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**ATEE**  
Association for Teacher Education in Europe

BOOK OF ABSTRACTS

# ATEE Spring Conference 2024

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

*Edited by Nicole Bianquin and Francesco Magni*

May 29<sup>th</sup> – June 1<sup>st</sup>, 2024

S. Agostino, 2 - Città Alta, Bergamo, Italy



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## **Parallel session n. 1**

**Day 2** // Afternoon / Thursday, 30th May 2024

### **A.1. School & work and the role of teachers in Vocational Education and Training**

# SKILL FORMATION OF AT-RISK VET STUDENTS IN THE SCHOOL-BASED VET: SOCIO-PEDAGOGICAL SOLUTIONS

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At-risk VET students are subject to various risk factors that may result in dropping out from education. EU policies clearly indicates necessity to create more and equal opportunities for all young people to participate in education and in the labor market, as well as to realize the full potential of VET and employment institutions as a means of inclusion (EU Youth Portal, 2022). Vocational education is an important steppingstone for many students, providing them with the necessary skills and knowledge to succeed in their chosen career paths (Cefai et al., 2022; Ferreira et al., 2020). Vulnerability of VET students, including dropout involves broad range of motives and factors, where students and schools are treated as performers of defined functions (Nielsen 2016). Idea of critical capabilities account of VET pays attention to the potential of VET for sustainable empowerment of learners and societies in general to deal with the challenges of poverty, social exclusion and deprivation of rights (McGrath et al 2022). By referring to the findings of the research studies on the topics of skill formation policies, VET curriculum design reforms, empowerment of the vulnerable VET students and competence development of the VET teachers in Lithuania, this paper seeks to explore how the neoliberal skill formation policy, competence-based VET curriculum reforms, market-oriented institutional transformations of school-based VET provision and changing roles of the teaching staff in VET reshape the potential of VET for empowerment of socially vulnerable learners. This study seeks to answer the following research questions:

1. How does the neoliberal skill formation policy change the mission and role of VET related to empowerment of vulnerable students?
2. What are the key empowering/disempowering factors of the development of competence-based VET curricula?
3. How do the market-oriented changes of the institutional settings of VET provision (implementation of apprenticeship, market-orientation of the activities of VET providers, etc.) facilitate empowerment of vulnerable learners?
4. What is the role of VET teaching staff in empowering vulnerable learners and how does it change in the context of the above indicated factors?

Applied research methodology is based on the systemic and critical review of the scientific literature and findings of the research studies.

**Keywords:** Empowerment; vulnerable VET learners; neoliberal VET policy.

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*A.1. School & work and the role of teachers in Vocational Education and Training*

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# TEACHER TRAINING AND WELL-BEING BEST PRACTICES: THE 3H PROJECT

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The 3H Project (Head - Heart - Hand) - Erasmus+ - is founded on the assumption that Vocational Education and Training should provide an holistic approach in learning, that fairly considers cognitive (Head), socio-emotional (Heart), and practical intelligence (Hand).

Specifically, the project represents an innovative teacher training initiative in the Vocational Education and Training (VET). It's focused on the development of knowledge and methodologies to enable teachers to work on socio-emotional aspects.

In an educational context, often marked by challenges such as disinterest, emotional disconnection of students, and school dropout, the project aims to go beyond the transmission of knowledge, embracing a holistic perspective oriented towards well-being.

Through the LTTA (Learning, Teaching, Training Activities) visits in Netherlands, Spain and Finland, the project made a Toolkit, that gathers some best practices for activities with students based on alternative pedagogies, highlighting the educational purposes and operational structure for each. In this contribution, particular attention will be placed on the use of Lego® art and the "Walk of life" experience. These initiatives not only engage students at a cognitive level but also aim to develop socio-emotional skills essential for their overall well-being.

By promoting the "Head - Heart - Hand" approach, the project aims to cultivate not only the cognitive skills but also the emotional and practical skills of teachers. This integrated approach responds to the needs of an educational context where empathy and creativity are fundamental for student success.

In conclusion, the 3H Project represents an innovative possibility for teacher training, providing practical tools and approaches to address the challenges of Vocational Education and Training. It contributes to creating a more inclusive and motivating school environment.

**Keywords:** Socio emotional skills; weel-being; teacher training.

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# THRESHOLDS FOR DIS/TRUST: EXPLORING THE IMPACT OF STANDARDS-BASED REFORMS ON THE PROCESS OF BEING AND BECOMING A VET TEACHER IN ENGLAND AND AUSTRIA

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This paper seeks to illustrate how interventionist education reforms shape dis/trust building processes, and its impact upon teacher professionalism in vocational education and training (VET) across national contexts. Using trust as the object of analysis, we discuss the affective mechanisms of becoming a professional in a standards-based neoliberal environment. Through an analysis of VET teacher narratives in England and Austria, the paper draws attention to the ways in which policy instrumentalism has created a culture of distrust in VET. Drawing upon foundational work on system trust developed by Niklas Luhmann, we illustrate how conditions for trust sit at symbolic thresholds, which set the conditions for professional recognition within VET. Our analysis revealed that attempts to standardise VET strategy are fuelled by the need for existential security and predictability, leading to tensions in the cultivation of system trust. Conditions for professional recognition were based on practices of documentation and subordination, narrowly constituting legitimate self-expression in organisations. This constitutes a crisis of trust in VET teacher professionalism which undermines pedagogical autonomy and integrity. We seek to highlight the impact that reduced trust in the governance of VET can contribute to issues associated with teacher motivation, wellbeing and retention. The consideration of trust is therefore essential both for policy design and implementation in VET organisations. Further, the application of trust theory offers a distinctive lens through which to understand the impact of accountability, performativity and governance processes upon teacher subjectivity within VET across national contexts.

**Keywords:** Dis/trust; teacher professionalism; vocational education & training.

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# GENDER EQUALITY AND VOCATIONAL EDUCATION: A GLOBAL CHALLENGE STARTING FROM LOCAL NEEDS

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Gender equality is still a key target for Gender Equality Strategy 2020-2025 of the EU whose policy goals and actions are designed to promote a gender-equal Europe, through the social progress, which includes working on different levels to destroy gender stereotypes and create equal opportunities for all, men and women, boys and girls, in all their diversity. According to Gender Equality Index (2023), Europe is still far from the finish line, that's why teaching education must focus on implementing gender policies from an intersectional point of view. Statistics show horizontal and vertical segregation in the inclusion of women and men in educational and professional fields due to gender stereotypes that are perpetuated by school curricula, role models performed by teachers and other school staff and pedagogical resources. As a teacher in a VET high school, where most of the students are female low income with a high percentage of dropout and failure, I decided to carry out some activities about gender stereotypes to help them to be aware of their potential and capabilities. The results of the activities shows that education for gender equality begins first of all by identifying episodes of their own school life in which students felt judged because they were women, because they were poor, because they had poor academic results. From here begins the teacher's challenge of being able to offer everyone to satisfy the need for self-realization with the support of the school as an educational community. In the future, I expect as ambitious result to change the perspective both in the role of the school system with reference to gender equality education and as consequence in the way that schools themselves should deal with the way gender equality challenges should be addressed.

**Keywords:** Gender equality; education; high school.

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# MEDIATED LEARNING IN INCLUSIVE EDUCATION: QUALITATIVE AND COMPARATIVE ANALYSIS BETWEEN ITALIAN AND BULGARIAN INCLUSIVE SCHOOL SYSTEM

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School systems in the European territory, while sharing guidelines and based on ideological, practical, and methodological beliefs found in the main European documents on inclusion, maintain traits and procedures in line with the singularities of different territories both from a cultural and welfare systems point of view. Trying to compare historically, culturally, and politically different territories is not only complex but in some ways it might be fruitless. This paper does not aim to create a ranking of the most inclusive country but wants to share reflections and similarities between good inclusive practices in Italy and Bulgaria. The analysis, qualitative and quantitative, is the result of an extrapolation of data on the two countries, collected within the Erasmus Plus ASuMIE (Additional Support and Mediated Learning in Inclusive Education) project through a questionnaire. In this specific analysis, 100 questionnaires per country were collected and analyzed.

ASuMIE is part of a larger European Union project aimed at keeping the focus on inclusive education in and out of school that involved 7 partner countries: Belgium, Bulgaria, Czech Republic, Italy, Norway, Slovenia, and Portugal. The data and reflections in this paper will be linked to a comparison only between Italy and Bulgaria for the homogeneity of the data and the significance of the reflections that emerged in comparing the responses of the two countries. The questionnaire interrogates the key-players in inclusive processes (schools, principals, families, practitioners, and rehabilitation therapists) about what really works in Inclusive Education (approaches, methodologies) and, at the same time, tries to trace emerging needs, and areas on which there is still room for improvement, and which turns out to be an emergency to work on. The intentions behind these analyses and reflections are the Well-being and Quality of Life of SEN students, their families, teachers, and therapists. Inclusion is never an individual project; inclusion is always a team effort that affects everyone, no one excluded

**Keywords:** Inclusive Education; Equity; Best practices.

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# C.E.T.A.L. CASE STUDY FOR TEACHERS' PROFESSIONAL DEVELOPMENT

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The purpose of this study is to present the Pegaso University's Centre for Excellence of Teaching And Learning (C.E.T.A.L.). This Teaching and Learning Center (TLC) is inspired by the comprehensive theoretical framework of O'Sullivan and Irby's (2011), adapted to the specific context of online universities, and enhances their nature through services and activities covering both educational and research-oriented areas. The numerous experiences of TLCs in Italy point to actions in the many areas in which CETAL is active, which, now, is unique in its ability to combine two areas of intervention (education and research) in a broad and diverse proposal. CETAL designs, implements and evaluates formal and informal individual and group actions for the development of teaching skills of university teachers according to Yvonne Steinert's framework (Steinert, 2010). Peer Observation, Peer Mentoring, online short program, webinars, workshops, retreats, communities of Practice and Fellowships are active and implemented all the year around.

