



Teacher education is a deeply pedagogical process rooted in values, ethics, and the social purpose of schooling. Globally, it sits at the core of educational quality and fairness, as research in comparative and international education demonstrates: the training of teachers directly influences students' learning chances, social inclusion, and the democratic aims of schools. Teachers are not simply transmitters of curricula, but active professionals whose convictions, reflective skills, and ability to manage the complexities of classroom life give shape and substance to the educational experience itself.

The pedagogical dimension of teacher education frames teaching as a relational, context-aware, and ethically grounded profession rather than just a set of procedural skills. From a research perspective, this demands robust research methodologies that can critically examine the complex realities of schools and inform evidence-based policies. Equally important is the connection between theory and practice, which helps to bridge the persistent gap between universities and schools.

The contributions gathered in this volume reflect the richness and diversity of experiences showcased during the ATEE Spring Conference 2024, held at the University of Bergamo from May 29 to June 1, 2024. The volume presents 70 selected papers out of more than 300 presented by researchers representing over 40 countries.

This broad spectrum of studies highlights promising directions that can inspire renewed inquiry and concrete proposals aimed at improving contemporary educational systems.

FRANCESCO MAGNI is an Associate Professor of General and Social Pedagogy (PAED-01/A) at the Department of Human and Social Sciences, University of Bergamo, Italy. He is a member of the board and Deputy Director of CQIIA (Center for the Quality of Teaching, Didactic Innovation, and Learning). He is also a member of the ATEE - Association for Teacher Education in Europe.

NICOLE BIANQUIN is an Associate Professor of Didactics and Special Education (PAED-02/A) at the Department of Human and Social Sciences, University of the Aosta Valley, Aosta, Italy. She is a member of the ATEE - Association for Teacher Education in Europe.

ATEE Spring Conference 2024

ATEE Spring Conference 2024

Teacher education research in Europe: trends, challenges, practices and perspectives

May 29th - June 1st, 2024
S. Agostino, Bergamo



Edited by Nicole Bianquin and Francesco Magni





UNIVERSITÀ
DEGLI STUDI
DI BERGAMO | Dipartimento
di Scienze Umane
e Sociali



CQIA

Centro per la Qualità dell'Insegnamento,
dell'Innovazione Didattica e dell'Apprendimento
UNIVERSITÀ DEGLI STUDI
DI BERGAMO



BOOK OF PROCEEDINGS

ATEE Spring Conference 2024

Teacher education research in Europe:
trends, challenges, practices and perspectives

May 29th – June 1st, 2024

S. Agostino, 2 - Bergamo, Italy

Edited by Nicole Bianquin and Francesco Magni



Università degli studi di Bergamo

2025

BOOK OF PROCEEDINGS ATEE Spring Conference 2024. Teacher education research in Europe: trends, challenges, practices and perspectives / Nicole Bianquin, Francesco Magni (edited by) - Bergamo: Università degli studi di Bergamo, 2025

ISBN: **978-88-97253-27-3**

DOI: [10.62336/unibg.978-88-97253-27-3](https://doi.org/10.62336/unibg.978-88-97253-27-3)

This publication is released under the Creative Commons
[Attribution Non-Commercial No Derivatives license \(CC BY-NC-ND 4.0\)](https://creativecommons.org/licenses/by-nc-nd/4.0/)



© 2025 The Authors

<https://aisberg.unibg.it/handle/10446/309209>

An event organised by:

Dipartimento di Scienze Umane e Sociali, **University of Bergamo** // www.dsus.unibg.it

CQIIA – Centro per la Qualità dell’Insegnamento, dell’Innovazione didattica e dell’Apprendimento, **University of Bergamo** // www.cqia.unibg.it

ATEE – Association for Teacher Education in Europe // www.atee.education

In collaboration with:

Siped
Società Italiana di Pedagogia
fondata nel 1989

SIPED
Società Italiana di
Pedagogia

BAUHAUS4EU
European University Alliance

Bahuhus4EU
European University
Alliance



CIRSE
Centro italiano per la
ricerca storico
educativa

SIRD
Società Italiana di Ricerca Didattica

SIRD
Società Italiana di Ricerca
Didattica

SIPSE
SOCIETÀ ITALIANA
PER LO STUDIO DEL
PATRIMONIO
STORICO-EDUCATIVO

SIPSE
Società Italiana per lo
Studio del Patrimonio
Storico-Educativo

**COMENIUS
ASSOCIATION
COMENIUS**

Comenius Association
European Higher Education
Network of Teacher and
Social Education

sipeges
Associazione italiana di pedagogia generale e sociale

SIPeGeS
Società Italiana di
Pedagogia Generale e
Sociale

EFVET
European Forum
of Technical
and Vocational
Education and Training

EfVET
European forum of
Technical and Vocational
Education and Training

SIPeS
Società Italiana
di Pedagogia
speciale

SIPeS
Società Italiana di
Pedagogia Speciale

ETF
Working Together
Learning for All
European Training Foundation

ETF
European Training
Foundation

C.I.R.PED
Centro
Italiano di
Ricerca
Pedagogica

C.I.R.PED
Centro Italiano di
Ricerca Pedagogica

INVALSI

INVALSI
Istituto nazionale per
la valutazione del
sistema educativo di
istruzione e di
formazione

SIREF
Società Italiana di Ricerca Educativa e Formativa

SIREF
Società Italiana di
Ricerca Educativa e
Formativa

**Ufficio
Scolastico
Territoriale
di Bergamo**

**Ufficio Scolastico
Territoriale di Bergamo**

Conference Chair

Nicole Bianquin, associate professor in Special Education, University of the Aosta Valley, ATEE member;

Francesco Magni, associate professor in Education, University of Bergamo, ATEE member.

Scientific committee

Adolfo Scotto Di Luzio, Vice-Rector for Didactics, Guidance and Placement, University of Bergamo, Italy

Marco Lazzari, Head of the Department of Human and Social Sciences, University of Bergamo, Italy (until September 2024).

