

PEDAGOGICAL INNOVATION THROUGH TECHNOLOGY- ENHANCED LEARNING DESIGN

GLOBAL CASE STUDIES AND IMPLICATIONS
FOR PRACTICE



EDITED BY
IDA FATIMAWATI ADI BADIOZAMAN AND
AUGUSTUS RAYMOND SEGAR

PEDAGOGICAL INNOVATION THROUGH TECHNOLOGY- ENHANCED LEARNING DESIGN

Pedagogical Innovation Through Technology-Enhanced Learning Design highlights the intersection of educational technology and higher education teaching through authentic practitioner experiences across global contexts. Divided into four themes—Pedagogical Innovations, Innovative Assessment Practices, Contextual Challenges and Inclusive Practices, and Global Case Studies—this book examines the transformative role of technology-enhanced learning in fostering active learning, inclusive practices, and equitable access to education. Through their focus on real-world applications, these original, international contributions emphasise TEL's potential to create dynamic, student-centred learning environments in colleges and universities. Each case study delves into challenges, successful interventions, and adaptive solutions, providing readers with context-aware approaches to implementing technology-enhanced learning and assessment design.

Ida Fatimawati Adi Badiozaman is Professor and Deputy Pro-Vice-Chancellor (Research) at Swinburne University of Technology, Sarawak Campus, Malaysia. Her work focuses on technology-enhanced learning, digital pedagogy, and innovation in higher education, with particular attention to equity, inclusion, and context-responsive practice. She has published widely on online learning, academic identity, and pedagogical change, and actively contributes to advancing thoughtful and authentic approaches to TEL across diverse educational settings.

Augustus Raymond Segar was a professional technologist under the Malaysia Board of Technologists and multimedia design lecturer in the School of Design and Arts at the Swinburne University of Technology, Sarawak Campus, Malaysia. He was awarded his Doctorate posthumously by Swinburne University of Technology in recognition of his outstanding scholarly contribution and unwavering dedication to research and education.

Dear Editors and Publishers,

It is an honour to endorse *Pedagogical Innovation Through Technology-Enhanced Learning Design: Global Case Studies and Implications for Practice*, edited by Prof. Ida Fatimawati Adi Badiozaman and colleagues.

As a global education consultant and Co-Founder of EduSpark, I have worked closely with schools, ministries of education, and EdTech companies across Asia, the Middle East, and beyond. I first met Prof. Ida at a conference in Bali, where her insight and clarity of vision left a strong impression on me. Her ability to inspire, challenge, and reframe the conversation around technology-enhanced learning (TEL) continues to resonate with educators and leaders worldwide.

What distinguishes this volume is the way it weaves together theory, practice, and transformation. From the opening chapter, *Reimagining Education in the Digital Age*, the editors establish TEL not only as a tool of innovation but also as a field that must be approached with equity, ethics, and inclusivity at its core. This theme runs throughout the book, from the chapters on pedagogical innovations such as flipped learning, gamification, and immersive technologies, through to practical explorations of AI in assessment and self-regulated learning with generative AI.

I was particularly struck by the sections on contextual challenges and inclusive practices, which highlight the human side of transformation. The exploration of hybrid educator identities and the responsible use of AI mirror the questions I hear daily from schools adopting new technologies. These chapters ensure the book is not just future-focused but grounded in the realities faced by teachers, institutions, and learners.

The inclusion of global case studies from Vietnam to Australia and New Zealand offers rare insight into how diverse contexts adapt and innovate. These narratives provide authentic lessons for education leaders making critical decisions about policy, investment, and practice.

In my own work at EduSpark, we champion professional learning that is sustainable, scalable, and evidence-informed. This book is aligned with that mission. It is both a scholarly contribution and a practical guide, offering frameworks and real-world examples that decision-makers, educators, and policymakers can act on immediately.

I strongly recommend this volume to anyone invested in the future of education. It is a timely and significant contribution that captures both the promise and the responsibility of TEL.

With warm congratulations,

A handwritten signature in black ink, appearing to read 'Craig Kemp', with a stylized, flowing script.

Craig Kemp, CEO & Co-Founder, *EduSpark Global Education Consultant, Ignite EdTech*

Dear Editors and Publisher,

It is my pleasure to endorse *Pedagogical Innovation Through Technology-Enhanced Learning Design: Global Case Studies and Implications for Practice*. This volume strikes the right balance between **vision** and **usable practice**. From the opening chapter—*Reimagining Education in the Digital Age*—the editors frame TEL as both a catalyst for transformation and a site of ethical responsibility, foregrounding human-centred, inclusive design.

A core strength of the book is its **thematic architecture**, which guides readers from foundational design principles to assessment, inclusion, and real-world implementations: **Theme I: Pedagogical Innovations**, **Theme II: Innovative Assessment Practices**, **Theme III: Contextual Challenges and Inclusive Practices**, and **Theme IV: Global Case Studies**. This progression scaffolds adoption—from theory-informed course redesign to institution-scale decision-making.

Across the chapters, contributors consistently “show their working,” making visible the **design decisions** behind effective TEL. For example, the TPACK-oriented chapter equips teacher educators with context-sensitive strategies for aligning pedagogy, content, and technology—precisely the kind of bridging work that enables sustainable change in initial teacher education and professional learning.

The assessment section is notably practical. One chapter demonstrates an **AI-integrated multimodal framework** that measurably improves ESL academic writing through design-and-development research; another offers concrete guidance for crafting **authentic assessments** with AI, while remaining vigilant about validity, clarity, and relevance—issues every programme leader will recognise.

The volume also tackles **context and equity** with welcome nuance. A state-of-the-art review links **self-regulated learning** with **generative AI**, offering actionable ideas for prompt literacy and teacher mediation; companion chapters interrogate **hybrid educator identities** and the **responsible, equitable use of AI**, surfacing tensions between policy and practice and centring student and teacher agency.

Finally, the global case studies ground the book’s claims in **diverse institutional realities**: technology-mediated differentiation in Vietnamese CALL classrooms; the logistics and pedagogy of **HyFlex** delivery in Australia; and an ambitious **Virtual Production** facility in New Zealand that balances creative freedom with institutional and industry pressures. Leaders weighing investment decisions will find these candid accounts invaluable.

The conclusion returns to strategy, integrating advances in **AI, VR/AR, learning analytics, and micro-credentialing** while reaffirming ethics and equity as non-negotiables—an orientation I fully endorse.

In short, this is a **rigorously curated, practice-ready** contribution. It will serve instructors seeking concrete design patterns, programme leaders shaping assessment and quality assurance, and policy makers aligning TEL with institutional mission and public value. I endorse the volume without reservation.

With warm congratulations,

Professor Jonathan Newton, *Associate Professor,
School of Linguistics and Applied Language Studies,
Victoria University of Wellington, New Zealand*

Date: 8 September 2025



Taylor & Francis

Taylor & Francis Group

<http://taylorandfrancis.com>

PEDAGOGICAL INNOVATION THROUGH TECHNOLOGY- ENHANCED LEARNING DESIGN

Global Case Studies and
Implications for Practice

*Edited by Ida Fatimawati Adi Badiozaman
and Augustus Raymond Segar*

Designed cover image: © Getty Images

First published 2026

by Routledge

605 Third Avenue, New York, NY 10158

and by Routledge

4 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN

Routledge is an imprint of the Taylor & Francis Group, an informa business

© 2026 selection and editorial matter, Ida Fatimawati Adi Badiozaman and Augustus Raymond Segar; individual chapters, the contributors

The right of Ida Fatimawati Adi Badiozaman and Augustus Raymond Segar to be identified as the authors of the editorial material, and of the authors for their individual chapters, has been asserted in accordance with sections 77 and 78 of the Copyright, Designs and Patents Act 1988.

All rights reserved. No part of this book may be reprinted or reproduced or utilised in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

For Product Safety Concerns and Information please contact our EU representative GPSR@taylorandfrancis.com. Taylor & Francis Verlag GmbH, Kaufingerstraße 24, 80331 München, Germany.

Trademark notice: Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

ISBN: 978-1-041-12576-1 (hbk)

ISBN: 978-1-041-12578-5 (pbk)

ISBN: 978-1-003-66547-2 (ebk)

DOI: 10.4324/9781003665472

Typeset in Galliard

by codeMantra

This book is lovingly dedicated to my
Dr. Augustus Raymond Segar (1982–2025)
a beautiful soul with a beautiful mind.