The CETAL's goals are aimed to connect university teaching and academic research. The guiding principle is that of Brew (2006) who points out that teaching without research stagnates. The didactic innovation promoted by CETAL will be configured as a complex action that contains within itself the urgency of a retraining of university teaching within a vision of teaching understood as a research device. The main activities of CETAL can be summarized as follows:

1. Teacher Training on:
  - ☑ design and teaching skills (Away day, Community of Practice (CdP), Peer observation, Peer mentoring)
  - ☑ inclusion (synchronous online training events and production of in-depth video lectures and interviews)
  - ☑ ESG, gender equality (TEDx, Public Speaking)
2. Accreditation of teaching skills through incentives for educational quality (Teaching Award, Coaching, Fellowship of Advance Higher Education Academy (A- HEA))
3. Educational leadership training for senior management (Departments' Directors, PhD Programs' Coordinators, Faculty Deans)

**Keywords:** faculty development; teaching skills; innovation model.

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# ENHANCING INCLUSION IN VOCATIONAL EDUCATION AND TRAINING. A CULTURAL MINDSET STUDY

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This research endeavours to unravel the cultural mindset fostering inclusion in European Vocational Education and Training (VET), employing a focused examination of activities and stakeholders within the G.I.V.E. (Governance for Inclusive Vocational Excellence) Erasmus+ project (The GIVE project, 2022a, 2022b). Guided by Thomas Kuhn's (1996) theory of scientific revolutions and Axel Honneth's (1995) recognition theory, this study seeks to discern signs of a cultural paradigm shift within the teaching profession, where novel ideas, methodologies, or approaches challenge established norms. Departing from the conventional query of "what" is inclusively done, this research shifts focus to the fundamental "why."

The study addresses two central research questions: (RQ1) Is there a unifying mindset linking inclusive activities and actors? (RQ2) If so, how should these pivotal factors be incorporated into teacher education?

The G.I.V.E. project, a European Commission-funded Center of Vocational Excellence under the Erasmus+ Programme, is a collaborative initiative among VET centres, universities, and companies. Its overarching aim is to revolutionise the VET sector by developing and implementing a holistic model fostering genuine inclusion of learners from marginalised groups. Inspired by Hannah Arendt's (1972) perspective on the transformative potential of individuals, the research investigates the cultural underpinnings of the G.I.V.E. project's inclusive initiatives.

Drawing on the study's findings, we aim to evaluate how the identified cultural mindset aligns with or challenges existing paradigms. Moreover, we will explore potential implications for vocational teacher education, policy, and practice. This study contributes a nuanced understanding of inclusion in VET by identifying and recognising the cultural mindset linking activities and stakeholders. The research aspires to offer actionable recommendations for enhancing the inclusivity of European vocational education, grounded in insights gained from the G.I.V.E. project. These recommendations may encompass curriculum design, teaching methodologies, teacher education, governance activities, policy considerations, and institutional support.

**Keywords:** Inclusion; Inclusive Excellence; Vocational Education and Training.

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# INTERDISCIPLINARY COMPETENCES DEVELOPMENT MODEL FOR VET LEARNERS IN CONSTRUCTION SECTOR

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**Relevance.** Emerging needs for sustainable and effective labor market and creating a resilient organizations in different sectors during a turbulent times of change motivates to investigate specifically how vocational teachers and instructors may be supported in training VET learners by promoting interdisciplinary between vocational education and training (VET) programmes in the field of building service engineering (BSE). Important attention paid to new technologies that change not only a person's professional competences, but also the specifics of work and lifestyle. According to other researchers, various approaches to the scale of competences applied in vocational training and in professional activity and human resource management are dominant.

Competence presented as a set of learning attributes including theoretical knowledge, practical skills and integrity of character. Therefore, each type of learning operates in a hierarchical order and applied in different areas: from the narrowest focus on individual tasks to the broader areas of the engineering profession and construction. In particular, to explore the emerging role of interdisciplinary competences in the field of modern buildings and their systems, to find out, which core working processes are needed for construction workers and to re-define Europe-wide comprehensible VQTS competence matrix for the entire field of building system engineering.

**Research questions:** what skills and competences are needed to construct and operate an energy efficient and sustainable building? How to develop cross section learning settings to teach these skills and to promote the interdisciplinary competences?

The aim is to construct interdisciplinary competences development model for VET learners in construction sector, by analyzing the needs of labor market and VET teachers and instructors capabilities.

**Methodology.** Theoretical framework consists of VQTS competence matrix which consists of nine core work processes. A quantitative method with followed by questionnaire constructed to conduct the research. The research implemented in five different countries (Lithuania, Spain, The Netherlands, Germany, and Italy). Questionnaire of (250) respondents: VET teachers and trainers, small business owners, and team managers who met the research criteria.

**Results.** The quantitative research results emphasized specific professional competences which are required in a labor market to operate energy efficient and sustainable building. Constructed education model for VET teachers and construction sector workers focuses on the significance and benefits of interdisciplinary competences.

**Keywords:** Education model; interdisciplinary competence; vocational training.

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# PIETAS ET LABOR: PEDAGOGY OF WORK IN THE THOUGHT OF GIOVANNI BATTISTA PIAMARTA

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The canonization of Father Giovanni Battista Piamarta (Brescia 1841-1913) as a promoter of a social apostolate aimed at the moral and professional elevation of the youth took place in Saint Peter's in October 2012. The premises for this social industriousness must be sought in the strong educational and pedagogical imprint that characterized the experiences of the priest in the ecclesiastical sphere and in the historical context in which he lived. The institute he founded in 1886, the Artigianelli Institute, is exemplary in demonstrating how the priest's organizational strength and particular attention to the participation in public life of young people from working class backgrounds - through learning a job - contributed to strengthen the socio-cultural identity of the city of Brescia, thanks to citizens trained with a solid Christian spirit in the professions required by the emergent industrial sector. From the initial poor premises, the Artigianelli Institute grows rapidly; Proportionally to the expansion of the educational spaces - which include workshops and artisan laboratories, classrooms, a theater and playgrounds - the number of "artigianelli" who gather under the motto Pietas et labor increases. The Benedictine echoes historically present in the area live again within the Piamarta's charisma, which manages to combine in contemporary times the cloistered spiritual tradition with work application with the use of communication codes suitable for the youth context and its needs.

**Keywords:** Giovanni Battista Piamarta; Istituto Artigianelli; Pietas et Labor.

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# BEYOND PATRIARCHY: TEACHER EDUCATION AND PROMOTION OF HEALTHY AND CREATIVE GENDER RELATIONS IN THE ITALIAN CONTEXT

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Gender equality and the fight against gender-based violence are international commitments (UN, 2015). Education has a pivotal role in giving young people keys to interpret the complexity of the issue not limiting themselves to indignation in the face of violence (Chege, 2007): it is necessary to become aware of the millenary patriarchal culture and of all microaggressions that everyday mark gender inequality and can turn into violence (Applin et al., 2023; Capodilupo, 2010). Teacher education plays a crucial role: it fosters awareness among professionals with respect to patriarchy as the dominant cultural substrate and the resulting gender-based stereotypes, prejudices, discrimination and violence (Skelton, 2007; Weiner, 2006); furthermore, it suggests possible educational approaches to counteract patriarchal culture from the earliest school years and promote gender education pathways aimed at building healthy and creative relationships between people as an antidote to violence and overcoming stereotypical views (Akpakwu & Bua, 2014).

This theoretical-conceptual contribution focuses on the Italian context: here, gender-based violence is commonplace and an educational response to this social emergency is urgently required. How does teacher education deal with issues related to gender and patriarchal culture? What is its impact on gender education practices at school? Initial teacher education does not always include a focus on these issues and in-service one depends on the choices of the individual teacher and the policies of the individual school; schools often turn to outsiders to carry out gender education pathways, thus not guaranteeing capillarity and continuity to these actions (Biemmi, 2015; Guerrini, 2022). More space must be reserved for these issues in the initial teacher education and schools must be accompanied in training and research paths: teachers must develop an awareness of the patriarchal culture and gender aspects that characterise their teaching disciplines and especially the implicit practices of their educational action.