Anna Maria Falzoni, Director of CQIIA - Centre for Teaching Quality, Teaching Innovation and Learning, University of Bergamo, Italy

Maria Assunção Flores, University of Minho, Portugal

Joanne Banks, Trinity College of Dublin, Ireland

Federica Baroni, University of Bergamo, Italy

Tore Bernt Sorensen, University of Glasgow,

Scotland (UK)

Paolo Bertuletti, University of Bergamo, Italy

Serenella Besio, University of Bergamo, Italy

Antonio Borgogni, University of Bergamo, Italy

T.J. Ó Ceallaigh, University College Cork, Ireland;

ATEE AC member

Monica Crotti, University of Bergamo, Italy

Linda Daniela, University of Latvia, Latvia

Dietmar Frommberger, University of Osnabrück,

Germany

Paola Gandolfi, University of Bergamo, Italy

Mabel Giraldo, University of Bergamo, Italy

Etti Gordon Ginzburg, Oranim College of Education,

Israel

Michiel Heijnen, Marnix Academy, Netherlands; ATEE

AC President

Erika Kopp, Eötvös Loránd University, Hungary;

ATEE AC member

Marta Kowalczyk-Walędziak, University of Białystok,

Poland

Anna Lazzarini, University of Bergamo, Italy

Hagen Lehmann, University of Bergamo, Italy

Nicola Lovecchio, University of Bergamo, Italy

Gale MacLeod, University of Edinburgh, Scotland

(UK)

Fernando Marhuenda Fluixá, Universitat de València, Spain

Alessandra Mazzini, University of Bergamo, Italy

Sara Nijs, Leuven University, Belgium,

Katrin Poom-Valickis, University of Tallinn, Estonia

Andrea Potestio, University of Bergamo, Italy

Evelina Scaglia, University of Bergamo, Italy

Johannes Karl Schmees, Norwegian University of

Science and Technology (NTNU), Norway

Leah Shagrir, Levinsky College of Education, Israel;

ATEE AC member

Olena Shyyann, Lviv State University of Physical

Culture, Ukraine; ATEE AC member

Vasileios Symeonidis, Pädagogische Hochschule

Freiburg, Germany

Ronny Smet, Karel de Grote University of Applied

Science and Arts, Belgium; RDCs Coordinator of

ATEE

Agnieszka Szplit, Jan Kochanowski University of

Kielce, Poland; ATEE AC Vice-President

Elena Theodoropoulou, University of the Aegean,

Greece

Philippe Tremblay, Université de Laval, Québec

Vidmantas Tūtlys, Academy of Education, Vytautas

Magnus University, Lithuania

Wieland Wermke, Stockholm University, Sweden

Mara Westling Allodi, Stockholm University, Sweden

Jenny Wilder, Stockholm University, Sweden

Rano Zakirova Engstrand, Stockholm University,

Sweden

Organizing committee

Virginia Capriotti, University of Bergamo

Sara Cecchetti, University of Bergamo

Federico Chiappetta, University of Bergamo

Emilio Conte, University of Bergamo

Ester Guerini, University of Bergamo

Paolo Lazzaroni, University of Bergamo

Alice Locatelli, University of Bergamo

Isabel Maggiarra, University of Bergamo

Fabio Sacchi, University of Bergamo

Arianna Taravella, University of Bergamo

Table of contents

Introduction

Francesco Magni, Nicole Bianquin, *Back to the Core: Rediscovering the Power of Teacher Education Research* 7

Teacher education and pedagogical perspective in uncertain times: history, theory, policies and practices

Brigitta Bekesi, Eva Ulbrich, Tony Houghton, Jana Trgalova & Zsolt Lavicza, *The Reflected Double Tetrahedron Model: Project-based learning in teacher training* 11

Andrea Dessardo, «*The Italian didactic secret*». *Teachers' education according to Giuseppe Lombardo-Radice's thought* 19

Ylenia Falzone & Alessandra La Marca, *Lifelong Learning for Mongolia: Occupational Health & Safety project (3L4MHOS)* 25

Ylenia Falzone, Benedetta Miro & Elif Gülbay, *Teachers and Artificial Intelligence: Developing Digital Citizenship Skills* 31

Eleonora Florio, Tanu Biswas, Ilaria Castelli & Letizia Caso, *Bleak Pedagogy: A new term unveiled from research on Adultcentrism* 38

Deirdre Harvey & Maria Campbell, *Promoting and supporting learner resilience in the hospital school* 44

Aggelos Kavasakalis & Angeliki-Despoina Varouxi, *Reasons and beliefs of (Greek) teachers for participating in an MSc relevant to their profession* 54

Semih Kaygisiz & Hanife Akar, *Challenges Head to Train Culturally and Linguistically Responsive Teachers* 62

Sabina Leoncini, *Gender Stereotypes between School and Guidance: A Look at European Regulations and Vocational Education in Italy* 69

Silvia Maggiolini & Elena Zanfroni, *Emergency and people with intellectual disabilities. Teachers' training in the LEBEL proposal* 77

Cristina Miralles-Cardona, María C. Cardona-Moltó & José M. Esteve-Faubel, <i>Gender-responsive teaching: What strategies are teacher educators using for gender mainstreaming implementation?</i>	83
Benedetta Miro & Alessandra La Marca, <i>Service Learning in teacher education for soft skills development</i>	93
Georgia Natsiou & Melpomeni Tsitouridou, <i>Reflecting together online and offline: A systematic review on the types of peer reflection activities in teacher education</i>	102
Laura Parigi & Maria Elisabetta Cicognini, <i>Exploring the Transformative Impact of Teacher Professional Development on Student-Centered Assessment Approaches</i>	109
Francesca Pileggi, <i>Non-cognitive competence and critical-creative skills. A critical review of the current perspectives</i>	116
Francis J. Prescott-Pickup, <i>Finding a successful teacher identity: the role of the mentor-mentee relationship</i>	122
Nathanaili Valbona, <i>Analyzing poor academic performance of Albanian pupils in PISA</i>	129
Elena Zanfroni, <i>Problematic behaviours and classroom management: teachers' representations</i>	137