Your visionary ideas, boundless curiosity, and generous spirit touched everyone who had the privilege to know you. Our endless conversations—always alive with imagination and purpose—sparked projects that made lasting impact and inspired countless others to see learning differently.

*Gus saw technology not merely as a tool, but
as a bridge —*

*connecting people, ideas, and possibilities
across boundaries.*

*His capacity to imagine beyond convention and to
nurture collaboration*

*reminded us that true progress is born from both
intellect and empathy.*

*Sib, your presence continues to guide this work, and
your absence is deeply felt.*

*You are profoundly missed.
This book carries pieces of your light in every page.
Your presence remains in every idea we
once shaped together.
You are — and will always be — my
greatest inspiration.
“Those who inspire with ideas never truly leave us; their
light continues to shape the paths we walk”.
— Ida Fatimawati Adi Badiozaman*



CONTENTS

<i>List of Contributors</i>	<i>xv</i>
<i>Preface</i>	<i>xxi</i>
<i>Acknowledgements</i>	<i>xxiii</i>

1 Reimagining Education in the Digital Age <i>Ida Fatimawati Adi Badiozaman</i> <i>and Augustus Raymond Segar</i>	1
---	---

THEME I

Pedagogical Innovations **21**

2 Pedagogical Innovations in Technology-Enhanced Learning: Bridging Theory, Practice, and Transformation <i>Fareeha Javed</i>	23
3 Transformative Pedagogy: Blending Active Learning, Technology, and Collaborative Practices <i>A. G. Sudha, S. Thilaga and J. Deepa</i>	45
4 Synergising Pedagogy, Content and Technology: A TPACK Approach to 21st-Century Learning <i>Bilal Anwar</i>	66

THEME II	
Innovative Assessment Practices	87
5 Integrating Artificial Intelligence into a Multimodal Learning Framework: Enhancing ESL Academic Writing <i>Nurin Erdiani Mhd Fadzil and Harwati Hashim</i>	89
6 Practices and Challenges in Designing Authentic Assessments Using Artificial Intelligence: Insights from a University Course <i>Kee-Man Chuah and Looi-Chin Ch'ng</i>	109
THEME III	
Contextual Challenges and Inclusive Practices	129
7 Bridging Self-Regulated Learning and Generative AI: A Literature Review <i>Anh Nguyen Nhu Le, Nhi Tran Yen Nguyen and Tram Duong Thi Bich</i>	131
8 Becoming the Hybrid Educator: Identity Formation in a Digitally Mediated Professional Education Landscape <i>Carla Sih Prabandari and Ida Fatimawati Adi Badiozaman</i>	151
9 Responsible and Equitable Use of AI in Educational Settings <i>Scott J. Wong</i>	170
THEME IV	
Global Case Studies	189
10 Technology-Mediated Instructional Differentiation in CALL: A Multiple Case Study <i>Tho Doan Vo, Luan Thanh Nguyen, Thang Ho Minh and Mau Vu Nguyen</i>	191

11	Adopting HyFlex Learning in Australian Higher Education: A Reflective Account from Accounting Education <i>Dimuthu Ekanayake</i>	213
12	Reimagining Virtual Production in Higher Education: Balancing Technology-Enhanced Learning with Pedagogical Freedom and Institutional Challenges <i>Dafydd Sills-Jones and Gregory Bennett</i>	232
	Conclusion	251
13	Charting the Future of Education: Technology, Ethics, and Equity <i>Augustus Raymond Segar and Ida Fatimawati Adi Badiozaman</i>	253
	<i>Index</i>	269



Taylor & Francis

Taylor & Francis Group

<http://taylorandfrancis.com>

CONTRIBUTORS

Bilal Anwar is a higher education academic and well-being lead and senior lecturer in ESOL at East Sussex College, University of Brighton, UK. He has a PhD in ESOL and a diverse background in teaching, safeguarding, academic well-being support. His research and professional interests include digital pedagogy, compassionate teaching, safeguarding in HE, and the integration of technology in education. Anwar has delivered workshops and keynote talks internationally, published on ESOL and teacher education, and leads well-being and academic support initiatives across campuses. His work bridges academic excellence with inclusive practice, innovation, and student-centred learning.

Ida Fatimawati Adi Badiozaman serves as Deputy Pro Vice-Chancellor (Research) at the Swinburne University of Technology Sarawak. With over 18 years of leadership in higher education, her career spans major research initiatives, international partnerships, and policy-shaping work at the intersection of education, technology, and community well-being. Expertise includes technology-enhanced learning, digital futures, and inclusive research ecosystems, supported by extensive publications in leading journals and books on online learning and women's leadership. Recognised for advancing equity, innovation, and transformative practices, her contributions continue to empower educators, students, and communities across Sarawak, ASEAN, and the wider global academic and policy landscape.

Gregory Bennett is a senior lecturer in the Animation, Visual Effects and Game Design Major and a practicing digital artist who works with 3D

animation, motion capture, projection mapping, interactive media, and virtual reality. He has a Master's degree from the Elam School of Fine Arts, University of Auckland, and has a background in both fine arts practices, moving image production and post-production. His work has been exhibited both nationally and internationally and is represented in both public and private collections in New Zealand and overseas. He has been teaching in the Digital Design Department since 2011 where he has developed the first courses in motion capture

Looi-Chin Ch'ng is a senior lecturer at the Academy of Language Studies, Universiti Teknologi Mara Sarawak Campus. She holds a Master's degree in Applied Linguistics and a bachelor's degree in Teaching of English as a Second Language (TESL). Her research interest is in the area of innovative pedagogies in English language teaching and language assessment.

Kee-Man Chuah is a senior lecturer at the Faculty of Education, Language and Communication, with expertise in the fields of educational technology, computational linguistics, learning sciences, and instructional design. He has won numerous awards at national and international levels for his innovative approaches to teaching and learning, as well as assistive technology.

Dafydd Sills-Jones is an Associate Head of School (International and External) and Head of the AVG (Animation, Visual Effects and Game Design) Department, AUT's Te Kura Toi a Hoahoa, The School of Art and Design. He is the Director of the AUT Virtual Creative Design Research Centre and is co-editor of the book series *Documentary Film Cultures* and the *International Journal of Creative Media Research*. He is a member of the editorial board of *Journal Media History* and the *Journal of Media Practice and Education*. He is a media maker and scholar with a background in documentary and digital media production.

J. Deepa, a seasoned Assistant Professor at the Coimbatore Institute of Technology, has 12 years of experience teaching undergraduate Business Administration and one year of experience teaching master's programme. She is a specialist in the fields of human resources and marketing. Her areas of interest are entrepreneurs and HR analytics. She handles subjects such as HRM, Marketing Management, Quantitative Techniques for Management, and Data Mining for Business Intelligence. She has co-authored a book on Marketing Management. She has participated in continued learning through conferences and professional research. She has published papers and presented papers and case studies in Malaysia, Turkey, IIMs, and many other institutions. Previously, she worked with PSGR Krishnammal College

for Women and actively works to groom budding entrepreneurial talents among students.

Dimuthu Ekanayake is an experienced accounting educator and emerging researcher with academic leadership experience at Torrens University Australia, Melbourne Institute of Technology, and Victoria University. Her research focuses on the scholarship of teaching and learning, particularly accounting education, digital pedagogies, and student-centred course design. She has presented at international conferences and published in peer-reviewed journals. Ekanayake is recognised for her curriculum expertise in Financial Accounting and Management Accounting and her inclusive teaching practices across face-to-face, hybrid, and HyFlex environments. She has made significant contributions to accounting course development initiatives in preparing institutions for TEQSA registration and CPA/CAANZ/IPA accreditations.

Nurin Erdiani Mhd Fadzil is an English language educator from Universiti Putra Malaysia with over a decade of experience in ESL teaching, curriculum innovation, and educational research. She is a recipient of the prestigious Emerging Scholar Award from the Common Ground Research Network, USA, and has garnered multiple accolades, including Gold Awards for her innovation in language teaching, integrating technology into ESL classrooms.