**Keywords:** patriarchy; gender education; teacher education.

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# TEACHER EDUCATION AS A GAME CHANGER: NON-TRADITIONAL FACTORS OF INEQUALITY AND THE ROLE OF TEACHERS IN COUNTERACTING THEM

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This paper fits into the reflection on equity in education (Ainscow, 2020; Hackman, 2005). It is an international commitment (UN, 2015), but its realization is still a long way off (OECD, 2023). Beyond out-of-school inequalities (socio-economic and socio-cultural status), the responsibility of school systems and individual schools in creating inequalities through national school policies, individual school governance and teacher actions is becoming increasingly evident (Thompson, 2019). The category of “non-traditional factors of inequality” (Ferrer-Esteban, 2011) is useful to shed light on these dynamics, their origins and their consequences for students’ school life. Teacher education has a pivotal role (Kaur, 2012): it promotes awareness of inequalities and their various causes and supports teachers in interventions that affect not only their actions in the classroom but also their role in the governance of individual schools, especially in the context of school autonomy (Mincu, 2020).

We focus on the Italian school system. There, the non-traditional factors are numerous and have different origins (Ferrero, 2023). School autonomy could guarantee specific solutions in individual schools; nevertheless, they fail to develop strong and appropriate school policies. Indeed, the Italian school system belongs to the governance of Southern Europe (Ferrera, 1996): in the face of extensive teacher autonomy, autonomy at school level is weak.

What contribution can teachers make to ensure that schools do not create inequalities, also in relation to their role in governance? What impact does initial and in-service teacher education have? We answer these questions using data collected in semi-structured interviews with teachers, leaders and families. Teachers pay attention to equity in educational action in the classroom, but often not to inequalities originated at the governance level. Greater attention to the latter in initial teacher education would be desirable, as would support for in-service teachers through action-research pathways on the institutional dimension of schooling.

**Keywords:** non-traditional factors of inequality; school governance; teacher education.

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## VET TEACHER IDENTITY

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This presentation is based on empirical research concerning vocational education and training (VET) teacher identity, conducted in 2023 in the context of Finnish education system. This longitudinal study examined the identity trajectories of VET teacher trainees during a workplace-oriented teacher training process. It also sought to determine the factors that may either support or challenge their identity construction. All participants (n = 15) were already working as non-qualified vocational teachers. The qualitative data included (i) individual stories written at the start and the end of the training and (ii) learning diaries during the training. Both narrative thematic analysis and qualitative content analysis were conducted. The participants exhibited different identity trajectories over time, showing varying degrees of continuity and transformation. The participants who were oriented towards teaching and the teaching profession at the start of the training ended up with refined pedagogical identities. Social support and structured learning affordances in the workplace (with teacher training) encouraged individual reflection and conceptualization of pedagogical phenomena. This led to the implementation of new teaching methods, which emerged as the driving force of teacher identity construction. However, the workplace also challenged VET teacher identity construction. Overall, positioning the teachers' work and the workplace at the interface of social and individual elements seems to constitute a favourable environment for development and growth as a vocational teacher.

In this oral presentation, we would like to highlight how to include VET teacher identity process in practice in the teacher training curricula. This could benefit both the practitioner and research aspects.

**Keywords:** VET; identity; qualification.

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## **Parallel session n. 1**

**Day 2** // Afternoon / Thursday, 30th May 2024

### **A.2. Teaching and learning challenges and professional development (1)**

# SHAPING FUTURE INTERNATIONAL EDUCATORS THROUGH VIS-À-VIS: A COLLABORATIVE JOURNEY WITH AI INTEGRATION

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**Background: 21st century skills and the project vis-à-vis**

In today's world, 21st century Skills (intercultural competence, collaborative and digital skills) are crucial (Kim et al., 2019). Teachers play a key role in fostering these skills that prepare students for the challenges of modernity. To learn how to promote these 21st century skills in pupils, pre-service teachers need to possess them themselves (Gyurova & Zeleeva, 2017). This is the context in which the vis-à-vis project (Virtual Intercultural Skill Acquisition Via International Sessions) was launched. In this award-winning project, pre-service teachers from three different countries learn together via videoconferencing. In trilateral small groups, they collaborate on case stories revolving around 21st century skills in the school context (e.g. intercultural competence).

The implementation of the project yielded promising results in terms of increasing students' intercultural competence and technology acceptance, which were presented at a previous ATEE conference.

**Evolution: Expanding Horizons to Address AI Challenges**

The developments of the last years led us to the realization that the topic of AI should be given a place in our project, both thematically, as a topic for the case stories and methodologically via the students' research and writing tasks. AI as a topic fits seamlessly into the previous focus, as it is a challenge transcending national borders. Additionally, most forms of collaborative learning will probably incorporate AI agents in the near future. At the same time, AI can pose a threat to equity and diversity in education due to inherent biases and lack of transparency (Baker & Hawn, 2021).

Our paper presents and discusses ways to promote pre-service teacher's competence in the topic of AI and education via collaborative case-based learning. We will outline a mixed-methods design measuring the intervention effects on the basis of a suitable model of epistemic cognition (Chinn et al., 2021).

**Keywords:** 21st century skills; AI; case-based learning.

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# PEDAGOGICAL INTERPRETATION OF EMERGENCY AT SCHOOL: REFLECTIVE AND EDUCATIONAL IMPLICATIONS FOR TEACHERS

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The emergency has become a central focus in contemporary pedagogical reflection not only for problematic events (pandemic, crisis, poverty, educational emergency, etc.), but for the anthropological and existential implications of human vulnerability. For understanding existential events of difficulty and discomfort is necessary a theory of education and a practice for teachers and social operators. Their activity requires to be integrated with a profound understanding of the emergencies and vulnerabilities encountered, to be able to say the unsaid, the latencies, the implicits of relational work. Through a pedagogical reflexivity attentive to inner dimensions of children and teenagers, teachers can access another key to understanding the emergency as a sort of (re)birth for interpreting existential and social discomfort, finding careful, sensitive, and competent accompaniments. The school runs the risk of being crushed by the emergency, without grasping what the critical event allows to emerge. We therefore propose a Pedagogy of Emergence, as a reflection on the ability of teachers to be reflective professionals, able to read the stresses of the context and to propose intentional activations of change. Research is presented as an attitude and pedagogical approach, as a tool that should recursively and reciprocally nourish vocational training and its theories, taking up the thought of the pedagogue Giuseppe Vico (1938-2023). This perspective leads to a contextualized interpretation of existential discomfort, reformulating the key competences in the teachers training with reference to relational, inclusive, and meta-reflective skills. By acting in services and educational spaces inspired by an innovative teaching and laboratory, integrated with the training internship and with research-training experiences, teachers can prevent and reduce childhood discomfort, and promote the child potential.

**Keywords:** Pedagogy of emergence; Vulnerability and discomfort at school; Reflective teacher.

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# TEACHER AUTONOMY IN DIALOGIC AND REFLECTIVE TEACHING AND LEARNING PRACTICES

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This presentation will explore novice and experienced teachers' autonomy in dialogic and reflective teaching and learning practices conducted under the scope of continuous professional development. Dialogic reflection has been accepted as one of the robust tools or activities that affect teacher identity (Farrell, 2012; Mann & Walsh, 2017). Accepting its importance, it has been used in various professional development activities for many years (Graham & Phelps, 2003; Walkington, 2004; Protassova, 2021). However, its relationship with autonomy such as how autonomous teachers are and what autonomy strategies, they utilize during reflective sessions have been overlooked. Thus, this current study aims to investigate video-mediated dialogic reflection sessions of university instructors at a foundation university in Türkiye in terms of their autonomy. The data were collected from 6 different dialogic reflection sessions including 4 novice 2 experienced teachers. All the videos were recorded, transcribed, and uploaded to a data analysis platform called "Maxqda". The data were analyzed using sociocultural discourse analysis that was proposed by Mercer (2004). It is a microanalytic research method that enables researchers to analyze the interaction to find out the thinking skills of participants. The findings have indicated that teachers use different patterns and strategies that show their autonomy. Moreover, the results propose some practical implementations uncovered from the qualitative data analysis such as what activities could be adopted and adapted for teachers and how we can place dialogic reflection into the continuous professional development activities to be able to foster teacher autonomy for both novice and experienced teachers.

**Keywords:** Reflective Practice; Teacher Autonomy; Dialogic Reflection.

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## STEP FORWARD WITH FOOTT PRINTTS: YOUR COMPANION IN TEACHER TRAINING

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FOOTT PRINTTS, standing for "Focus on Teacher Training - Practical Guidelines for In-Service Teacher Trainers," is a EU funded Erasmus+ cooperation partnership with 7 countries focussing on teacher training across Europe. The Arnsberg District Government brings together teacher training institutions and organisations to establish a holistic quality approach in national and international teacher training (CPD). With global issues like teacher shortage and drop-out of teachers the importance of in-service teacher training has become increasingly prominent.

We focus on in-service teacher trainers and the organisational structure of teacher training to combine research-based results and in-practice needs in CPD. Our goal is to ensure international understanding and agreement on quality standards of teacher CPD. This includes the identification of proven methods and structures, the development of a comprehensive and easy access orientation framework concentrating on practical realisation and the exchange of successful strategies.