Teaching and learning challenges and professional development

Monica Banzato, <i>Attitudes of Humanities Students and Aspiring Teachers Toward Quantitative Educational Research: An Introductory Study</i>	146
Ane Bergersen, <i>Global awareness and professional teacher competence through student mobility from Norway to Zambia</i>	152
Barbara Bocchi, Elena Bortolitti & Paola Damiani, <i>Informal Support Teacher Networks: training and self-training between Communities of Practice</i>	160
Barbara Bocchi, Elena Bortolitti, Paola Damiani, Giuseppe Filippo Dettori & Barbara Letteri, <i>The use of artificial intelligence (AI) in inclusive learning: an exploratory investigation</i>	167
Virginia Capriotti, <i>The Impact of Teaching and Learning Centers (TLCs) on Initial Teacher Education Programs in Italy</i>	176
Giorgia Coppola, <i>From Burnout toward Pedagogical Teacher Education. A communities perspective</i>	183
Alexandra Efstathiades, Christiane Gesierich, Christian Rudloff & Anna Kapsalis, <i>FOOTT PRINTTS: Advancing Quality Standards in Teacher Training</i>	189

Elena Gabbi, Ilaria ancillotti & Maria Ranieri, <i>Rethinking digital competences for teaching in the Post-Covid Era: A participatory approach</i>	197
Marco Giganti, <i>Emergency Remote Teaching and Teacher Training: The Role of Implicit Beliefs in Lasting Educational Change</i>	205
Hege Knudsmoen & Mette Birgitte Helleve, <i>Develop teachers' professional identity through global internship</i>	212
Charlotte Kohlloffel, <i>Opening the black box of writing instruction in times of change: insights from Italian secondary school teachers</i>	220
Regine Lehberger, <i>A learning-design to promote reflection and digital media skills for professionalisation of teacher students</i>	229
Marica Liotino, Taiwo Isaac Olatunji, Marianne Grace Araneta, & Monica Fedeli, <i>Reflective Practice in MOOCs: Exploring the Role of Tutors and Fostering Teacher Professional Development</i>	236
Cristina Lisimberti & Katia Montalbetti, <i>Guiding students from lower to upper secondary: a challenging and shared task for families and schools</i>	244
Sabrina Natali, <i>Rethinking teacher training in emotional education through sports</i>	256
Sara Nosari & Emanuela Guarcello, <i>The question of non-cognitive skills and the cheetah's coat perspective</i>	262
Alessandro Oro, Ira Vannini & Elisa Guasconi, <i>A formative assessment framework to develop primary school pre-service and in-service teachers' video analysis programs</i>	271
Federica Pelizzari & Simona Ferrari, <i>Exploring Coding and Educational Robotics in Primary Schools. Results and Perspectives from an Action Research Approach to Teaching Innovation</i>	278
Annfrid Rosey & Tove Leming, <i>Internationalization in Teacher Education: How can student practice in Southern Africa contribute to strengthening the professional work as teachers in Northern Norway?</i>	293
Stefano Spennati, <i>Educating on complexity at the time of transition</i>	300
Chiara Urbani, <i>Collaborative and epistemic advances: a study on teacher agency</i>	305
Gerd Wikan, <i>Global Teachers and Practicum in the Global South. A study of Long-Term Impact of International Practicum in Namibia</i>	312
Franco Zengaro & Sally A. Zengaro, <i>Teachers Reflect on Their Identities as Former Students and Future Teachers</i>	318
Sally A. Zengaro & Franco Zengaro, <i>Supporting Active Learning in Online Learning: Creating a Culture of Care</i>	326

Inclusion in teaching and learning processes and school improvement

Luca Angelone & Federica Festa, <i>Cultivating Inclusive Education: A Collaborative Journey of Secondary School Teachers in Promoting Cognitive and Linguistic Accessibility through Picture Books and AAC</i>	333
Luca Ballestra Caffaratti, Cecilia Marchisio, Alessandro Monchietto, Alessandro Zanzo & Marco Secchia, <i>The Use of Artificial Intelligence in Secondary Schools: Experiences in Initial Teacher Training</i>	340
Daniele Bullegas & Martina Monteverde, <i>Theory into practice: exploring teacher perceptions about Early Intervention in the Italian school system</i>	346
Sara Cecchetti & Nicole Bianquin, <i>The work plan (Plan de Travail) as an educational device that addresses everyone's needs. A survey of teachers' and pupils' perspectives</i>	354
Federica Cilia, Jeanne Kruck, Marie-Hélène Plumet & Mélina Dell'armi, <i>Well-Being and Social Participation of Autism Spectrum Disorder Students at University: the impact of Atypie Friendly Inclusion Program</i>	362
Alice Di Leva & Federica Festa, <i>The Student Voice in teacher training, an investigation into the inclusiveness of European practices</i>	370
Ilaria Folci & Anna Monauni, <i>Differentiation in Preschool. Pedagogical Issues and Best Practices</i>	378
Mabel Giraldo & Fabio Sacchi, <i>Planning the transition to adulthood for students with disabilities: knowledge, perceptions, challenges from STRADE teacher training program</i>	384
Jørgen Klein, Ann Sylvi Larsen & Tove Grete Lie, <i>'People are people' - An investigation of long-term impacts of an international practicum</i>	393
Daniela Maccario & Annamaria Garibaldi, <i>Helping to learn. What are good practices of educational intervention? Structure and preliminary results of a participatory research study</i>	400
Cecilia Marchisio & Alessandro Monchietto, <i>Improving Inclusive Education: The Turin Model of Collaboration between Schools, Universities and Communities</i>	405
Francesca Placanica, Rosa Sgambelluri & Alessandra Priore, <i>Life Designing and inclusive prospects in Italian schools</i>	411
Ilaria Ravasi, <i>Preventing early school leaving. Perspectives of intervention research between school and territory</i>	417