Harwati Hashim is an Associate Professor and Deputy Dean of Research and Innovation at the Faculty of Education, Universiti Kebangsaan Malaysia (UKM). She specialises in Innovative Pedagogy for ESL teaching, with a focus on Mobile-Assisted Language Learning (MALL) and language learning strategies. Recognised for integrating technology into English language instruction, she has published widely in her field and actively contributes to advancing language education.

Fareeha Javed is an Associate Professor of English with 28 years of experience in higher education. She earned her PhD from Massey University, New Zealand, where she also completed a Postgraduate Diploma in Teaching and Learning. Her academic background further includes Master's degrees in English Literature and Educational Planning and Management. Javed's research interests lie in language education, digital pedagogy, curriculum design, learner motivation, and educational policy. Javed remains committed to inclusive and transformative education and considers herself a lifelong learner. She values collaboration and is continually inspired by her students, colleagues, and the evolving landscape of education.

Thang Ho Minh is an English lecturer at UEH (University of Economics Ho Chi Minh City). Currently, he obtained his PhD degree from the Suranaree University of Technology, Thailand. His major research interest is TELL, including CALL, MALL, digital learning environments, augmented reality learning materials, task-based/ project-based teaching, and learners' autonomy.

Anh Nguyen Nhu Le is a PhD candidate at the University of South Australia. His research explores how AI-powered ePortfolios can support EFL students' writing development and self-regulated learning. With 14 years of experience as a lecturer at Ho Chi Minh City University of Education, he has also served as a teacher trainer in national language education programmes. His interests span eLearning, applied linguistics, and technology-enhanced language teaching. He has contributed to English textbook development in Vietnam, notably as chief author of the Explore English series for secondary schools and co-author of primary and high school materials published by HCMUE.

Luan Thanh Nguyen is a lecturer at the University of Economics, Ho Chi Minh City, Vietnam. He holds a PhD in Education from the University of Newcastle, Australia. His research interests include initial teacher education and development of educators, educational technology, and TESOL/EAL.

Mau Vu Nguyen is currently working as a senior lecturer at the People's Police University, Vietnam and a PhD student in TESOL at Ho Chi Minh City Open University. He holds an MA in English Linguistics from the University of Foreign Language Studies, Da Nang University, Vietnam. His research interests consist of English language education, CALL, and digital transformation.

Nhi Tran Yen Nguyen is currently an English teacher in the Singapore International School of Bangkok. Her expertise encompasses TESOL, task-based language teaching, and the application of AI in education. She has extensive experience working with learners of diverse backgrounds and is passionate about creating engaging, student-centred classrooms. Nhi has designed and delivered lessons that integrate innovative methods to foster motivation, communication, and critical thinking. Her recent work examines the use of AI-driven tools to enhance both teaching practices and student learning outcomes. Passionate about bridging language education with emerging technologies, she continues to pursue research that empowers educators' adaptations to the digital age.

Carla Sih Prabandari earned her doctoral degree from the Swinburne University of Technology, Sarawak, in 2023 and her Master's degree in English Language Studies from Sanata Dharma University in 2008. Since 1999, she has served as a faculty member in the English Language Education Study Program at Universitas Sanata Dharma, Yogyakarta, Indonesia. Her research focuses on the development of EFL (English as a Foreign Language) teacher identity, teacher-researcher dynamics, and reflective practices in English language teaching, with broader interests in language, linguistics, and culture.

Augustus Raymond Segar is a professional technologist and multimedia design lecturer in the School of Design and Arts, Swinburne University of Technology Sarawak. His career bridges academia and industry, with collaborations involving global brands and government agencies such as Nokia, Microsoft, MDEC, and the Sarawak Multimedia Authority. Expertise spans immersive technologies—Augmented, Virtual, Mixed, and eXtended Reality (AR/VR/MR/XR)—applied to education, culture, and community engagement. As Chair of the Non-Traditional Research Output Committee and leader of the Creative Media for Social Change Research Cluster, his work explores digital storytelling, heritage preservation, and the innovative use of interactive media for societal impact.

A. G. Sudha is an accomplished academician and researcher currently serving as an Associate Professor in the Department of Management Studies, Coimbatore Institute of Technology. She has 20 years of teaching experience. With a strong academic background and extensive experience, she has made significant contributions to the field of management studies. She holds a BE in Electrical and Electronics Engineering with an MBA degree, and a PhD in Management. She has presented several research papers in national and international conferences. She has published various research papers in *Scopus* and *Web of Science Indexed Journals*.

S. Thilaga is currently working as an Assistant Professor at the Coimbatore Institute of Technology, Coimbatore. She has more than 15+ years of experience in teaching and has undertaken various training and consultancy projects for organisations. She has over three years of industrial experience in the field of marketing. She completed her doctoral degree in Marketing. Her interests are in the areas of marketing, finance, logistics and entrepreneurship. In addition, she has published scholarly articles in both national and international journals. She has been certified by the University of Virginia for the completion of their course on Marketing Analytics. She has

completed TA 101 course conducted by the International Transactional Analysis Association.

Tram Duong Thi Bich is a master's student in Applied Linguistics and TESOL at Lancaster University, where she is developing expertise in language learning, teaching methodologies, and the role of English in global contexts. Her academic interests include second language acquisition, learner autonomy, and the integration of innovative technologies into language education. She is passionate about bridging theory and practice to support diverse learners and enhance teaching effectiveness. With a strong commitment to intercultural communication and lifelong learning, she aims to contribute to research and practice in applied linguistics while pursuing a career in English language teaching and education.

Tho Doan Vo is an English lecturer at the University of Economics, Ho Chi Minh City, Vietnam. He obtained his PhD in Education from the Victoria University of Wellington, New Zealand, where he worked on the teachers' and students' use of digital technologies in the English-medium context of Vietnamese higher education. His research interests are in the areas of technology in language education and English-medium education.

Scott J. Wong serves as a Program Director and Developer at Persatuan Kebajikan Rolf Schnyder, a Swiss-founded philanthropic organisation based in Malaysia. His work focuses on advancing digital literacy, artificial intelligence education, and children's empowerment through scalable, community-driven initiatives. In collaboration with his wife, he leads the foundation as Code.org's International Partner in Malaysia, supporting the integration of structured computer science and AI curricula across diverse educational contexts. With more than 23 years of experience in creative communications, Scott holds a G2M certification from Stanford Graduate School of Business and a Chartered Postgraduate qualification from the Chartered Institute of Marketing, reflecting his interdisciplinary expertise.

BECOMING THE HYBRID EDUCATOR

Identity Formation in a Digitally Mediated Professional Education Landscape

*Carla Sih Prabandari and
Ida Fatimawati Adi Badiozaman*

Introduction

The COVID-19 pandemic has been a catalyst for educational transformation globally (Bozkurt et al., 2022; Tadesse & Muluye, 2020), including in Indonesia (Rukmini et al., 2023), particularly the Teacher Professional Education (TPE) programme. In Indonesia, the in-service TPE was implemented online in response to emergencies. This chapter presents the narratives of English teachers in Indonesia who were navigating the process of professional identity construction in the digital education landscape. Through teachers' narratives in an embedded case study, this chapter explores how the participating teachers navigated identity changes and developed digital pedagogical agency while navigating the dynamics of inequality and contextual constraints.

The story began as the participants embarked on a fully online professional education to become certified English as a Foreign Language (EFL) teachers. These participants had already taught English for over ten years when the government selected them to attend the TPE. Their story is interesting to explore because they faced an identity challenge as EFL teachers in Indonesia (Prabandari et al., 2024). As we know, English is a foreign language in Indonesia. Before becoming English teachers, the participants had been EFL learners for at least nine years since they were in primary school. However, throughout the years, they had limited exposure to English; therefore, their English did not develop optimally (Renandya et al., 2018). They began to use English intensively when they embarked on their undergraduate study of English Education. Their English proficiency level

also varied considerably because they came from different institutions with different qualities (Lie et al., 2022). This affirms their identities as hybrid individuals, in which they embodied dual roles simultaneously as both language learners and language teachers (Hinman et al., 2021). Furthermore, the recruitment process to become English teachers in most schools did not require the candidates to pass a certain level of proficiency tests that aligned with international standards, such as the CEFR, IELTS, or TOEFL.