Therefore, we consider the following key milestones:

1. Theory and Literature Review: Establishment of hypotheses and indicators for quantitative analysis.
2. Sequential Mixed Methods Data Collection: Quantitative and qualitative data collection in all participating countries.
3. Framework: Development of a framework for teacher trainers based on the research.
4. Practical guidelines: Interactive, adaptable and ready-to-use input within the framework modules for teacher training.
5. Peer-Learning and Networking: conference and other events to peer review, disseminate and further develop the tool to be sustainable.

This process ensures applicability in diverse contexts across participating countries. We are also supported by pan-European education associations and the Commission in order to create an interactive platform that not only offers support to teacher trainers, but also provides guidance on how to improve the quality of teacher training. With the initiation of a network for teacher trainers we also enforce peer to peer learning and hence support the development of key competences for teacher trainers across Europe.

**Keywords:** Teacher Education; Professional Development; Quality of Teaching.

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# PREPARING FOR CULTURAL ENCOUNTERS IN UNFAMILIAR CONTEXTS

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We will present a research and development project where the focus is on how teacher educators can contribute to more knowledge about cultural encounters in schools and education systems in general. We will show three self-produced short films, and argue and discuss how these films can be used as a basis for reflection and discussion in teacher education programmes in order to develop the teacher students' knowledge and competence on diversity.

The background is the need for increased knowledge and expertise about cultural encounters and diversity in a more globalized world. In teacher education, this is particularly important, as the education programmes incorporate competence goals and general goals, and many student teachers report low levels of global knowledge and feel unprepared to teach global and diversity issues, (Kopish, 2016; McGaha & Linder, 2014; Zeichner, 2010).

Our goal in the project is to strengthen and improve the competence student teachers must have to improve their understanding of learning, school-systems and teacher roles in a new and unfamiliar context. Cultural sensitivity, flexibility and respect are key words in this competence. The videos are especially made for preparing Norwegian students going abroad (southern Africa) for their practice but can also be used in other settings where cultural encounters are relevant. The videos focus on dilemmas and challenges students may experience during their practice in schools abroad. Cases were developed based on former students' practical experience, found in student interviews, written assessments, reports, and scientific articles, which was further developed into scripts for short films. The manuscripts were designed by the project team in collaboration with student teachers in social studies, and the project team acted as directors, scenographers, and dramaturgs. The videos are considered an art production. Methodically both action research (Carr & Kemmis, 1986) and practice-led research (Smith & Dean, 2009) has been an inspiration in designing, creating, and producing the videos. In practice-led research, art production is a meaning-creating research process that conveys itself and its own intention.

In the videos we present three different dilemmas and challenges students may experience during their internships abroad.

Based on the videos, we have developed an educational programme where students through reflection, discussion and dialogue develop their knowledge and perspective, and awareness of their own values and preferences and how these affect their understanding of others. The pedagogical programme has a theoretical basis in critical pedagogy and theories on transformative processes (Mezirow, 2006, 2009; Freire, 1970; Illeris, 2014)

**Keywords:** Teacher education; cultural encounters; educational film.

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# DEVELOPING PROFESSIONAL VISION THROUGH CASE-BASED PEDAGOGY: AN EXPLORATORY STUDY

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In case-based learning, students read and respond to hypothetical situations, mirroring real-world challenges (Hemphill et al., 2015). Case-based pedagogies provide safe space for preservice teachers to attend to complex problems and ascertain appropriate solutions without real-world consequences (Butler et al., 2006; Gravett et al., 2017). However, there is limited evidence of the effectiveness of case-based learning in helping preservice teachers develop a professional vision, or the ability to “notice and interpret significant features” of a professional setting (Sherin & van es, 2009, p. 20), especially “noticing for equity” (van es et al., 2022, p. 3).

This exploratory study investigates how preservice teacher participation in a case-based exercise shaped their professional vision concerning socio-cultural issues. Fifty-one preservice teachers, enrolled in an American university, engaged in online role-playing discussions around a hypothetical case involving equity issues. The participants responded to the case as themselves as future teachers, then analyzed it through the lens of an educational consultant they studied (e.g., Maria Montessori, Paulo Freire). Next, small mixed groups of consultants engaged in discussions around identified issues. Finally, students reflected on their experiences. Qualitative data analysis of online discussions and reflections involved careful reading, coding, categorizing, and identifying themes (Saldana, 2016).

Findings suggest that case-based teaching increased student engagement and reflection, prompting a nuanced examination of the complexities of teaching. Embodying the consultant role led students to value multiple perspectives and consciously choose their professional vision. This encouraged their application of theoretical ideas to practice predicaments, enhancing their ability to recognize systemic factors and articulate theory-based arguments for real-life issues. The study suggests promising implications for case-based methods in enhancing participants’ noticing, interpreting, and responding to sociocultural issues in professional contexts. Further research is needed to explore the transferability and effectiveness of case-based pedagogy across diverse cultural and educational landscapes.

**Keywords:** Case-based teaching; professional vision; equity and diversity.

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# FOSTERING RESEARCH LITERACY AMONG IN-SERVICE EDUCATORS: STRATEGIES AND IMPACT OF AN ONLINE GRADUATE-LEVEL RESEARCH METHODS COURSE

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Research literacy is widely acknowledged as an indispensable component of teacher knowledge (Borg, 2006; Boyd, 2022; Darling-Hammond et al., 2017; Eriksen & Brevik, 2023; Van Katwijk, et al., 2021; Kostoulas, 2019). However, research utilization remains limited among in-service teachers who tend to rely on experiential insights alone (Van Shaik, et al., 2018). Barriers to research use include disinterest, negative attitudes, anxiety, misconceptions about research (Gutiérrez-Braojos & Rodríguez-Chirino, 2021; Van Katwijk, et al., 2021), and a lack of skills in accessing, comprehending, analyzing, and applying research findings (Gelderblom, et al., 2016; Van Shaik et al., 2018). This exploratory study investigates the role of scaffolded instruction in addressing barriers and cultivating research literacy in practicing teachers.

Participants were 60 educators enrolled in three sections of a graduate-level research methods course. The 16-week course consisted of asynchronous modules surveying quantitative and qualitative research methods, synchronous meetings covering information literacy, and asynchronous discussions on related topics. Participants wrote research proposals that defined the nature and magnitude of a chosen problem, identified its root cause, synthesized empirical research, and applied findings to address the root cause.

Data, including discussion forum transcripts and research proposals, were coded inductively to identify key themes (Saldana, 2016) related to the teachers' competencies around research.

Findings reveal that initially, participants selected overly broad topics. One-on-one coaching, graphic organizers, and mentor texts helped them refine their problem statements. Participants tended to select the first pertinent study identified; library database tutorials facilitated the location of reliable sources. Peer reviewers helped clarify the internal and external validity of sources selected to inform potential interventions. Ungraded feedback and revision opportunities led to proposals that were research-informed and meaningful to the participants. Gradually, participants' anxiety decreased, and confidence increased, suggesting that scaffolded instruction can foster research literacy that is relevant and beneficial to practitioners.

**Keywords:** Educational research; Research skill; Research literacy.

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# INTERNATIONALIZATION IN TEACHER EDUCATION: HOW CAN STUDENT PRACTICE IN SOUTHERN AFRICA CONTRIBUTE TO STRENGTHENING THE PROFESSIONAL WORK AS TEACHERS IN NORTHERN NORWAY?

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How does international practicum during teacher education affect the professional role as a teacher? Would this experience give new perspectives and practices in the classroom, and will this kind of experience in the training give students expanded competence about global teaching and diversity? Research shows that in an increasingly globalized world, it will be important to develop student teachers' knowledge and competence on intercultural competence and global awareness (DeGraf, Slager, Larsen, & Ditta, 2013; Shivo & Misco, 2015; Baecher & Chung, 2019; Klein & Wikan, 2019; Steele & Leming, 2022).

This presentation builds on a recent research study involving five Teacher Education programs in Norway where the ambition is to produce knowledge about the long-term impact of international practicum programs, Teachers in a globalized world.

Our contextual framework departs from a teacher program at the Arctic University of Norway, in Tromsø, Norway. We are teacher educators, running a practice abroad project where student teachers can sign in for a four-week teaching practice in Zambia or South Africa during their five-year master program. Experience from more than 20 years of working with international school practice in Southern Africa, has given a broad overview of the field, but we still lack research on the long impact of student teachers' practice. By interviewing former students who have worked as teacher's minimum 5 years in North Norwegian schools, we evaluate the value of this kind of focus in TE programs by asking how they use these experiences in their profession role as teachers.

Theoretical framework for this study is Banduras' theory on self-efficacy. Bandura (1986) claims that, through the process of self-reflection, individuals can evaluate their experiences and thought processes. They engage in activities and interpret the results of their actions and then use these interpretations to create and develop beliefs about their capability to engage in similar domains.

In this presentation we discuss and present findings in two of the scoops, the impact of global understanding in the teacher's professional practice, and their professional development as teacher. We find that students who attaining international practice, develop beliefs about their capabilities as teachers on a professional and personal level, that help them determine what they can do with the knowledge and skills they have achieved and can achieve in their profession.