Digital innovation and artificial intelligence (AI): schools, teachers and students between real and virtual world

Valentina Berardinetti, Michele Ciletti, Andreana Lavanga & Giusi Antonia Toto, <i>Digital Innovation and Artificial Intelligence in Museum Education: perspectives, debates and psychological implications</i>	424
Roxana-Madalina Cristea, <i>Investigating the Relationships between In-service Teachers' Technology Pedagogy Content Knowledge and Virtual Learning Environment Success</i>	432
Francesca De Vitis & Marcello Tempesta, <i>Touch in small hands. Responding to the challenges of technology in childhood 0-6</i>	439
Silvia Larghi & Edoardo Datteri, <i>Programming errors and the attribution of intentionality to educational robots</i>	445
Juliana Elisa Raffaghelli, Francesca Crudele, Laura Foschi & Graziano Cecchinato, <i>Let me introduce open education... Facilitating Prospective teachers' understanding of open Education through an ai-based tool</i>	453
Alice Roffi, <i>Digital technologies and collaborative activities for science teaching in the upper secondary school: a qualitative study on teacher's perspective</i>	464
Alice Roffi, Gabriele Biagini, Stefano Cuomo & Maria Ranieri, <i>Development of teachers' competences on Learning Design and on supporting student's Self-Regulated Learning in the lower secondary school</i>	472
Marcello Tempesta, <i>Teacher education and motivation culture</i>	481

School & work and the role of teachers in Vocational Education and Training

Maria Concetta Carruba, Mariateresa Cairo & Magdalena Tsoneva, <i>Comparative Analysis of Inclusive Education Practices in Italy and Bulgaria: Reflections from the Erasmus Plus ASuMIE Project</i>	488
Valerio Ferrero, <i>Teacher Education as a Game Changer: Non-Traditional Factors of Inequality and the Role of Teachers for Equity</i>	494
Anna Granata & Valerio Ferrero, <i>Beyond Patriarchy: Teaching Profession, Gender Issues and Teacher Education in Italy</i>	502
Paola Zini & Dalila Raccagni, <i>Teacher training and well-being best practices: the 3H project</i>	508



POSTER SESSION

Antinea Ambretti, Chiara Gamberini & Arianna Fogliata, <i>Integration of the Sincrony method in physical education during school age in the digital era</i>	517
Francesca Finestrone, <i>Music as an inclusive tool for promoting a sustainable Culture</i>	523
Francesca Finestrone, Francesco Pio Savino, Leonardo Palmisano & Giusi Antonia Toto, <i>Nature Connection and Music in Early Education: Insights from the CNS-ch Scale and TEAL Methods</i>	532
Paula Matijašević, Bruno Matijašević, Ana Žnidarec Čučković & Vesna Babić, <i>Kinesiologists' and Coaches' Self-Assessment of Their Pedagogical Competences</i>	538

The contributions published in this book of proceedings have been evaluated through a double-blind peer review process. We would like to thank the members of the Scientific Committee, as well as the many other professors, researchers and experts who agreed to act as reviewers.

Reflective Practice in MOOCs: Exploring the Role of Tutors and Fostering Teacher Professional Development

Marica Liotino, *Università degli Studi di Padova*, marica.liotino@phd.unipd.it

Taiwo Isaac Olatunji, *Università degli Studi di Padova* taiwoisaac.olatunji@phd.unipd.it

Marianne Grace Araneta, *Università degli Studi di Padova*, marianne.araneta@unipd.it

Monica Fedeli, *Università degli Studi di Padova*, monica.fedeli@unipd.it

Abstract

This study investigates the role of tutors in MOOCs and the impact of reflective practices on student-teachers' professional development. Tutors enhanced engagement by fostering reflection, facilitating peer interaction, and linking theory to practice. Reflective activities, such as video analysis and article discussions, promoted critical thinking, metacognition, and professional identity formation. Peer interaction further enriched learning by creating communities of practice. Despite the benefits, challenges like limited feedback and engagement with tutors remain. Recommendations include active learning strategies, AI-driven feedback tools, and enhanced tutor-student collaboration to maximize MOOCs' transformative potential in education.

Keywords: MOOCs; reflective practices; professional development; socio-constructivism; tutor engagement.

1. Introduction

Massive Open Online Courses (MOOCs) have democratized global access to education by providing free and flexible learning opportunities, promoting lifelong learning, and enabling specialized learning (Palacios Hidalgo et al., 2020). Based on their use in higher education, MOOCs have been classified into various models, such as content delivery, assessment with credits, and interaction-focused approaches (Alghamdi et al., 2019). They have been used to flip classrooms and enhance student participation and peer-to-peer interaction. Studies on MOOCs highlight their opportunities for self-directed and peer-supported learning and their adaptability and cost-effectiveness for teacher training (Hollebrands & Lee, 2020).

These features make MOOCs an attractive option for universities seeking to enhance teacher education (TE) programs and teacher professional development (TPD) programs aiming to cultivate reflective practices (RPs) among student-teachers (STs).

RP is learning from experience to gain new insights and improve future practice (Finlay, 2008). Rooted in the works of Dewey and Schön, it involves critically examining assumptions and evaluating responses to professional situations (Schön, 1987). Schön's framework distinguishes between reflection-in-action (real-time reflection) and reflection-on-action (retrospective analysis), offering a comprehensive approach to professional development (PD) that involves identifying problems, exploring relevant knowledge, constructing solutions, and resolving dissonance through action (Garrison, 2003).

TE encompasses pre-service, induction, and in-service phases, and it aims to develop pedagogically skilled teachers with reflective attitudes (Kasemsap, 2017). For pre-service teachers, reflective training fosters self-awareness and the ability to monitor their teaching strategies (Parsons & Stephenson, 2005). Therefore, RP is fundamental to PD, as it enables teachers to critically evaluate their teaching methods and adapt to complex classroom dynamics in changing educational landscapes (Huynh, 2022). It also promotes self-inquiry, systematic exploration of teaching experiences, and PD (Diasti & Kuswando, 2020). However, challenges such as time constraints, mechanical application, and limited understanding among educators often hinder its implementation (Finlay, 2008). Despite such challenges, online platforms can enhance RPs (Diasti & Kuswando, 2020).