In addition, their identities were challenged when they were appointed to participate in the online TPE programme while continuing to teach at their respective schools during the pandemic. During this time, they embodied a different form of hybridity as they played simultaneous roles of active teachers at their respective schools and students of the online TPE programme at Sandalwood University (a pseudonym) (Prabandari, 2023). Navigating between academic expectations as TPE students and responsibilities as serving teachers triggered identity tensions within them as hybrid individuals.

This chapter will address the transformative journey of Indonesian English teachers as they reconstructed their professional identity within the digital context of professional learning. It will explore how these teachers responded to the challenges and demands of the programme. It highlights how the teachers' liminal experience (Aharonian, 2021) of the TPE programme led to constructing their professional identities, which ultimately fostered the emergence of a digital pedagogical agency.

National TEL Policy for Teacher Professional Development

The Indonesian Government implemented the fully online TPE programme to respond to the COVID-19 pandemic (Syafitri et al., 2024). The programme was part of technology-enhanced learning (TEL) national agenda. The fully online format of the TPE programme leveraged digital platforms to provide professional development to practising teachers. This approach was adopted not only because it made certification more accessible, especially for those in remote areas, but also because it aimed to ensure teachers' proficiency in using the digital tools and platforms, which was central to modern education (Rushton et al., 2023). By participating in a fully online curriculum, these teachers were not only learning pedagogical theories. Still, they were actively experiencing and mastering the technology they were expected to use with their students. This practical, hands-on experience, according to Wijaya et al. (2023), was expected to transform them into digitally-literate educators. This top-down policy expected them to align their professional skills with the demands of a rapidly evolving, technology-driven world.

Hybrid Identity: The Liminal State of Teachers In the TPE Programme

As the teachers embarked on a fully online TPE programme, they found themselves in a liminal state (Eng, 2020), a transitional space on their way to becoming certified professional teachers while undergoing the TPE programme. They embodied a hybrid identity as teachers and TPE students, balancing their dual responsibilities through online learning. In the mornings and afternoons, they engaged in synchronous TPE classes, facilitating direct interaction with the university lecturer and their peers. At the same time, the intervening periods were allocated for the asynchronous instruction of their students.

The hybridity of being both a teacher and a student created a unique burden. This placed high demands on their time and energy. The emotional labour was required to navigate these two demanding roles simultaneously. They had to manage the needs of their TPE studies and teaching loads alongside their domestic lives. This experience underscored professional development's complex and demanding nature during the pandemic (Yuan & Liu, 2021). It suggests that professional teacher certification is not merely an academic endeavour (Limbong & Lumbantoruan, 2022) but a personal journey requiring individuals to navigate multiple hybrid roles successfully.

Teacher Identity Transformation in Digital Context

Constructing a teacher's professional identity is a dynamic process that does not conform to a fixed or predetermined pattern (Santoro, 2009). The TEL-driven TPE programme accelerated a profound shift in teacher identity. This transformation went beyond simply adopting new skills, as teachers were compelled to redefine their roles by integrating digital literacy and pedagogical creativity into their practice (Gao & Cui, 2022a). Teachers' roles have evolved from those of traditional knowledge providers. This necessitated a shift towards integrating technology into their pedagogical practices (Garzón-Artacho et al., 2021). This transformation, consequently, required teachers to cultivate new competencies, such as digital literacy and pedagogical creativity, while concurrently upholding their professional integrity and empathy. Their professional identity evolved as they engaged in a dynamic educational landscape, requiring them to learn and reflect on their practice continuously.

As teachers during the COVID-19 pandemic, they were forced to use technology to continue the learning process with their students. For most Indonesians, the only technology they could utilise was YouTube and WhatsApp (Lie et al., 2020). Even then, sending assignments was limited

to text, photos, or voice notes because not all students' phones could open PDF files, let alone use Zoom or Google Meet, which require a larger internet data plan (Tutyandari & Purnamaningwulan, 2023).

On the other hand, as students in the TPE programme, they were required to learn online through more sophisticated platforms, such as Moodle-based LMS, and synchronous meetings with Zoom or Google Meet. They also had to learn how to use software to create video lessons, edit videos, and upload them to YouTube.

Here, the transformation of teacher identity took place. Their roles became more dynamic as they were required to be continuously adaptive. They must also be adept at integrating technology (Muntu et al., 2023), developing new skills like video editing and online platform management, and navigating the complexities of digital education. Yet, they had to bridge the gap between their own advanced training (using sophisticated platforms) and the technological limitations faced by their students (basic file sharing) (Budiraharjo et al., 2022). This challenge is a core part of their evolving professional identity.

Contextual Responsiveness and the Issue of Equality

The design of the TPE programme was, in essence, a response to the need to sustain professional development for in-service teachers during the pandemic (Prabandari, 2023; Rukmini et al., 2023), enabling them to undertake online learning while continuing their teaching duties. The teachers were based in diverse locations across the province with varying geographical contexts. This geographical context, in which teachers lived and worked, significantly influenced their ability to engage with the TEL-based TPE programme (Gurung, 2021). Those residing in urban areas generally had reliable internet access, whereas those in mountainous regions experienced significantly limited connectivity and inconsistent infrastructure.

Different geographical contexts combined created unequal opportunities, which made it more challenging for some teachers to participate fully in the TPE programme (Lie et al., 2020). Teachers received training and gained experience in using more advanced technology from the programme. However, the social economy factors of their students exacerbated the equality issue (Rahman, 2021). Teachers could not immediately apply new pedagogical approaches in their classrooms as their students, predominantly from lower-middle-class families, lacked adequate devices to support their learning. Not all students' parents could afford to provide Android phones and internet data.

Emerging Digital Pedagogical Agency

The TEL-based TPE programme exposed teachers to new technological tools and allowed them to reconceptualise their professional roles (Brevik et al., 2019). Initially, these teachers perceived themselves primarily as end-users of digital platforms and recipients of pedagogical knowledge. However, as they engaged in the programme, their orientation shifted toward more agentic participation in knowledge creation.

Learning from the lecturers as role models and intense interactions with them during the TPE programme fostered their pedagogical agency (Nasari & Molana, 2020). Within the TEL-based programme, these teachers witnessed how the lecturers demonstrated a balance of empathy and motivational support. This inspired them to reimagine their roles and exercise their digital pedagogical agency. These changes were both technical and more profound, as teachers who were once consumers of technology and knowledge began to play the role of active producers of technology-mediated knowledge.

In earlier sections, the discussion on hybridity and liminality highlighted how teachers navigated their dual positionality as learners in a university-led programme and practitioners in their classrooms. As dwellers of the liminal space, they felt that the boundaries between their status as students and teachers became blurred (Yung, 2022). They developed confidence and practical skills to take ownership of their digital teaching practices. The liminal space forced them to continually negotiate between university expectations, technological demands, and the realities of their teaching contexts. This active negotiation process fostered their identity transformation, emerging as digitally and pedagogically agentic teachers (Damşa et al., 2021). It reflected their deeper awareness of their professional identity as hybrid educators. In this sense, the identity transformation toward a hybrid educator cannot be separated from the development of their digital pedagogical agency, evidenced by their reflective and context-aware decision-making.

Teacher Narratives: A Case Study of Identity Transformation

The discussion above has highlighted the emergence of hybridity and digital pedagogical agency within the liminal experience during the TPE programme. The nuances of identity reconstruction can be captured from the teachers' narratives (Gholami et al., 2021), which provide concrete illustrations of how each participant negotiated the government's and institutions' demands and their personal aspirations (Hinman et al., 2021). As we shall see from their stories, teacher identities were reshaped in different yet

interconnected ways. Here are the stories about the transformational journey of Dahlia, Salim, and Rina (pseudonyms).

Dahlia: From Feeling Trapped to Becoming Reflective and Innovative

Living in a small town in Central Java, Dahlia embarked on the online TPE programme with a sense of confusion and pressure. She was trapped in two demanding roles: as a full-time English teacher at a vocational high school and as a TPE participant who had to attend online lessons and complete TPE assignments. Dahlia's hybridity created tensions within herself that caused her exhaustion. On one side, as a permanent teacher with more than ten years of experience, Dahlia could feel a strong sense of professional authority. On the other side, being positioned as a student again, she felt obliged to comply with the strict TPE regulations. She had to attend the synchronous online meetings and submit the assignments on time, while she was still playing the role of an active English teacher. Her struggle was intensified by her unfamiliarity with the Moodle-based LMS and video conferencing tools, which appeared intimidating to her.