**Keywords:** Professional development; International Practice; Teaching.

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# NOVICE EDUCATOR INDUCTION AND QUALITY PROFESSIONAL DEVELOPMENT

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Induction programs are the foundational piece to the development of novice educators' initial journey of their careers. The induction process can be a time of elevation or a time of unease for novice educators, often affecting their decisions to remain in the profession. Pre-service preparation initiatives in the United States have received criticism from key leaders (Richmond, 2017). Jackson and Remer (2014) emphasized that it is perilous to guarantee that teacher candidates have real-world practice in authentic classrooms. Quality professional development opportunities for novice educators are essential to their development as educators in education. Regarding the component of "educator development," it is presumed that an educator's pedagogical beliefs, expertise, attitudes, adaptability skills, and abilities can be shaped over time (Ilisko, 2016). Generally, teachers' capabilities grow and improve with experience, in addition to the knowledge experience produces (Gerritsen et al., 2016) An educator's ability to think and perform from a systems perspective and to align other systems of knowledge with their teaching techniques is central to restructuring education to address sustainability. Researchers have revealed that novice educators will likely have challenges related to core instruction, classroom management, parental support, motivating students, and classroom organizational structure (Okas et al., 2014). According to numerous teacher development theories that outline the phases in a novice educator's career, a novice educator will go through three development phases, namely self-concerned, task-concerned, and impact-concerned (Burden, 1982; Burke et al., 2015). The qualitative phenomenological study was designed to explore the phenomenon of novice educators' induction program experiences about their level of support through professional development. The problem to be addressed in this proposed study is novice educator turnover resulting from a lack of induction support. This phenomenological qualitative study aims to contribute knowledge about the problems and challenges of novice educators and how induction programs can be adjusted to better prepare and support novice educators for the realities they will encounter as they transition through the early years of teaching. This qualitative phenomenological study involved individual semi-structured interviews of novice educators with 1-3 years of teaching experience in an elementary setting. Semi-structured interviews were the main instrument applied to the study to be used for collecting the data. The semi-structured process allowed the answers to the questions to be in-depth and provided the experiences and perceptions of the participants while also providing a deeper understanding of issues and challenges. The findings were interpreted by way of seven themes derived from two research questions. The research revealed that novice educators had shared experiences related to areas that lacked support for their development as novice educators, specifically with professional development opportunities that would help with their development as educators. Furthermore, the research showed novice educators regard components such as professional development provided with induction programs as essential to their success as novice educators. Future researchers may explore novice educators' support on the state education level and how to effectively provide differentiated resources and specific support to novice educators who may retain novice educators in the education field. Ensuing designs may allow for an increased number of participants and measure components of support about various levels of induction.

**Keywords:** professional development; novice educators; and induction programs.

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*A.2. Teaching and learning challenges and professional development (1)*

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## EDUCATING ON COMPLEXITY AT THE TIME OF TRANSITION

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The complexity of our time requires a rethinking of the governance models of work organizations, including the school environment. Learning in all phases of life is now strongly connected to needs that change unpredictably and, precisely for this reason, require development and adaptability skills to a world of emergencies that generate learning, development and transformation.

Growing in complexity determines that even formal learning, of a scholastic nature, must change to educate young generations to the challenges of our time through an environment and a culture that lead them to learn to grow. And because the world today is characterized by three key forces: interdependence, speed and complexity, people, and therefore also students, learn in volatile, uncertain, complex and ambiguous (VUCA) environments.

This revolutionizes the patterns of the twentieth century when Learning and Development originated in certainties, good practices and training to acquire new knowledge through successful Top-Down learning controlled by winning models.

On the contrary, complexity puts Bottom-Up learning in the foreground which favors models driven by the passion and objectives of the learner.

The concept of continuous learning takes root and, above all, informal and non-formal learning is re-evaluated because, unlike the past, the present and future focus on design thinking, creativity, the creation of knowledge and innovation.

It becomes strategic to create a "team to innovate" by shifting the attention from the stable rigid structures of the team to A.C. Edmondson's active concept of "teaming", i.e. working as a group (roles and people who, regardless of the hierarchy, produce something new).

In this sense, school activities, lead by tutor teachers and coaches, become places of informal learning and transformative learning (V. Marsick, K.E. Watkins), unlike what happened in the past when it was possible to distinguish certain, routine learning and formal, from informal learning.

For this reason, the teacher must not only encourage learning, but also help to unlearn and learn again, encouraging the evolution of knowledge to give answers and find solutions even in rapid, unpredictable, paradoxical and tangled contexts (RUPT).

Just as has recently happened with the Covid-19 pandemic, when isolation and the creativity it has generated, have made it more evident how much we can rely on incidental learning about our daily lives, particularly as a response to increasing complexity.

**Keywords:** Complexity; Transformation; Innovation.

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# CHALLENGES IN THE EDUCATION OF IN-SERVICE PRIMARY EDUCATION TEACHERS IN SPAIN: MEDIATION AND PEER SUPPORT

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School coexistence is a topic of interest to the educational community for various reasons. In the case of in-service teachers, different reports by the Programme for International Student Assessment (PISA) and the Teaching and Learning International Survey TALIS (OECD, 2019) show the interest generated by the management of coexistence in this group, especially with regard to cases of bullying due to their seriousness and problems of disruption due to their high presence in the classroom. In this sense, there are different innovative initiatives for the management of school coexistence, although their implementation requires adequate teacher training. For these reasons, the main objective of this research was to analyse the challenges of Spanish primary school teachers' education in the field of peer support and conflict mediation. Within the framework of the research project "La convivencia escolar a partir de experiencias innovadoras de mediación y ayuda entre iguales en Educación Primaria" (ref. 076-042940), a case study was carried out with 16 Primary Schools distributed in different Spanish regions, combining several data collection techniques (documentary analysis, interviews and focus groups). The information was analysed following Glaser and Strauss' Grounded Theory procedures. The main results showed that the lack of teacher training in the management of school coexistence was one of the main difficulties in the design and development of conflict mediation and student helper programmes. It was also evident that one of the solutions proposed with proven satisfactory results in some schools is to formally set up working groups, training teams, seminars or other similar forms promoted by the Teacher Training Centres. However, participants insisted on the need to include compulsory subjects on values education, participation, citizenship and coexistence in initial teacher education.

**Keywords:** case study; in-service teachers; school coexistence.

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# TEACHER PROFESSIONAL DEVELOPMENT FOR INCLUSIVE EDUCATION IN CHILE THROUGH ACTION RESEARCH: LESSONS LEARNED FOR THE INTERNATIONAL CONTEXT

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Inclusive education is understood as a transformative process that challenges schools to remove barriers that limit student presence, learning and participation (Sanahuja et al., 2022). Booth and Ainscow (2011) propose an analytical and reflective framework to transformation of schools in the dimensions of cultures, policies and practices. This requires teachers who can address the challenges of diversity (Darling-Hammond & Baratz-Snowden, 2007).

In the Chilean and international context, the development of a more inclusive education is being promoted (UNESCO, 2020). Considering the challenges of the Chilean education system (MINEDUC, 2015) and the training needs of its teachers. A process of professional development was implemented through action research (Latorre, 2005) guided by the Index for Inclusion (in its Spanish translation by Echeita et al., 2015). Thirty-three professionals (basic education teachers, support teachers, and professionals from the School Integration Programme) from three schools in different regions of Chile participated. The main objective was to develop and strengthen teachers' professional competences to design, implement and evaluate inclusive educational processes through collaborative work, reflection and the resources of the educational communities themselves.

The results show that participants identify three fundamental barriers to the development of a more inclusive education: a) school coexistence, b) professional collaboration, c) use and management of school spaces. In order to overcome these barriers, the professionals proposed improvement plans that they implemented. The results show a reflective and participatory process that can be implemented in different educational contexts to guide teacher professional development processes from a situated perspective. The experience of these schools provides us with an optimistic scenario, as it has shown progress in the implementation of school and classroom strategies in the search for a more inclusive education. Results allow us to nurture the international discussion, regarding the different approaches to teacher professional development to move towards inclusive education.

**Keywords:** Inclusive Education; Teacher's professional development; Action-Research.

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# EXPLORING THE SYNERGY OF CODING AND INNOVATIVE TEACHER TRAINING. AN ACTION RESEARCH IN THE PRIMARY SCHOOL

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Coding and educational robotics are transformative elements in modern pedagogy, guiding education towards experiential learning crucial for preparing students for the digital age. Through coding, students transcend memorisation, engaging in dynamic processes that enhance critical thinking, problem-solving, and logical reasoning. This sharpens analytical skills and instils a mindset thriving on innovation and adaptability. Educational robotics amplifies coding's impact by immersing students in hands-on, multidimensional learning. Programming robots bridges theory and application, allowing students to witness tangible manifestations and the direct consequences of their code.

The fusion of coding and educational robotics extends beyond technical skills, nurturing creativity as students envision, design and iterate robotic solutions. Project iterations instil a growth mindset, teaching students that setbacks are opportunities for improvement. Collaborative robotics efforts foster teamwork and effective communication in today's interconnected world.