MOOCs provide scalable and cost-effective solutions for TPD, enabling teachers to enhance their content knowledge, pedagogical skills, and technological competencies (Misra, 2018). They encourage professional identity development and create learning communities that promote RP (Rodrigues-Silva & Alsina, 2024). Also, frameworks like the meta-didactical transposition model for MOOCs (MOOC-MDT) demonstrate the potential of online environments for teacher collaboration and skill sharing (Taranto, 2020).

MOOC tutors play an important role in facilitating TE and TPD. Their effectiveness lies in their ability to structure and guide discussions marked by deep engagement and critical thinking that supports learners in taking greater ownership of their learning process (Mishra et al., 2017). Guldberg and Pilkington (2007) emphasize that the nature of discussion questions significantly influences the quality of outcomes.

Tutors also employ a variety of strategies to foster RP; self-monitoring tools, such as quizzes and reflective prompts, combined with external feedback from instructors and peers are important in this regard (Araneta et al., 2024; Zhu & Bonk, 2019). Structured activities like journaling, peer feedback, and video-based discussions encouraged RPs in MOOC-based blended courses (Araneta et al., 2024). Other strategies include learner-centered tutoring (Blum-Smith et al., 2020) and intelligent tutoring systems (Aleven et al., 2015). These mechanisms and approaches help learners critically assess their progress and identify areas for improvement. In the case under study, two tutors collaboratively worked to facilitate reflective learning among the ST.

However, questions remain regarding how tutors design activities to encourage meaningful engagement and the extent to which RPs embedded in MOOCs foster professionalism among ST. Significant gaps also exist in understanding how learners perceive the role of tutors in facilitating MOOC-driven RPs and how such practices benefit learner PD.

This research paper is a sequel to Araneta et al. (2024), which examined how RPs could be fostered in a MOOC-based blended learning course. This study replay to calls to better understand the interplay between tutor facilitation and reflective learning within MOOCs, exploring the following research questions:

- What are STs' perceptions of the role of MOOC tutors in fostering RPs?
- What are STs' perceptions of the usefulness and effectiveness of MOOC-driven RPs on their PD?

Through these questions, the study aims to advance understanding of the role of tutors in supporting reflection among MOOC learners and provide insight into how MOOCs can support reflective PD in TE. The findings could offer practical implications for tutors, course designers, and institutions and inform the development of effective facilitation strategies to improve the overall impact of MOOCs on TPD.

2. Theoretical framework

This study draws on socio-constructivist theory, particularly Vygotsky's (1978) principles, to examine the interaction between tutors, STs' PD, and RPs in MOOCs. Socio-constructivism emphasizes the social and dynamic nature of learning, co-constructed through interactions with peers, tutors, and cultural tools. This theory not only highlights the importance of tutors in facilitating meaningful engagement but also situates RPs as central to PD within online learning environments. Tutors play an important role in fostering engagement and facilitating reflective dialogue, crucial for PD within online learning environments. MOOCs reflect these principles via structured interactions, collaborative tasks, and digital tools like quizzes and journals that support reflective learning (Zhu & Bonk, 2019; Poquet et al., 2018).

The Zone of Proximal Development (ZPD) highlights the gap between independent capabilities and what learners achieve with guidance (Vygotsky, 1978). MOOC tutors scaffold RPs through tailored feedback, discussion prompts, and collaborative activities, enabling deeper reflection and critical analysis of teaching practices (Shabani et al., 2010). However, large-scale MOOCs face challenges such as superficial interactions and disengagement. Tutors must leverage technology and inclusive designs to foster social presence and sustained reflection (Aleven et al., 2015). This study explores how MOOC tutors mediate reflective learning and how it impacts PD, contributing insights into optimizing socio-constructivist strategies in online environments.

3. Methodology

This research used a single-case study research design (Yin, 2018) to examine how to foster RP in a MOOC-based blended course at the University of Padova. The aim of the MOOC under study, "Innovative Teaching: Engaging Adult Learners with Active Learning" is to help learners discover the power of active participation in adult learning through teamwork and collaboration among students. The MOOC has been used as the online counterpart in the blended university course "Organisational Culture: Teaching and Learning Methods" (OC-TLM). RAs are embedded in the course design and tutors are deployed to facilitate reflective learning in tune with the principles of constructivism that underlie the MOOC (Fedeli et al., 2022). Further details are found in Araneta (2024).

The participants for this study were a cohort of 2021/2022 second-year master's students (n=51) enrolled in the OC-TLM blended course. They participated in the MOOC along with other learners from around the world. Students were asked to answer an adapted version of the Critical Incident Questionnaire (CIQ) (Brookfield, 1995) to be answered at the end of each of the four weeks (n=51 per week, totaling 204 CIQs). The CIQ comprised six open-ended questions on students' learning experiences and perceptions of the MOOC. Also, as part of the didactical design of the course, students were assigned to work in groups of 6 for the Reflective Group Activities (RGAs). The outcome was a group report guided by reflection questions, and these were written by the group (n=8) and delivered at the end of the course. This helped the researchers make inferences about the students'

learning experience. A qualitative content analysis was facilitated using ATLAS.ti, a Computer Assisted Qualitative Data Analysis Software. Inductive and deductive processes of qualitative analysis of written text, consisting of iterative processes of comparing, contrasting, and categorizing text were adopted (Hsieh & Shannon, 2005).

4. Findings

4.1 The role of MOOC tutors in fostering RPs

The role of MOOC tutors in fostering RPs was widely acknowledged by learners, based on an analysis of the reflective reports. Many students valued their interactions with tutors as meaningful for gaining new perspectives and enhancing learning. For instance, Reflective Report (RefRep) Group 3 noted that discussions with tutors and peers created “affirming and perspective-creating moments.” Tutors played several central roles in supporting the teaching-learning process, offering guidance, fostering interaction, and encouraging deeper reflection.