Dahlia's perspective gradually changed as she dived deeper into the liminal space of TPE. She interacted with the lecturers and peers who understood her situation well. The empathy and support that Dahlia received built her sense of belonging to the new community. She realised that through the tasks, reflective journals, video conferences, and discussion forums, she could exercise her reflective and critical thinking skills (Graus et al., 2022). All these enabled Dahlia to critically evaluate her perspectives on education and the value of integrating digital tools into her teaching. Also, as a rippling effect, Dahlia acknowledged that she developed more empathic relationships with her students. She started to text her students asking about their condition or feelings, instead of reminding them about the due date or late assignment submission.

By the end of the programme, Dahlia realised that she had transformed her professional identity to become more reflective and innovative (Schön, 2017). She no longer felt powerless to be trapped by the demands of the system. Instead, she began to embrace the reflective and innovative educator role. Dahlia bravely experimented with technology to design teaching materials and student assessments, and succeeded in engaging her students in learning. For Dahlia, the online TPE programme became a transformative arena that facilitated her in redefining her identity as a teacher capable of developing creativity and lifelong learning.

Salim: From Isolation to Empathy and Collaboration

Salim was an English teacher at an Islamic-based school. He had once been vice principal for student affairs, one of whose responsibilities was

disciplining students. For Salim, the most significant challenge in the online TPE programme was not technical; it was emotional issues. Initially, Salim felt isolated and lonely in the virtual environment (Rand & Snyder, 2021). Unlike in face-to-face training, where participants and mentors could interact personally, the online TPE interactions initially seemed rigid and impersonal for Salim. The audio-only communication made it hard to recognise speakers, creating a rigid and impersonal atmosphere that reduced the programme to an administrative exercise.

Salim said his turning point happened when he joined an informal chat group outside the official platform. Salim acknowledged that the informal WhatsApp chats and study group allowed him to share his stories and frustrations more freely than on official platforms. For Salim, the informal conversations helped him feel less isolated (Poole, 2022) because he received moral support from his fellow students, learning that they, too, faced challenges. Salim became aware of the value of communication and collaboration in the digital space. He could even feel the warmth of the informal interactions with his peers. In turn, Salim could imagine how his students felt while studying from home, so he learned to be more empathetic. More importantly, he realised that technology could be used to build meaningful relationships and a collaborative learning community. Eventually, Salim could see himself transformed from an individualistic teacher into an empathic and collaborative one. It was evident that Salim's emotional experience contributed to his identity transformation within the digital learning environment.

Rina: Building Resilience and Confidence Amid Multiple Roles

Rina was a non-permanent English teacher at a public school in a small town in Central Java province. She was also a single parent with two adolescent children. Joining the TPE programme complicated her roles. Rina described her liminal state during the TPE period as struggling to balance multiple responsibilities (Yung, 2022). At the beginning of the programme, Rina recalled that she felt overwhelmed with the triple roles as a TPE student, a school teacher, and, at the same time, a caregiver at home. She doubted herself about whether she would succeed in all three primary responsibilities. Strict TPE deadlines, heavy teaching loads, and family duties put enormous pressure on her well-being, making her doubt whether she could continue. This placed high pressure on her well-being, which made her doubt whether she should continue her TPE journey.

Support from her TPE fellows kept her going. Gradually, Rina developed coping strategies, not only to survive but to pass the TPE successfully. In her story, Rina shared how she learned to manage her time and set priorities to allocate time for her TPE study and teach her classes without neglecting

her family. Her children showed understanding and encouraged Rina to persevere. With all the support, she grew in confidence and became more organised. Rina admitted her struggle operating digital tools and using new software applications (Hennessy et al., 2022) on her modest device. Yet, she was proud that she could still use it to experiment with new teaching techniques. She also admitted that she sought assistance from his son when she had to edit videos.

Rina's story illustrated the critical role of resilience in shaping her professional identity. She transformed herself from a person who felt inferior due to her limited knowledge and social background into a confident and resilient teacher (Xue, 2022). She felt great pride in her ability to handle multiple complex tasks and thrive under pressure. She credited this success to the TPE community, which supported her like a second family and helped

TABLE 8.1 Summary of Teachers' Stories in Online TPE Programme

<i>Teacher</i>	<i>Initial Challenges</i>	<i>Strategies/Responses</i>	<i>Identity Transformation</i>
Dahlia	– Pressured by dual roles (teacher and TPE student) – Struggled to adapt to digital platforms – Felt “trapped” by TPE bureaucracy	– Sought support from lecturers and peers – Engaged in self-reflection on teaching practice – Learned to use educational technology	– From alienated teacher reflective and innovative teacher – Began using technology to prepare materials, conduct assessments, and design learning activities
Salim	– Felt isolated and lonely in virtual interactions – Perceived TPE as rigid and administrative	– Built an online learning community (WhatsApp, informal discussions) – Gained moral support and practical ideas from peers – Used technology to strengthen relationships with students	– From rigid teacher empathetic, collaborative, and inclusive teacher – Applied technology not just for instruction but for relational purposes
Rina	– Overwhelmed by multiple roles (teacher, TPE student, mother) – Struggled with low self-confidence – Pressured by time management and multitasking	– Practised priority setting and disciplined time management – Relied on family and peer support – Learned to integrate technology into teaching	– From insecure teacher resilient and confident teacher – Able to balance multiple roles and grow more professionally independent

her develop her strengths. This transformative journey changed Rina into a resilient and self-assured professional.

Table 8.1 summarises the stories of Dahlia, Salim, and Rina, whose journeys reveal how complex it is for a teacher to build their professional identity (Šubrt et al., 2020) in Indonesia's online TPE programme.

Although they embarked on a shared journey to become certified teachers, each encountered distinct personal challenges. Their engagement in the community of practice (Wenger et al., 2002) allowed them to adopt reflective practices and grow as lifelong learners. The stories of Dahlia, Salim, and Rina provide a powerful, real-world look at how theory meets practice.

Pedagogical Implications for Teacher Training and Teacher Professional Development

Integrating digital technologies and artificial intelligence (AI) into education has transformed how teachers conceptualise their professional roles. Beyond learning digital tools, educators must navigate identity shifts, reconcile tensions between continuity and change (Gao et al., 2022b), and build new pedagogical repertoires. These issues are not just technical, but are deeply connected to professional development and teacher training. As the chapter on identity persuasively shows, a teacher's identity constantly changes, shaped by their interactions with institutional expectations, new technology, and personal commitments. Building on earlier analysis, this chapter explores the pedagogical implications of identity for teacher training and professional development. It offers strategies for preparing educators to succeed in hybrid, technology-enhanced environments.

Reconciling Teacher Identity with Technology Integration

The case studies have shown that identity is never fixed but reconstructed across time, space, and practice. This resonates strongly with recent findings that AI-enhanced teacher training often produces tensions between humanistic teaching values and technological imperatives (Lan, 2024). Such tensions, however, need not be seen as obstacles. As the identity framework and Derakhshan et al.'s (2024) practice-level study suggest, tensions can be reframed as productive identity negotiations, motivating teachers to explore new roles as facilitators, mentors, and knowledge navigators in digital contexts. Professional development that makes these identity tensions explicit—through reflective journaling, mentoring, and collaborative inquiry—empowers teachers to embrace rather than resist technological change.

Preparedness and Professional Development Needs

The case studies also highlight how teacher identity is shaped by context and resources. This aligns with evidence that many educators report insufficient preparedness for technology integration, often due to gaps in formal training and uneven access to digital literacy support (Abedi, 2024b; Mpuangnan, 2024). Pre-service teachers, in particular, tie their professional identity to their confidence in digital competence (Guan et al., 2025). Teachers may internalise technology as alien to their professional selves without adequate preparation, reinforcing resistance. Pedagogically, this calls for training programmes that embed digital literacy and AI competence as core elements of professional identity formation, not optional add-ons (Zhang et al., 2023). Institutions can more sustainably address preparedness gaps by positioning these skills as integral to a teacher's professional identity rather than merely as technical tasks.