In this context, teacher training is pivotal for effective classroom implementation. Teachers, central to guiding students through coding and robotics intricacies, require a solid foundation in content and pedagogy. Specifically, training programs must equip educators with technical proficiency and the ability to create a dynamic, interactive learning environment. By emphasising coding and educational robotics integration across subjects, teacher training can promote interdisciplinary connections, enhancing students' coding understanding and showcasing coding's real-world applicability.

This action research evaluates the proposed training course's effectiveness in creating a s innovative teaching experimentation space through the EAS method and coding integration. After analysing the perceptions and experiences of around 40 primary school teachers, the intervention, rooted in a needs analysis, seeks continuity between training and classroom work. The research methodology, employing training evaluation questionnaires, logbook analysis, and qualitative interviews, explored teachers' perspectives and assessed the intervention's overall impact on classroom practices.

**Keywords:** Innovative teacher training; Coding; Primary school.

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## **Parallel session n. 1**

**Day 2** // Afternoon / Thursday, 30th May 2024

### **A.3. Teaching and learning challenges and professional development (2)**

## CHANGING TEACHER EDUCATION IN TIMES OF TEACHER SHORTAGE: WHAT'S NEW?

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Innovation has been identified as a key feature in preservice teacher education. However, different trends and understandings have been discussed in existing literature. Innovation can be seen at both institutional and practice levels but it is also important to consider its role with regard to policy development. In this paper, the development of policies in preservice teacher education in Portugal will be analysed focusing in particular on the profile of the teacher and on teacher education curriculum. Such an analysis includes the policy texts issued after the implementation of the Bologna process, in 2007, in 2014 and, more recently, in 2023. While there is a need for a high qualification to become a teacher in Portugal (Master level), a move towards a more technicist perspective has been prevalent focusing on the what and how to teach. However, as preservice teacher education is situated at the second cycle level (Master degree), the research component was tacitly assumed by institutions and encouraged by external assessments. The research dimension was explicitly identified as a compulsory component of the preservice teacher education curriculum in the Decree-Law published in 2007, but it was abolished in the legislative texts published in 2014 and in 2023. Some innovative features, particularly the inquiry-based approach during practicum, have been advocated and implemented, but there is room for improvement. These and other issues will be discussed further in the paper.

**Keywords:** policy; teacher education; change.



# THE ROLE OF RESEARCH IN TEACHERS' PROFESSIONAL DEVELOPMENT: FINDINGS FROM A STUDY CONDUCTED IN PORTUGAL

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This paper draws on a wider piece of research aimed at investigating the role of research in the development of teachers who also serve as school-based teacher educators (SBTE). Teachers can play a wide array of roles in schools, namely trainers of their colleagues or cooperating teachers of student teachers doing their practicum. Therefore, it is essential to get to know their needs and opportunities in terms of professional development. The study reported in this paper is based on a survey conducted with 143 teachers/SBTE in Portugal. Most SBTEs are involved in supervising student teachers but also in leading In-service education and training of teachers (INSET). According to the existing legal framework, cooperating teachers are selected in accordance with the following criteria: i) adequate formal training and experience and ii) teaching experience in a given sector of teaching and subject area for at least 5 years. The vast majority of the participants (69.2%) held a postgraduate degree. As such, most of them have research knowledge and competences. As for the SBTE involved in formal training of in-service teachers, they also usually possess academic qualifications at a post-graduate level (usually master's degree and some of them PhD). In general, findings show a high level of interest in academic activities and positive attitudes towards research. However, their current involvement in research is not high which may be related to their perception about the lack of interest of the school towards research as well as to workload and time issues. Internal factors on their decision to participate in a professional learning activity are higher than external factors which may be related to intrinsic and emancipatory motivations and not only to the compulsory dimension of INSET for career advancement purposes. These and other issues will be discussed in the paper.

**Keywords:** professional development; teachers; research.

# PROFESSIONALLY DEVELOPING LECTURERS' TECHNOLOGICAL PROFICIENCY AND KNOWLEDGE IN HIGHER EDUCATION INSTITUTIONS

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Integrating digital technology into teacher education has surfaced with teaching and learning challenges that require professional development of lecturers in higher education institution. This study sought to establish how lecturers integrate technology into teacher education in two Southern African higher education institutions and ways to enhance technology integration into teacher education. The research adopted a qualitative approach within an interpretive research paradigm, utilising a multiple case study design. The higher education institutions were conveniently chosen as the workplaces of the researchers, the two universities served as the setting for data collection. The research employed an open-ended questionnaire completed by lecturers, as well as a focus group discussion with purposively selected participants from both institutions. Thematic analysis is applied to examine the gathered data. The findings reveal that initially, lecturers from both universities faced limited digital literacy, as they were transitioning from traditional face-to-face teaching methods. Consequently, they required guidance on integrating technology into their instructional practices. These findings underscore the significance of technology integration in higher education and emphasise the need for policies and support aimed at professionally developing lecturers' technological proficiency and knowledge in the domains of Technological Pedagogical Content Knowledge (TPACK). Effectively integrating technology into teacher education, lecturers can enhance their Technological Fluency (TF), which encompasses not only technical skills but also the ability to seamlessly and purposefully integrate technology across various subject matters and educational contexts. The study highlights the importance of comprehensive training that addresses content, pedagogical, and technological knowledge for successful integration of technology into teacher education.

**Keywords:** Professional development; technology; higher education lecturers.

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# TEACHING STRATEGIES FOR RURAL MULTI- GRADE CLASSROOMS IN THE FREE STATE PROVINCE OF SOUTH AFRICA

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This paper aims to explore the unique teaching challenges faced in multi-grade classrooms within the rural areas of the Free State Province in South Africa. By exploring the complexities of these settings, the article seeks to identify effective teaching strategies tailored to the specific needs of learners in these environments. The participants of this qualitative study comprised 14 Intermediate Phase teachers and 6 principals from multi-grade schools in the Lejweleputswa and Fezile Dabi education districts. In determination of the study group, purposeful sampling was used. The data of the study was obtained by semi-structured interviews and data was analysed by through qualitative thematic analysis with an interpretive qualitative approach.

Teaching strategies within multi-grade classrooms exhibit significant variation and are influenced by factors like the teacher's personality, the subjects being taught, and the dynamics of the classroom. Within this context, the teaching strategies employed in multi-grade classes are a product of the teacher's competencies, lesson objectives, and the physical layout and available space within the classroom. Neither teachers nor principals have undergone sufficient orientation or training in the specific teaching strategies needed for successful multi-grade teaching.

There is a concern regarding the limited ability of teachers to utilise diverse strategies in their classrooms, leading to hesitation and a lack of confidence in their decision-making process. Consequently, pacing their lessons according to the distinct needs of the learners becomes a challenging endeavour.

**Keywords:** Teaching Strategies; Multi-Grade Teaching; Rural Areas.

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# ENHANCING LEARNING AND PROFESSIONAL DEVELOPMENT THROUGH AR-POSITIVE BEHAVIORAL INTERVENTIONS AND SUPPORTS (PBIS) SCENARIOS

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Positive Behavioral Interventions and Supports (PBIS) has emerged as a comprehensive framework for fostering a positive and inclusive school culture, with a particular focus on addressing learning challenges among students (Sugai and Horner, 2009). This abstract explores PBIS's pivotal role in enhancing learning outcomes and professional development within educational settings. Grounded in the belief that proactive strategies and a supportive environment significantly influence student behavior and academic success, PBIS focuses on positive reinforcement and teaching behavioral expectations. It aims to create a culture nurturing the social-emotional well-being of all students, tailoring interventions to diverse challenges, from academic difficulties to behavioral issues. In addressing learning challenges, PBIS offers a structured approach to supporting students in their academic journey by promoting a positive and predictable school environment. Educators are encouraged to analyze behavioral data, identify specific challenges, and implement targeted interventions. Through a proactive and collaborative approach, PBIS aims to reduce barriers to academic success and create a more inclusive learning environment. The abstract also explores the crucial link between PBIS and professional development, highlighting the need for ongoing training and support for educators to effectively implement behavioral interventions, create positive classroom climates, and address diverse learning challenges collaboratively (Tosto et al., 2022). Additionally, the contribute highlights the potential of augmented reality (AR) to reinforce behavioral expectations, teach social skills, and support positive behavior modeling within the PBIS framework (Dominguez et al., 2023). AR applications can project visually compelling simulations onto the physical classroom space, offering an immersive and impactful experience for students. This innovative approach, personalized to address individual challenges, allows for real-time feedback and reinforcement, aligning with PBIS's overarching goals and contributing to a positive and inclusive school culture through technology-enhanced interventions.