Tutors as guides and mediators. Learners described tutors as essential guides who provided clarity on course topics and processes (RefRep Groups 1, 4, 5, 8). Tutors were appreciated for their technical support, helping students navigate the virtual environment and MOOC platform functionalities (RefRep Group 2). Most importantly, they served as moderators between teaching staff and learners, building a crucial link and creating a sense of connection between course trainers and students' learning outcomes (RefRep Group 5). Additionally, tutors introduced the MOOC, explained its integration into the course design, and set clear expectations for tasks (RefRep Group 8). Their role as mediators was valued for fostering a sense of cohesion and continuity throughout the course.

Tutors supporting peer interaction. Tutors facilitated peer-to-peer discussions and interactions, which were crucial for fostering RPs. RefRep Groups 3, 5, and 7 highlighted that tutors encouraged dialogue among learners and supported peer learning. For example, RefRep Group 1 explained how tutors helped construct links between students by connecting their contributions, shedding light on different perspectives, and encouraging participants to engage more deeply with their peers' ideas. Furthermore, tutors were noted for creating less formal, more direct relationships compared to traditional teacher-student dynamics (RefRep Groups 3, 5). Their continued availability and online presence fostered closer, peer-like interactions, which enhanced collaboration and discussion among learners and made the course less monotonous (RefRep Group 3).

Tutors fostering reflection and learning awareness. Another significant role of tutors was fostering deeper reflection on course topics. They provided alternative perspectives and ideas for in-depth analysis, rather than merely supplementing the MOOC content with additional materials (RefRep Groups 3, 5, 7, 8). RefRep Group 8 specifically noted how tutors' input stimulated reflective thinking and encouraged learners to engage critically with course content. Tutors' feedback on weekly activities and summaries of learning progression was instrumental in helping students develop awareness of their learning journey (RefRep Groups 3, 7, 8). This feedback allowed students to identify areas for improvement (RefRep Group 4) and track their progress more effectively. Moreover, tutors were recognized for providing concrete examples to support theoretical topics, which helped bridge the gap between abstract concepts and practical applications (RefRep Group 3). Their role in linking course content with real-world applications made the learning experience more engaging and accessible (RefRep Group 3).

Suggestions for improvement of MOOC tutoring. Despite the overwhelmingly positive feedback, learners also identified areas for improvement. Some students expressed a need for more frequent and detailed feedback on assignments and individual activities (RefRep Groups 5, 8). Others wished for tutors to engage more actively in peer discussions and facilitate deeper dialogue among learners (RefRep Groups 2, 8). RefRep Group 1 recommended that tutors provide regular feedback on peer discussions and group assignments, as well as monitor learners' participation more closely. RefRep

Group 2 suggested that tutors summarize and share the results of the CIQ to maintain a pulse on learners' experiences. Finally, learners encouraged tutors to leverage their mediating role to improve the course by sharing insights from student feedback with course designers. This proactive approach could help refine the MOOC experience for future participants.

4.2 MOOC-driven RPs on PD

STs' perceptions of the usefulness and effectiveness of MOOC-driven RPs for their PD were analyzed through responses from the CIQ and RGA reports. The analysis showed a broadly positive reception to RPs, underscoring their role in stimulating critical thinking, fostering professional awareness, and enhancing teaching methodologies.

Reflection as a core component of learning. Participants consistently emphasized the relevance of both individual and group RAs to their learning process. The RAs were described not only as engaging for the learning process but also as fundamental for developing a sense of professionalism and building awareness of the professional profile they aimed to develop. Many noted that the MOOC design was structured to provoke reflection, with articles emerging as the most effective triggers, followed by videos, discussions, exercises, and quizzes. Grazia's CIQ response exemplifies this perspective:

The moment I felt most involved was when I watched the videos showing interactive lessons and when I shared my comments on them. At the end of watching these videos, I imagined myself in action instead of the teacher. I thought about what actions I would carry out, how I would deal with the students, and what activities I would propose. It was also interesting to understand the pedagogical mistakes made by teachers. This made me more aware of the mistakes that need to be avoided when teaching.

Similarly, RGA reports highlighted how the combination of activities—such as reading articles, engaging in discussions, and responding to reflective prompts—allowed participants to connect theory with practice and critically assess their teaching approaches.

PD and metacognition. Participants viewed RAs as instrumental in shaping their professional identity and enhancing their metacognitive skills. Gaia captured this sentiment in her CIQ: "The most important things I learned are the importance of being always engaged in critical reflection as a teacher and the importance of implementing new methodologies in teaching to be up-to-date with students' desires and needs" (Gaia). Others, such as Menica, used reflective opportunities to critique systemic issues within the educational landscape:

I realize more and more that the difficulty of being an educator is overcome by the variety of tools discovered, known, and applied. I ask myself these questions: "Why do we continue to teach only with traditional methods? Why does the Italian school system remain static and not take inspiration from other contexts close to it?"

The tools provided in the MOOC, such as the Teaching Perspectives Inventory (TPI) and the Lesson Designer tool, were seen as particularly effective in fostering reflection. Martina noted the introspective nature of composing a teaching biography: "In composing the teaching biography, I found very introspective the questions about the purpose of education, the role of the teacher and what is an effective curriculum because they allowed me to summarize my thoughts." Martina explained that the questions allowed her to summarize her thoughts, drawing from both her formal training and informal experiences.

The role of peer interaction and communities of practice. The asynchronous format of the MOOC, combined with structured opportunities for peer interaction, was widely appreciated for enabling deeper reflection and collaboration. RefRep Group 1 testified that all the activities and personal reflections were given a platform to be expressed, shared, and compared with peers, fostering the creation of a meaningful "educational and formative experience." As Grazia said, "It was interesting to read about the bad learning experiences of other colleagues and to see how some of their experiences

are similar to my own.” (Grazia). This is an example of reflective and shared learning, which demonstrates aspects of empathy and shared understanding through peer learning. Participants valued exchanging ideas and receiving feedback from others in the course, which often led to new insights and broadened perspectives.