Contradictions and Challenges in Technology-Supported Training

Constructing a teacher's identity is a process of relationship and practice, which is shaped by their conversations with students, colleagues, and the institution itself. However, structured online teacher training programmes often overlook these crucial relational elements. As Eshtehardi et al. (2025) show, contradictions arise when digital training tools provide efficiency but fail to connect with the embodied, practice-rich realities of teaching. Teachers might acquire technical know-how but often remain uncertain about integrating that knowledge into their teaching. The identity perspective in this chapter helps explain why these contradictions persist: when training divorces skills from a teacher's professional identity, their adoption remains shallow.

Simply put, giving teachers a new tool without helping them see how it fits into who they are as educators means they are unlikely to embrace it fully. This suggests that digital training needs to be more deeply anchored in authentic classroom practices. This way, new skills become a part of a teacher's professional identity.

Towards a Practice-Oriented Professional Development

Identity scholarship highlights that professional identity develops differently across practice levels—novice, intermediate, and expert. Derakhshan et al. (2024) similarly show how teacher identities are reconstructed through “identities-in-practice”, suggesting that practice-oriented professional development is essential. Programmes should not treat teachers as a

homogenous group but design scaffolds responsive to diverse career stages and disciplinary contexts. For novices, this might mean emphasising digital literacy confidence; for mid-career teachers, integrating AI tools into curriculum design; and for experienced educators, opportunities to mentor and reflect on identity transformations. In this sense, professional development becomes not just skill training but identity work across trajectories, reinforcing that identity is the hinge between policy expectations and classroom realities.

Sustaining Professional Development: Models and Strategies

Both the case studies and the broader literature converge on the importance of sustainability. As she notes, identity is continuously negotiated; so must professional development be ongoing rather than episodic. Tan et al. (2025) systematic review finds that short-term workshops rarely result in lasting change. Instead, iterative, collaborative models' continuity is required for teachers to experiment, reflect, and internalise new practices. Theodorio (2024) further argues that institutional support, such as workload adjustments and recognition of professional learning, is critical for sustaining engagement. From an identity perspective, such institutional investments signal that professional growth is valued as integral to being a teacher, not an extraneous burden.

Well-Being and Sustainability of Hybrid Educators

The emergence of the hybrid educator role has not only redefined pedagogy but also reshaped teachers' emotional and professional landscapes. While hybridity provides opportunities for innovation and flexibility, it also introduces new strain layers. Hybrid educators often juggle dual teaching modes while continuously adapting to emerging technologies. This balancing act can lead to heavier workloads, confusion about their role, and emotional exhaustion, especially when they do not have enough support or training from their institutions (Abedi, 2024b; Eshtehardi et al., 2025).

A primary concern is the role strain teachers experience as they simultaneously serve as instructional designers, digital platform facilitators, and traditional classroom educators. This combination of roles can diminish their overall well-being, particularly compounded by the expectation of being constantly available in online environments. Research has shown that this strain can lead to feelings of inadequacy and a weakened professional identity. This is especially true for educators who are less comfortable with digital technology or see it as being forced upon them (Guan et al., 2025; Zhang et al., 2023). Teachers frequently report that inadequate preparation

in basic digital competencies exacerbates stress and overload, undermining their ability to sustain hybrid practices (Abedi, 2024b).

At the same time, hybridity presents opportunities for identity resilience. Tensions arising from technological change can serve as catalysts for rethinking professional values and practices. Online training programmes often have a built-in contradiction: the technology can be helpful and stressful. This shows us why it is vital for teachers to engage in reflective practice to productively deal with these issues (Eshtehardi et al., 2025). When institutions create spaces for teachers to negotiate such tensions through mentoring, talking with peers, or structured professional development, identity becomes a resource rather than a barrier. By framing technological challenges as chances to grow, teachers can turn the stress of their job into a stronger sense of self. This helps them stay motivated and well, even when things get tough (Derakhshan et al., 2024; Lan, 2024).

Therefore, ensuring the sustainability of hybrid educators requires institutions to adopt a holistic approach. Beyond technical training, professional development should incorporate well-being strategies such as workload redistribution, flexible scheduling, and recognition of emotional labour. Embedding identity-focused reflection into professional development programmes ensures hybrid educators survive and thrive, aligning their evolving roles with a coherent sense of self. Such measures are critical to sustaining a workforce of hybrid educators who are not only technologically adept but also emotionally resilient and pedagogically grounded.

While pedagogical implications highlight the importance of equipping teachers with the skills and practices to navigate hybrid learning environments, it is equally critical to consider whether these roles are sustainable. Hybrid educators are not just implementing new teaching methods. They are professionals whose well-being, workload, and resilience will determine the long-term success of hybrid education. Addressing these human dimensions provides the foundation for developing practical recommendations for supporting and sustaining hybrid teaching.

Future Directions for Teacher Identity in AI-Driven Education

As classrooms increasingly integrate AI and adaptive learning systems, the professional identity of hybrid educators will continue to evolve in complex ways. This raises a key question: How do teachers define their core role where machines can personalise learning, track progress, and provide real-time feedback? Rather than displacing teachers, these shifts may reposition them as curators of learning ecologies. They will become professionals who combine technology, teaching methods, and human connection

to create seamless learning experiences (Lan, 2024; Tan et al., 2025). This redefinition highlights the need to foreground relational, ethical, and socio-emotional dimensions of teaching that remain uniquely human.

At the same time, tensions will likely emerge between “human” and “machine” pedagogies. AI tools prioritise efficiency, scalability, and data-driven decision-making, while educators emphasise context, nuance, and holistic learning (Abedi, 2024a; Guan et al., 2025). Consequently, hybrid educators must reconcile their professional judgement with algorithmic recommendations, which require strong digital literacies and critical reflexivity. These skills are needed to evaluate when to adopt, adapt, or resist automation (Zhang et al., 2023). This negotiation is central to sustaining teacher identity resilience in technology-rich environments.

Teacher education programmes must anticipate these shifts by embedding inquiry into AI’s ethical, cultural, and pedagogical implications. Beyond technical training, professional development programmes should prepare teachers to interrogate algorithmic biases and cultivate inclusive practices. Teachers should also learn to leverage AI as a complement, not a substitute, for their expertise (Mpuangnan, 2024; Theodorio, 2024). Longitudinal studies of teacher identity in AI-driven contexts are particularly needed to capture how these dynamics unfold over time (Derakhshan et al., 2024).

Identity can remain at the core of educational transformation by positioning hybrid educators as mediators of technological change and stewards of human-centred pedagogy. By doing this, a teacher’s identity remains at the core of the process, ensuring they actively shape, rather than passively adapt to, the future of AI-driven education.

Recommendations for Practice

Three key pedagogical implications emerge:

1 Embed Identity Work in Training

Intentional integration of reflective identity practices, such as narrative inquiry, peer dialogue, and mentoring, alongside technical skills, is crucial for teacher training (Derakhshan et al., 2024; Lan, 2024). This approach ensures that digital competence becomes a natural part of a teacher’s evolving professional identity.

2 Scaffold Preparedness across Practice Levels

Training must address varying needs across novice, mid-career, and expert teachers, enabling identity development at each stage (Guan et al., 2025; Zhang et al., 2023). This scaffolding affirms the claim that professional identity is situated and evolving.

3 *Institutionalise Continuous, Collaborative Development*

Sustainable professional development requires institutional recognition and structural support (Tan et al., 2025; Theodorio, 2024). Professional learning communities and cross-institutional networks enable teachers to negotiate identity shifts, reinforcing resilience and pedagogical innovation collectively.

Conclusions and Implications

By situating teacher identity construction within the broader context of national, top-down educational reform policy (Gao et al., 2022b), this chapter offers a distinct contribution to how teachers made meaning of their participation in the TEL TPE programme. The focus on identity formation and hybridity (teachers as learners and practitioners) offers a critical theoretical lens that complements other contributions likely focused more on pedagogy, platforms, or student outcomes. The teachers' learning strategies were very much affected by the national agenda of educational reform, but teachers responded to it with more agency. Even though the TPE programme was a top-down policy, its narratives suggested that teachers did not take it for granted. These teachers actively interpret, negotiate, and adapt it (Rubin, 2020) into their context. This illustrates that identity construction is a complex intertwining of pedagogical, reflective, and political acts simultaneously. During this process, teachers have to navigate between simply complying with the policy and being responsive to the immediate needs of their classrooms. They illustrate how TEL-based professional education can transform teacher identities in diverse settings, particularly in resource-constrained contexts, offering comparative lessons for global TEL adoption in higher education.

