enhance the educational experience. Teachers should seek to integrate AI technologies in ways that complement their existing pedagogical strategies, rather than viewing them as replacements for traditional methods.

For educational institutions, there is a clear indication that successful AI integration requires robust support systems including comprehensive training programs that go beyond basic tech proficiency to include pedagogical application of AI tools. Such programs should aim to equip teachers with the skills necessary to utilize AI in ways that enhance their teaching and align with their evolving professional identities.

For policymakers, this study advocates for the development of policies that support continuous professional development and the provision of necessary resources to facilitate AI integration. It is crucial that policies also address the ethical considerations of AI use in classrooms, ensuring that AI tools are implemented in ways that uphold data privacy and equity of access.

Administrators should consider these findings when designing institutional strategies to support teachers during the transition to AI-enhanced educational practices. Emphasizing a culture of innovation and continuous learning can help mitigate the challenges posed by AI integration and support teachers in redefining their professional identities.

6.4. Limitations and Future Study Recommendations

This study acknowledges several limitations. The focus on Chinese tertiary EFL teachers may limit the generalizability of the findings to other educational contexts or regions. Additionally, the rapid pace of technological advancement means that the findings may need ongoing validation to remain relevant. These limitations might influence the applicability of the findings across different educational settings or cultural contexts.

Future research should explore the integration of AI in education across a broader array of contexts, including different countries and educational levels, to enhance the generalizability of the findings. Investigating the long-term impacts of AI on teacher identity and student outcomes could also provide deeper insights. Methodologically, future studies could employ longitudinal designs to better understand the evolving impacts of AI on education over time. Additionally, comparative studies between institutions that have adopted AI extensively and those that have not could highlight best practices and potential pitfalls in AI integration into educational practices.

Author Contributions

All authors have made a substantial, direct, and intellectual contribution to the work, including but not limited to Conceptualization, Methodology, Investigation, Formal analysis, Writing—Original Draft, and Writing—Review & Editing. All authors have read and agreed to the published version of the manuscript.

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All participants provided informed consent before participating in the study. The anonymity and confidentiality of the participants were guaranteed, and participation was completely voluntary.

Data Availability Statement

Data will be made available on request.

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Conflicts of Interest

The authors declare no conflict of interest.

Appendix A

The Interview Protocol Introduction

- Greet the participant and explain the purpose of the interview:
- Assure confidentiality and discuss the consent form;
- Briefly describe the structure of the interview.

Section 1: Perception of Professional Identity (RQ1)

- Can you describe how you perceive your professional identity in the context of AI-enhanced teaching?
- How has the integration of AI tools influenced your view of your role as an EFL teacher?
- Can you share any specific incidents or examples where AI integration directly impacted your professional self-perception?

Section 2: Influential Factors on Identity Construction (RO2)

- What factors have most significantly influenced your professional identity since you started using AI in teaching?
- How do institutional support and professional development opportunities affect your adoption and use of AI tools?
- In what ways have peer interactions or community practices around AI impacted your teaching identity?

Section 3: Navigation and Negotiation of Roles (RQ3)

- How do you navigate and negotiate your professional roles and responsibilities in an AI-enhanced teaching environment?
- Can you describe any challenges you've faced in adapting to new roles necessitated by AI tools?
- How do you balance traditional teaching methods with AI-driven approaches?

Section 4: Challenges and Opportunities of AI Integration (RQ4)

- What are the main challenges you have encountered while integrating AI into your teaching?
- Conversely, what opportunities has AI integration

- brought to your professional practice?
- How do these challenges and opportunities influence your identity as an EFL teacher?

Closing Questions

- Are there any other thoughts you would like to share about your experiences with AI in education that we have not covered?
- Do you have any suggestions for educational institutions regarding the support needed for teachers using AI technologies?

Conclusion

- Thank the participant for their time and contribution.
- Discuss the next steps (e.g., how the information will be used, follow-up interviews).
- Provide contact information for any further questions.

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