Group reports further emphasized the value of sharing experiences and integrating theory with practice. RefRep Group 5 shared that exchanging ideas is a valuable experience that encourages mutual learning and self-reflection, enabling participants to provide and receive meaningful feedback while also sharing insights that bridge theoretical knowledge with practical application. Another group (RefRep Group 7) echoed this:

Interaction, discussion, and giving and receiving feedback were meaningful because they represented a real opportunity for the exchange and sharing of ideas and experiences from other people, allowing us to look at things through a different lens, expand our knowledge, and learn new and innovative content. Both reflecting activities and sharing ideas and thoughts allow us to broaden our perspective, seeing things from a different, deeper point of view. Reading the comments, and the opinions of others, gave us the opportunity to learn about different scenarios.

Recommendations for enhancing RPs. In their recommendations to improve RPs, students emphasized the importance of fostering active learning strategies (debates, group activities, and hands-on tasks) and nurturing peer interaction and feedback mechanisms. Building communities of practice (CoPs) to sustain professional growth beyond the course was frequently mentioned. Furthermore, the tutors were cited as a major contributor to the effectiveness of RPs, as they facilitated peer interaction and provided guidance for deeper engagement.

5. Discussion

The findings highlight the pivotal role of MOOC tutors in facilitating RPs and enhancing STs’ PD, reflecting a socio-constructivist approach that emphasizes social interaction, scaffolding, and collaboration (Vygotsky, 1978). Tutors provide essential support by clarifying course content, guiding technical navigation, and mediating between teaching staff and learners, facilitating the transition from surface-level engagement to deeper critical reflection within the ZPD (Guldborg & Pilkington, 2007; Shabani et al., 2010). Their role as “narrators,” creating collaborative environments, aligns with the evolving dynamics of online education (De Caro-Barek, 2019; Mishra et al., 2017).

Structured environments, reinforced by tutors, were central to fostering STs’ engagement, critical thinking, and PD, consistent with the importance of scaffolding in MOOCs (Zhu & Bonk, 2019). Tutors facilitated peer discussions that cultivated social presence, enabling reflective dialogue and professional growth (Poquet et al., 2018). By connecting theoretical concepts to practical applications and providing targeted feedback, tutors promoted Schön’s (1987) reflection-on-action framework, reinforcing self-assessment and bridging theory with practice. However, the study also revealed challenges in implementing socio-constructivist principles at scale, including limited feedback and inconsistent tutor engagement. These findings reflect the constraints of MOOCs, as noted by Tubman et al. (2016). Incorporating technological solutions, such as AI-driven feedback tools, and positioning tutors as intermediaries between learners and course designers may enhance the relevance and effectiveness of MOOCs, as suggested by Taranto (2020).

STs perceived RPs as central to their PD, citing activities like video analysis, article reflections, and interactive exercises as essential triggers for connecting theory to practice. These experiences demonstrate how MOOCs can support the integration of knowledge and practice. Reflective prompts encouraged self-directed inquiry and enhanced teaching effectiveness, reinforcing findings that RPs improve self-awareness and professional identity (Aldahmash et al., 2017). Participants reported gains in metacognitive skills and professional clarity through RPs. Their critiques of traditional methods and curriculum design resonated with Brookfield’s (1995) critical-reflective framework, highlighting the potential of reflection to challenge norms and foster lifelong learning (Morgan & Skaggs, 2016). Tools like the TPI and Lesson Designer further supported professional identity formation by scaffolding reflection within the ZPD framework (Vygotsky, 1978).

Finally, the findings foreground the value of peer interaction in fostering reflective learning. The asynchronous MOOC format enabled participants to exchange feedback, share experiences, and create CoPs, indicating co-constructed knowledge. Sustaining these networks beyond the course is vital for continued PD, echoing Taranto's (2020) advocacy for collaborative approaches in teacher education.

6. Conclusion

The findings of this study underscore the potential of MOOC-driven RPs in fostering PD among STs. The integration of structured tools alongside opportunities for peer interaction and critical reflection creates a robust learning environment that bridges theory and practice. RAs not only support the development of metacognitive skills but also promote professional identity formation and critical awareness of systemic issues in education. Tutors play a vital role in scaffolding learning, fostering social presence, and mediating between learners and course design, aligning with socio-constructivist principles. However, challenges such as limited individualized feedback and tutor engagement highlight the need for enhanced technological solutions and collaborative course design processes. The implications of this study suggest that well-designed MOOCs can serve as catalysts for lifelong learning in educators, encouraging them to adopt innovative pedagogical approaches, critique traditional methods, and participate in sustained CoPs. To maximize their potential, future MOOCs should prioritize active learning strategies, increased peer interaction, and the integration of AI-driven tools for personalized feedback and support.