**Keywords:** Positive Behaviour Intervention and Support; Augmented Reality; Artificial Intelligence.

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# THE ROLE OF THE EXPLICIT AND THE IMPLICIT IN TEACHER TRAINING. THE CASE OF EMERGENCY REMOTE TEACHING

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This contribution aims to present a multiple case study on three omnicomprehensive schools where teachers' beliefs and practices on formative assessment, engagement, and student learning during emergency remote teaching (activated during the COVID-19 pandemic) have been studied. Starting from the empirical study of these three cases, the role of implicit and explicit in the teaching profession will be deepened, drawing on some data collected through semi-structured interviews with principals, questionnaires administered to teachers and focus groups carried out with some privileged witnesses (principal, Internal Evaluation Unit and two teachers for each school order). In general, to design and implement effective teacher training the literature suggests that research should address not only the explicit but also the implicit; if not properly considered, there is a risk of replicating traditional models of professional development that do not affect teaching practice. Changes in teachers caused by emergencies, such as the pandemic, are not enough to achieve lasting change. It is necessary to develop pathways consistent with the implicit and explicit educational needs and beliefs of teachers, extended over an appropriate time, inserted in a community of practice in which to give and receive feedback from colleagues and experts and where to start from the concrete experiences in the classroom and see the impact on the practice. As research evidence shows, only in this way are teachers willing to embark on an effective and long-term path of change and thus be ready to face other possible emergencies.

**Keywords:** Teacher Change; Implicit; explicit.

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# EMPATHY IN EDUCATION: EXPLORING TEACHERS' CONTRIBUTIONS TO POSITIVE SCHOOL CLIMATE AND STUDENT WELL-BEING IN UKRAINIAN SCHOOLS

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Scientists, practitioners, and policymakers acknowledge schools' vital role in enhancing students' and teachers' mental health and well-being. This research emphasises the increasing awareness of schools' critical role in enhancing students' and teachers' empathy and overall well-being through a combination of social-emotional and academic learning, contributing significantly to the educational institution's climate. When fostering a positive school climate it is crucial to adopt a whole-school approach rather than relying solely on individual teachers' efforts. The war and school closures in Ukraine are causing increased stress among students, disrupting their everyday routines and education. A lack of supportive school environments and sustained social engagement negatively impact students' teamwork, conflict resolution skills, resilience, and understanding of others, affecting their educational and emotional well-being. This study aims to identify factors that teachers, based on their experiences, believe are critical to promoting a positive school climate and building empathic relationships with students. Participants included teachers from four Ukrainian schools. This study addresses several research questions: How do teachers contribute to fostering a positive school climate? How do teachers incorporate empathy into their professional practices? The data collection process took place between September 2022 and February 2023 through focus group interviews and analysed through qualitative content analysis. The open-ended questions were qualitatively analysed to discover categories and themes. Teachers reported the importance of effective communication and ongoing professional development in creating a supportive educational environment. While some educators emphasised the need to reinforce institutional values, others focused on individual responsibility for applying appropriate teaching methods. The study also found that teachers recognise the role of empathy in interacting with diverse groups, including students, colleagues, administrators, and parents. The findings revealed that teachers recognise the need for training in building and maintaining positive relationships, self-study, upholding organisational values, practising positive discipline, and integrating social-emotional learning into daily classroom activities and assessments.

**Keywords:** empathy in teaching; social-emotional learning; teacher professional development.

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## SELF-APPOINTED AND SELF-TAUGHT? A QUALITATIVE SURVEY OF LSP TEACHERS IN HUNGARY

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As the significance of languages for specific purposes (LSP) has been increasingly recognized, LSP courses are now available for students in most higher education institutions (HEIs) around the world. This is also the case in Hungary, where HEIs have the legal obligation to offer LSP courses as of 2022. The question arises: who teaches LSP? In a qualitative, questionnaire-based study planned for the first quarter of 2024, we endeavour to seek answers to the following research questions by involving LSP teachers in Hungarian HEIs who teach the specialized language (in most cases English and German) of scientific fields and/or professions such as medicine, business, or tourism: (1) What characterises the labour market status of LSP teachers working in Hungarian HEIs, especially considering that 'LSP teacher' as a job category and the related training opportunities of being an LSP teacher are non-existent in Hungary; (2) What professional identity do they have; (2) How have they acquired the knowledge necessary for teaching LSP and how do they manage to keep it up-to-date; and (4) What challenges do they face in their daily work. We also would like to know what they need most in their current situation. The questionnaire-based research will be complemented by interviews in order to get a more comprehensive view of the situation of LSP teachers in Hungary. In our opinion, the results of the survey can be used to make recommendations to policy makers and the findings of our study can also be instructive and useful for LSP teachers and their organisations in other countries.

**Keywords:** English for Specific Purposes teacher development; ESP teacher identity; Languages for Specific Purposes teachers training.

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# EXAMINING THE ALIGNMENT OF HIGHER EDUCATION TEACHERS' CONCEPTIONS AND PRACTICES OF TEACHING PROBLEM-SOLVING

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Traditional teaching and learning models, emphasising well-structured problems, may inadvertently fall short in equipping students with the necessary skills to solve complex real-world problems. Recognising the challenges faced by university graduates, our research aims to explore the teacher's perspective in the process of teaching problem-solving by investigating their conceptions. The theoretical framework underscores teachers' conceptions about teaching and learning manifest in their practices. While previous research has acknowledged this, there exists a gap in theoretical and practical findings demonstrating how teachers' conceptions about teaching problem-solving align with approaches to teaching PS. The initial stage of this research, conducted at Linköping University in Sweden, where teachers practice problem-based learning (PBL), functions as an explanatory phase, providing a theoretical groundwork for subsequent stages. The findings presented in this conference paper examine the conceptual dimensions of Conceptions of Teaching Problem-Solving (CoTPS). Specifically, it examines how academics conceptualise the 'problem' in their instruction, the process of problem-solving, and their role in guiding students through this process. These findings, while representing the initial phase, lay the groundwork for a more complex Ph.D. project. The subsequent stage, planned in a Hungarian university context at Eötvös Lorand University, expands the study's scope, addressing a broader educational landscape without a specific problem-centred approach. The model developed through this research holds the potential to reshape pedagogical practices, offering insights applicable to diverse educational settings.

**Keywords:** conceptions of teaching; teaching problem-solving; problem-based learning.

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## TEACHER AGENCY AND WORK GROUP SKILLS

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The development of collaborative skills in teacher work group recall more than a joint collection of individual performances. The research aims to explore and describe teacher agency deal with an open and collaborative task within a work group. The survey conducted on two groups of teachers in different work conditions involved in co- building of knowledge shared objects provided has required several multi- qualitative methods. A case- study on teacher groups explores the interactions in co-building of knowledge activities, while following focus groups lead to understand and describe teacher agency and its specifications. The analysis of interactions, activities outcomes and self- assesment reports allowed us to explore collaborative agency and identify differences between the groups. As follows, the group interviews addressed participants to analyze results and processes in order to rethink the experience by reflective and meta- cognitive key. Research results lead out new criteria to design and develop effective working- group methods to better qualifying teacher agency, and inform VET policies to foster the adjustmen of teacher education and training courses.

**Keywords:** Teacher agency; collaborative skills; knowledge objects.

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## **Parallel session n. 1**

**Day 2** // Afternoon / Thursday, 30th May 2024

### **A.4. Teacher education and pedagogical perspective in uncertain times: history, theory, policies and practices (1)**

## NEWLY QUALIFIED TEACHERS' NEEDS AND THEIR FULFILLMENT IN A DIGITAL LEARNING COMMUNITY

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The first years of teaching are particularly challenging, with newly qualified teachers (NQT) placing priority on survival and control, lacking sufficient professional knowledge and ability to reflect over own practice (Tsui, 2009, p.7-8) and to actively participate in a learning community. The OECD report (Guerriero, 2017, p. 259) demonstrates teachers' competence as a multidimensional construct and emphasizes the need for comparative studies and designing instruments to improve teachers' work. However, teaching competence can only be developed through practice (Knight, 2002, p. 230) and participating in activities in the working community. Thus, it is highly important to support NQT in their learning at work. The DigitalTA project (Teacher Academy supporting transition, Erasmus+ international project) aims at designing, developing, and applying the international support programme for NQT, a Learning Community of pre-service teachers, newly qualified teachers, school mentors, HEI teachers and continuous education trainers. The diagnosis of NQT needs is the first step taken to design the programme, in which a digital platform and evidence-based case studies for improvement of practice will be developed and validated. The programme is based on methodology of Problem Based learning (PBL) and the development of a reflective practice guided by a mentor. The authors present the results of the comparative research on newly qualified teachers' needs (n=134, working in the profession for up to 5 year) conducted in Poland and Spain in 2023. The questionnaire aimed at identifying strengths and challenges in the newly qualified teachers' work practice. There are seven areas in which the needs of NQTs are revealed: skills and competences acquired at the university, professional needs at school, building personal relationships in a new context, conditions of the learning process at work, development of teaching competences (e.g. psychological, educational, social), personal development (advantages and disadvantages of practicing the teaching profession), and obstacles to professional development. The findings show high similarity between opinions of Polish and Spanish beginning teachers and their needs concerning learning and professional development in all the areas. For example, the teachers from Poland and Spain most often point to such difficulties in relations with other teachers as: distance in communication between peers and lack of trust between teachers. In both countries NQTs select enthusiasm, empathy, motivation, and patience as the key psychological competences to the teaching profession. But the respondents from both countries mention different weaknesses: lack of self-confidence dominates among the Polish teachers and poor relations with parents, poor time management and lack of resources are the most popular weaknesses for the Spanish teachers. Both groups lack the ability to maintain discipline in the classroom. The respondents from both countries claim that teacher education at the universities is too theoretical and the number of practical classes preparing future teachers for professional tasks is highly insufficient.