Second, the narratives of teachers' experiences function as transformative discourse. By foregrounding the voices of Dahlia, Salim, and Rina, this chapter shows that stories are not just descriptive accounts but powerful means of identity work. Their stories showed that in-service EFL teachers in Indonesia experienced significant transformations in their professional identities during participation in the online TPE programme. Their professional identities were continuously negotiated through their being hybrid entities. As they became both teachers and students, they strove to balance classroom practice with academic demands and engage with digital tools and platforms.

The chapter concludes with ethical reflections (Gurr et al., 2025) on technology-based professional education in resource-constrained contexts. The findings underscore that introducing technology is not value-neutral. Often, teachers are reported to struggle with digital inequities. However, rather than reinforcing inequality, ethical practices emerge when teachers, lecturers, and peers demonstrate empathy, flexibility, and solidarity. These

ethical dimensions suggest that professional education should go beyond technical skill-building (Philp-Clark & Grieshaber, 2024). Instead, it should cultivate reflective, humane, and context-sensitive educators who embody resilience and justice in their practice.

Using Indonesia's TPE programme as a case study, the chapter directly addresses how technology can be used for professional learning. This focus on Indonesia strengthens the volume's goal of offering diverse perspectives and provides valuable insights from a resource-constrained context. It highlights issues like equity, access, and digital leadership at the local level. The chapter looks at a national policy and captures the real-life experiences of teachers as they deal with digital tools, identity conflicts, and adapting their teaching. These insights have relevance beyond Indonesia.

Future Research Agenda

The emergence of the hybrid educator highlights the need for a more unified understanding of teaching methods, professional development, and teacher identity construction. These are not separate issues; they all strengthen each other. Hybridity is not merely a matter of technological adoption but a sustained negotiation of roles, values, and competencies across digital and face-to-face modalities. This chapter has highlighted how hybrid teaching redefines professional practice, requiring new forms of pedagogical agility, identity resilience, and institutional support. Moving forward, research must extend beyond short-term interventions to longitudinal studies that trace how hybrid teacher identities evolve, particularly as AI and emerging technologies become increasingly embedded in educational contexts. There is also a pressing need for inquiry into how AI-augmented professional development can personalise training, reduce workload, and strengthen teacher well-being. Future research agendas could explore how teacher professional identity shifts as they increasingly integrate AI and adaptive learning tools. It would be valuable to conduct ethnographic research in diverse, global contexts to understand how teachers navigate these tensions and their strategies to maintain their well-being and sense of purpose. It would also be insightful to explore models of "grassroots digital leadership" where teachers themselves are the drivers of technological change, rather than it being a top-down initiative. This research could help to create more equitable and sustainable professional development programmes.

References

- Abedi, E. A. (2024a). Tensions between technology integration practices of teachers and ICT in education policy expectations: Implications for change in teacher knowledge, beliefs and teaching practices. *Journal of Computers in Education*, 11(4), 1215–1234. <https://doi.org/10.1007/s40692-023-00296-6>

- Abedi, E. A. (2024b). "We [teachers] first require basic technical [skills] training": Investigating formal professional development pathways and knowledge needs of teachers for technology integration. *Education and Information Technologies*, 29(10), 11793–11814. <https://doi.org/10.1007/s10639-023-12344-w>
- Aharonian, N. (2021). Making it count: Teacher learning in liminal spaces. *Professional Development in Education*, 47(5), 763–779. <https://doi.org/10.1080/19415257.2019.1667413>
- Bozkurt, A., Karakaya, K., Turk, M., Karakaya, Ö., & Castellanos-Reyes, D. (2022). The impact of COVID-19 on education: A meta-narrative review. *TechTrends*, 66(5), 883–896. <https://doi.org/10.1007/s11528-022-00759-0>
- Brevik, L. M., Gudmundsdottir, G. B. O., Lund, A., & Strømme, T. A. (2019). Transformative agency in teacher education: Fostering professional digital competence. *Teaching and Teacher Education*, 86, 1–15. <https://doi.org/10.1016/j.tate.2019.07.005>
- Budiraharjo, M., Triprihatmini, V., & Kristiyani, C. (2022). Language education students' well-beings in online learning during the pandemic. *PAROLE: Journal of Linguistics and Education*, 12, 206–220. <https://doi.org/10.14710/parole.v12i2.206-220>
- Damşa, C., Langford, M., Uehara, D., & Scherer, R. (2021). Teachers' agency and online education in times of crisis. *Computers in Human Behavior*, 121, 106793. <https://doi.org/10.1016/j.chb.2021.106793>
- Derakhshan, A., Moradi, F., & Nazari, M. (2024). Conceptualising the role of practice level in language teacher identity construction: An identities-in-practice study. *International Journal of Applied Linguistics*, 34(2), 797–811. <https://doi.org/10.1111/ijal.12533>
- Eng, C. (2020). Teachers in liminal spaces: From solitude to solidarity. *Engaging Students: Essays in Music Pedagogy*, 8(2020). <https://doi.org/10.18061/es.v8i0.7723>
- Eshtehardi, R., Bligh, B., & Zainal, A. Z. (2025). Contradictions in the position of technology tools in the provision of an online structured teacher training programme. *Innovation in Language Learning and Teaching*, 1–21. <https://doi.org/10.1080/17501229.2025.2490795>
- Gao, Y., & Cui, Y. (2022a). Agency as power: An ecological exploration of an emerging language teacher leaders' emotional changes in an educational reform [Original Research]. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.958260>
- Gao, Y., Cui, Y., & De Costa, P. I. (2022b). 'Agree to disagree': Reconciling an English teacher's identity tensions in negotiating an educational reform through a community of practice perspective. *Language Teaching Research*, 13621688221130125. <https://doi.org/10.1177/13621688221130125>
- Garzón-Artacho, E., Sola-Martínez, T., Romero-Rodríguez, J.-M., & Gómez-García, G. (2021). Teachers' perceptions of digital competence at the lifelong learning stage. *Heliyon*, 7(7), e07513. <https://doi.org/10.1016/j.heliyon.2021.e07513>
- Gholami, K., Faraji, S., Meijer, P. C., & Tirri, K. (2021). Construction and deconstruction of student teachers' professional identity: A narrative study. *Teaching and Teacher Education*, 97, 103142. <https://doi.org/10.1016/j.tate.2020.103142>