Bibliography

- Aldhmarsh, A. H., Alshmrani, S. M., & Almufti, A. N. (2017). Secondary school science teachers' views about their reflective practices. *Journal of Teacher Education for Sustainability*, 19(1), 43–53. <https://doi.org/10.1515/jtes-2017-0003>
- Aleven, V., Sewall, J., Popescu, O., Xhakaj, F., Chand, D., Baker, R., Wang, Y., Siemens, G., Rosé, C., & Gasevic, D. (2015). The beginning of a beautiful friendship? Intelligent tutoring systems and MOOCs. In *Lecture Notes in Computer Science* (pp. 525–528). https://doi.org/10.1007/978-3-319-19773-9_53
- Araneta, M. G., Liotino, M., Olatunji, T. I., & Fedeli, M. (2024). Leveraging massive open online courses to foster reflective practice in blended university courses. *Innovations in Education and Teaching International*, 1–13. <https://doi.org/10.1080/14703297.2024.2320697>
- Blum-Smith, S., Yurkofsky, M. M., & Brennan, K. (2020). Stepping back and stepping in: Facilitating learner-centered experiences in MOOCs. *Computers & Education*, 160, 104042. <https://doi.org/10.1016/j.compedu.2020.104042>
- Brookfield, S. D. (1995). *Becoming a critically reflective teacher*. Jossey-Bass.
- De Caro-Barek, V. (2019). Reshaping teachers' professional identity for the digital era: Teachers' role and responsibilities in MOOCs. In *EMOOCs-WIP* (pp. 108–113).
- Diasti, N. K. S., & Kuswandono, P. (2020). "Thriving through reflecting": Current perspective on teacher professional development research in Asia context. *Journal of English Teaching*, 6(3), 220–231. <https://doi.org/10.33541/jet.v6i3.1981>
- Fedeli, M., Liotino, M., Taylor, E. W., & Araneta, M. G. (2022). Enhancing learning in higher education using MOOC: The experience of the University of Padua. In G. Casalino, M. Cimitile, P. Ducange, N. P. Zea, R. Pecori, P. Picerno, & P. Raviolo (Eds.), *Higher education learning methodologies and technologies online, HELMeTO 2021* (pp. 215–229). Springer. https://doi.org/10.1007/978-3-030-96060-5_16
- Finlay, L. (2008). Reflecting on 'reflective practice'. *Learning Paper 52, The Open University*. <https://oro.open.ac.uk/68945/1/Finlay-%282008%29-Reflecting-on-reflective-practice-PBPL-paper-52.pdf>
- Garrison, D. R. (2003). Cognitive presence for effective asynchronous online learning: The role of reflective inquiry, self-direction and metacognition. In J. Bourne & J. C. Moore (Eds.), *Elements of quality online education: Practice and direction* (pp. 47–58). The Sloan Consortium. http://cordonline.net/mntutorial2/module_4/Reading%204-3%20cognitive%20presence.pdf
- Guldberg, K., & Pilkington, R. M. (2007). Tutor roles in facilitating reflection on practice through online discussion. *Journal of Educational Technology & Society*, 10, 61–72. http://www.ifets.info/journals/10_1/7.pdf
- Hollebrands, K. F., & Lee, H. S. (2020). Effective design of massive open online courses for mathematics teachers to support their professional learning. *ZDM—Mathematics Education*, 52(5), 859–875. <https://doi.org/10.1007/s11858-020-01142-0>
- Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15(9), 1277–1288. <https://doi.org/10.1177/1049732305276687>
- Huynh, H. T. (2022). Promoting professional development in language teaching through reflective practice. *Vietnam Journal of Education*, 6(1), 62–68. <https://doi.org/10.52296/vje.2022.126>
- Kasemsap, K. (2017). The importance of teacher education in global education. In *Advances in Higher Education and Professional Development Book Series* (pp. 307–333). <https://doi.org/10.4018/978-1-5225-1668-2.ch014>
- Mishra, D., Cayzer, S., & Madden, T. (2017). Tutors and gatekeepers in sustainability MOOCs. *On the Horizon: The International Journal of Learning Futures*, 25(1), 45–59. <https://doi.org/10.1108/OTH-04-2016-0017>
- Misra, P. K. (2018). MOOCs for teacher professional development: Reflections, and suggested actions. *Open Praxis*, 10(1), 67. <https://doi.org/10.5944/openpraxis.10.1.780>
- Morgan, D., & Skaggs, P. (2016). Collaboration in the zone of proximal development. *Design Society*. <https://www.designsociety.org/download-publication/39141/COLLABORATION+IN+THE+ZONE+OF+PROXIMAL+DEVELOPMENT>

- Palacios Hidalgo, F. J., Huertas Abril, C. A., & Gómez Parra, M. (2020). MOOCs: Origins, concept and didactic applications: A systematic review of the literature (2012–2019). *Technology, Knowledge and Learning*, 25(4), 853–879. <https://doi.org/10.1007/s10758-019-09433-6>
- Parsons, M., & Stephenson, M. (2005). Developing reflective practice in student teachers: Collaboration and critical partnerships. *Teachers and Teaching*, 11(1), 95–116. <https://doi.org/10.1080/1354060042000337110>
- Poquet, O., Kovanović, V., De Vries, P., Hennis, T., Joksimović, S., Gašević, D., & Dawson, S. (2018). Social presence in massive open online courses. *The International Review of Research in Open and Distributed Learning*, 19(3). <https://doi.org/10.19173/irrodl.v19i3.3370>
- Rodrigues-Silva, J., & Alsina, Á. (2024). Enhancing teachers' professional identity in a reflective learning MOOC. *International Journal of Emerging Technologies in Learning (iJET)*, 19(1), 23–38. <https://doi.org/10.3991/ijet.v19i01.38897>
- Schön, D. A. (1987). *Educating the reflective practitioner: Toward a new design for teaching and learning in the professions*. Jossey-Bass.
- Shabani, K., Khatib, M., & Ebadi, S. (2010). Vygotsky's zone of proximal development: Instructional implications and teachers' professional development. *English Language Teaching*, 3(4). <https://doi.org/10.5539/elt.v3n4p237>
- Taranto, E. (2020). MOOCs for mathematics teacher education. In *Chapman and Hall/CRC eBooks* (pp. 359–384). <https://doi.org/10.1201/9781351245586-22>
- Tubman, P., Oztok, M., & Benachour, P. (2016). Being social or social learning: A sociocultural analysis of the FutureLearn MOOC platform. In *2016 IEEE 16th International Conference on Advanced Learning Technologies* (pp. 1–2). <https://doi.org/10.1109/ICALT.2016.28>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Sage Publications.
- Zhu, M., & Bonk, C. J. (2019). Designing MOOCs to facilitate participant self-monitoring for self-directed learning. *Online Learning*, 23(4). <https://doi.org/10.24059/olj.v23i4.2037>