- Graus, M., van de Broek, A., Hennissen, P., & Schils, T. (2022). Disentangling aspects of teacher identity learning from reflective blogs: The development of a category system. *Teaching and Teacher Education*, 111, 103624. <https://doi.org/10.1016/j.tate.2021.103624>
- Guan, L., Zhang, Y., & Gu, M. M. (2025). Pre-service teachers preparedness for AI-integrated education: An investigation from perceptions, capabilities, and teachers' identity changes. *Computers and Education: Artificial Intelligence*, 8, 100341. <https://doi.org/10.1016/j.caeai.2024.100341>
- Gurr, S. K., Geron, T., Forster, D. J., & Levinson, M. (2025). Philosophical reflections on teachers' ethical Dilemmas in a global pandemic. *Studies in Philosophy and Education*, 44(2), 187–207. <https://doi.org/10.1007/s11217-024-09937-4>
- Gurung, S. (2021). Challenges faced by teachers in online teaching during Covid-19 pandemic. *The Online Journal of Distance Education and e-Learning*, 9(1), 8–18.
- Hennessy, S., D'Angelo, S., McIntyre, N., Koomar, S., Kreimeia, A., Cao, L., Brugha, M., & Zubairi, A. (2022). Technology use for teacher professional development in low- and middle-income countries: A systematic review. *Computers and Education Open*, 3, 100080. <https://doi.org/10.1016/j.caeo.2022.100080>
- Hinman, T. B., He, Y., & Bagwell, D. (2021). Developing teacher educators' hybrid identities by negotiating tensions in linguistically responsive pedagogy: A collaborative self-study. *Studying Teacher Education*, 17(3), 330–349. <https://doi.org/10.1080/17425964.2021.1960814>
- Lan, Y. (2024). Through tensions to identity-based motivations: Exploring teacher professional identity in Artificial Intelligence-enhanced teacher training. *Teaching and Teacher Education*, 151, 104736. <https://doi.org/10.1016/j.tate.2024.104736>
- Lie, A., Tamah, S., & Gozali, I. (2022). The impact of a teacher professional education program on English language use. *Teaching English as a Second or Foreign Language--TESL-EJ*, 25(4). <https://doi.org/10.55593/ej.25100a6>
- Lie, A., Tamah, S. M., Gozali, I., Triwidayati, K. R., Utami, T. S. D., & Jemadi, F. (2020). Secondary school language teachers' online learning engagement during the Covid-19 pandemic in Indonesia. *Journal of Information Technology Education: Research*, 19, 803–832. <https://doi.org/10.28945/4626>
- Limbong, M., & Lumbantoruan, J. H. (2022). The effect of government teacher certification on teaching performance: Certified vs uncertified. *UTAMAX (Journal of Ultimate Research and Trends in Education)*, 4(3), 202–212. <https://doi.org/10.31849/utamax.v4i3.11353>
- Mpuangnan, K. N. (2024). Teacher preparedness and professional development needs for successful technology integration in teacher education. *Cogent Education*, 11(1), 2408837. <https://doi.org/10.1080/2331186X.2024.2408837>
- Muntu, D. F., Yuliana, O. Y., & Tarigan, Z. J. H. (2023). The influence of digital literacy on learning effectiveness through classroom management: Moderating effect of IT infrastructure. *Petra International Journal of Business Studies (Petra IJBS)*, 6(1), 42–52. <https://doi.org/10.9744/petraijbs.6.1.42-52>
- Nasari, M., & Molana, K. (2020). "If I go back, I would never tell the manager that I am stressed out": Novice TESOL Teacher Identity Development. *The Journal of Asia Tefl*, 17(4), 1488–1496. <https://doi.org/10.18823/asiatefl.2020.17.4.25.1488>

- Philp-Clark, C., & Grieshaber, S. (2024). Teacher critical reflection: What can be learned from quality research? *The Australian Educational Researcher*, 51(2), 697–717. <https://doi.org/10.1007/s13384-023-00619-7>
- Poole, A. (2022). 'The gap between the ideal and the reality': Barriers to the implementation of an English professional development programme in China. *Journal of Education for Teaching*, 48(1), 132–134. <https://doi.org/10.1080/02607476.2021.2000836>
- Prabandari, C. S. (2023). *Indonesian In-Service EFL Teacher Professional Identity Development through Teacher Professional Education: Hybrid Identities in Liminality* [Doctoral Thesis, Swinburne University of Technology]. Melbourne.
- Prabandari, C. S., Badiozaman, I. F. A., & Turner, K. (2024). Exploring an Indonesian EFL teacher's identity development: A story of hybridity in liminality. *Studies in Linguistics, Culture and FLT*, 12(3), 8–30. <https://doi.org/10.46687/ORTZ3127>
- Rahman, A. (2021). High participation, low impact: The challenge for teacher professional development in Indonesia. *International Journal of Pedagogy and Teacher Education*, 5(1), 10. <https://doi.org/10.20961/ijpte.v5i1.46636>
- Rand, P., & Snyder, C. (2021). Bridge over troubled water: A teacher education program's emergent methods for constructing an online community of practice during a global pandemic. *Journal of Higher Education Theory and Practice*, 21(11), 143–154. <https://doi.org/10.33423/jhetp.v21i11.4672>
- Renandya, W. A., Hamied, F. A., & Nurkamto, J. (2018). English language proficiency in Indonesia: Issues and prospects. *The Journal of Asia Tefl*, 15(3), 618–629. <https://doi.org/10.18823/asiatefl.2018.15.3.4.618>
- Rubin, J. C. (2020). Third spaces and tensions: Teacher experiences in an international professional development program. *Teaching and Teacher Education*, 95, 103141. <https://doi.org/10.1016/j.tate.2020.103141>
- Rukmini, E., Angelina, H., & Anggreni, V. C. (2023). Indonesia higher education's online learning during the pandemic state. *International Journal of Evaluation and Research in Education (IJERE)*, 12(4), 2286–2301. <https://doi.org/10.11591/ijere.v12i4.25103>
- Rushton, E. A. C., Rawlings Smith, E., Steadman, S., & Towers, E. (2023). Understanding teacher identity in teachers' professional lives: A systematic review of the literature. *Review of Education*, 11(2), e3417. <https://doi.org/10.1002/rev3.3417>
- Santoro, N. (2009). Teaching in culturally diverse contexts: What knowledge about 'self' and 'others' do teachers need? *Journal of Education for Teaching*, 35, 33–45. <https://doi.org/10.1080/02607470802587111>
- Schön, D. A. (2017). *The Reflective Practitioner: How Professionals Think in Action*. Taylor & Francis. <https://books.google.co.id/books?id=OT9BDgAAQBAJ>
- Šubrt, J., Kumsa, A., & Ruzzeddu, M. (2020). Identity building: A complex phenomenon. In J. Šubrt, A. Kumsa, & M. Ruzzeddu (Eds.), *Explaining Social Processes: Perspectives from Current Social Theory and Historical Sociology* (pp. 83–91). Springer International Publishing. https://doi.org/10.1007/978-3-030-52183-7_8
- Syafitri, E., Nisa, K., Anim, Sirait, S., Rahmadani, E., & Rahayu, S. (2024). Analisis Kesulitan Pelaksanaan Perkuliahan PPG Dalam Jabatan Dalam Lingkup Kemendikbud. *Journal of Education Research*, 5(1), 230–239. <https://doi.org/10.37985/jer.v5i1.829>

- Tadesse, S., & Muluye, W. (2020). The impact of COVID-19 pandemic on education system in developing countries: A review. *Open Journal of Social Sciences*, 8, 159–170. <https://doi.org/10.4236/jss.2020.810011>
- Tan, X., Cheng, G., & Ling, M. H. (2025). Artificial intelligence in teaching and teacher professional development: A systematic review. *Computers and Education: Artificial Intelligence*, 8, 100355. <https://doi.org/10.1016/j.caeai.2024.100355>
- Theodorio, A. O. (2024). Examining the support required by educators for successful technology integration in teacher professional development program. *Cogent Education*, 11(1), 2298607. <https://doi.org/10.1080/2331186X.2023.2298607>
- Tutyandari, C., & Purnamaningwulan, R. (2023). Portraying Indonesian English language teachers' readiness for teaching online classes. *Englisia: Journal of Language, Education, and Humanities*, 11(1), 75–95. <https://doi.org/10.22373/ej.v11i1.17484>
- Wenger, E., McDermott, R., & Snyder, W. M. (2002). *Cultivating Communities of Practice*. Harvard Business School Press.
- Wijaya, L. E., Mbato, C. L., Kuswandono, P., & Bram, B. (2023). EFL teacher identity construction during online learning: Challenges, adaptations, and pedagogical implications. *ELS Journal on Interdisciplinary Studies in Humanities*, 6(4), 786–792. <https://doi.org/10.34050/elsjsh.v6i4.31991>
- Xue, Y. (2022). The role of EFL teachers' self-efficacy and emotional resilience in appraisal of learners' Success [Conceptual Analysis]. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.817388>
- Yuan, K., & Liu, S. (2021). Understanding EFL instructor identity changes during online teaching in the COVID-19 pandemic: A case study in China. *RELC Journal*, 00336882211066622. <https://doi.org/10.1177/00336882211066622>
- Yung, K. W. H. (2022). Back to school as a student teacher: Exploring tensions of a novice TESOL teacher educator's professional development through self-study. In R. Yuan & I. Lee (Eds.), *Becoming and Being a TESOL Teacher Educator: Research and Practice* (pp. 49–66). Routledge.
- Zhang, S., Mingyue Gu, M., Sun, W., & Jin, T. (2023). Digital literacy competence, digital literacy practices and teacher identity among pre-service teachers. *Journal of Education for Teaching*, 50(3), 464–478. <https://doi.org/10.1080/02607476.2023.2283426>