The most important professional needs reported by the respondents include recognizing the individual needs of students, an atmosphere of cooperation at school, dealing with problems and discipline in the classroom, classroom management and positive communication with students's parents. The research shows that it is worth responding to the needs with an offer of training and workshops that would help NQTs in the performance of their professional duties and would contribute to improving the quality of education and the level of job satisfaction.

All the respondents indicate also that talking about difficult situations at school is the main form of support gained from their mentors and they all expect more opportunities to share good practice, teaching resources and knowledge, to get a friendly inclusion in the teaching team, as well as to build sound tutoring and mentoring relationships. The research proves that, in schools, communities of practitioners are not popular and almost all NQTs feel they need more support in the process of adaptation to the profession from their peers, more experienced teachers, and school leaders. This is regarded as one of the ways to reduce professional attrition. The research reveals that almost 20% of the respondents from Poland consider leaving the teaching profession.

**Keywords:** newly qualified teacher; digital platform; learning community; teacher needs, Questionnaire; comparative studies.

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## NAVIGATING AND NEGOTIATING IDENTITIES IN INITIAL TEACHER EDUCATION (ITE) IN SCOTLAND

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One challenge facing teacher educators in 2024 is the increasing politicisations of some elements of the curriculum (Hobbs, 2023). Scottish public policy over recent years has focused heavily on issues that might broadly be understood as the politics of identity. Social justice issues take up a large part of ITE programmes and this focus is also reflected in the standards for initial registration set by the General Teaching Council Scotland (GTCS, 2021). More broadly the university system in the UK, as elsewhere, is engaged in often heated debates around the proper meaning, and potential limits of, free speech (Karran et al., 2022).

In this paper we present findings from a documentary analysis (Morgan, 2022) of the curriculum of three ITE programmes of study offered by one Scottish university. We analyse course materials including reading lists, learning activities and assessment tasks and criteria to identify any dominant themes with which the students are asked to engage. We are interested in whether there is any tension between educating teachers to be able to evaluate different understandings of social justice, and explicitly encouraging student teachers to take a particular position on issues of social justice. In this paper we examine these possible tensions as they relate to three current areas of current interest in Scotland:

- Preparing student teachers for working with young people whom teachers believe may be described as questioning their gender identity (e.g. Stone and Farrar, 2021).
- Issues of racial inequality and discrimination and how these might be understood and addressed with young people in schools (Marcus and Van de Peer, 2023).
- 'Identity first' vs 'person first' (Karmiris, 2024) language around young people with disabilities/ disabled young people.

We assess whether the courses materials as currently presented allow scope for a diversity of viewpoints on contentious issues to be discussed. Supplementary data from other HEIs will also be examined. Implications of our findings for the future of teacher education will be considered.

**Keywords:** teacher education; diversity; identity.

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# ANALYZING POOR ACADEMIC PERFORMANCE OF ALBANIAN PUPILS IN PISA

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This paper aims to analyse poor academic performance of Albanian Pupils in PISA over the last two decades in light of the reforms and legislative changes in the Albanian School System during this period. The study investigates this sustained decrease in learning outcomes as linked closely to several key factors: the continuous changes of structure of basic education; decline in the quality of teachers; the absence of robust external evaluation systems for assessing teacher and principal performance; an intervention financial model allocated on a per-pupil basis, an approach that is based on equality rather than equity, and promotes and exacerbates disparities, strengthening successful schools while further weakening struggling ones. The method employed in this paper is a mixed one. The qualitative method is based on desk research. As primary source utilised are documents, decisions and laws collected on different website regarding education. The quantitative method involves collecting data from a sample of 36 students and candidate for students in a program study "Bachelor for teaching in preschool" in a university. In this part of study is analysed the number and the average grade of upper secondary school of both groups. The main conclusion is that educational reforms in Albania have been frequent, unstudied and in response to the needs of the moment, without a clear vision. They have influenced, directly or indirectly in the quality and number of those that choose to become teachers and in the quality of learning in pre-university education, too. The Ministry of Education and Sports does not have any document, strategy or study that analyses the factors that have negatively affected the academic achievements of pupils in PISA, as an instrument that indicate the quality of education that children receive in Albania and improvements reference point.

**Keywords:** PISA; teachers; performance; schools; pupil's performance.

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## "THE BIGGEST DISADVANTAGE OF THE TEACHING PROFESSION IS WORKING WITH CHILDREN": PARTICIPANTS OF ADDITIONAL PEDAGOGICAL EDUCATION

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The aim of the paper is to present partial, qualitative results from the doctoral research, in which I focus on the role of Additional Pedagogical Education (APE). APE is a prerequisite for graduates of non-teaching fields at universities to become teachers (Act No. 530 C.O.L., 2004). The main research question is: Why did the participants of APE decide to enter APE and the teaching profession? In seeking an answer to my research question, I use the principles of Grounded Theory (Glaser & Strauss, 1967). The research sample consists of five randomly selected participants of APE from one university. Data analysis proceeded in accordance with the principles of Grounded Theory (Glaser & Strauss, 1967; Hammersley & Atkinson, 2007). The results indicate that the motivation to enter the teaching profession may be linked to the motivation to enter APE and expectations from it. Participants who chose the teaching profession out of conviction enter APE with high expectations and motivation to prepare as best as possible for the profession. Conversely, participants who chose the teaching profession as a last resort in their career view APE as unnecessary and unpleasant obligation. These results can contribute to a better understanding of the state of the teaching profession in the Czech Republic and may point out potential benefits and drawbacks of additional pedagogical education as a preferred path to obtaining qualified teachers for schools.

**Keywords:** teaching profession; additional pedagogical education; teachers qualification.

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## THE BARRIERS IN THE ADAPTATION OF STUDENTS FROM UKRAINE TO CZECH SCHOOLS

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After the onset of the war in Ukraine in 2022, many Ukrainian families emigrated to other European countries. By the end of 2022, more than 600,000 refugees had arrived in the Czech Republic, and in 2023, Czech schools recorded over 50,000 Ukrainian students in the education system. What are the barriers in the process of socio-cultural and academic adaptation of students from Ukraine in Czech primary schools? In the adaptation process, we rely on the theory of acculturation (Berry, 2005), which encompasses the processes of refugees adapting to a new country. We attempted to answer this question through qualitative research using the principles of grounded theory. The research sample consisted of 21 students from primary schools and 19 parents, all of whom originated from Ukraine and immigrated after the outbreak of the war. Data were collected through semi-structured interviews with the assistance of an interpreter from Ukrainian to Czech and vice versa. Qualitative data analysis followed the procedures based on grounded theory and was conducted by a four-member research team using Atlas.ti software. The results indicate that a significant barrier in academic adaptation is the tendency of school staff to prioritize well-being support for students over academic demands. In socio-cultural adaptation, the national narrative about Ukrainian refugees plays a crucial role, influencing interactions among children in school and potentially leading to strained relationships within the class. An important aspect acting as a barrier in both academic and socio-cultural adaptation is the insufficient language proficiency of Ukrainian children, resulting in their isolation from the group, misunderstanding of tasks or curriculum, and subsequently poorer academic performance. The findings of this study can serve to identify more targeted support for this group and other foreign children, facilitating their adaptation in a new country.

**Keywords:** war refugees in schools; academic adaptation; socio-cultural adaptation.

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# ON TEACHER CONTINUING PROFESSIONAL DEVELOPMENT THROUGH EUROPEAN MOBILITIES: HOW ERASMUS+ KA1 PROJECTS AFFECT TEACHERS' BIOGRAPHIES AND NARRATIVES IN PORTUGAL

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This presentation displays the theoretical construction that directly fuels the study on Erasmus+ KA1 projects and how teachers develop through them. With this account in mind, three main areas of theory form a triangular relationship which is dynamic and though independent from each other, do converse, relate to one another and form a cohesive unit. The axes of this triangle are Europe and teachers, school context and culture and teacher biography and narrative, respectively covering the supra/macro, meso and micro/nano levels (van den Akker, 2009) of the chain of educational policies. The latter is the main axis, the one that soars through the field and becomes the central element of the figure as it forms the heart of the main theme of the proposal: looking at how teachers' biographies and inherent narrative constructs are shaped by professional development through European mobilities. With this in mind, continuing professional development constitutes a backdrop to or background for this geometric setting. To put it in musical terms, it is the leitmotif for a living structure that resembles a symphony, with three different movements and an additional first movement where a string of musical themes is presented to then be worked through the remaining movements, thus guaranteeing the interconnection, interrelation and unity of the entire piece.

In turn, for several years, the European Commission has been investing in transnational mobility projects for the continuing professional development of staff in schools for the sole purpose of improving the quality of education, as well as to establish networks of communications where teachers and schools can share their best practices and experiences. Although necessarily nestled in a proactive and positive school culture, these projects also have an impact on teachers professionally, but also on a personal level, which has proven to be the case in Portugal where a direct relationship between these forms of transnational mobilities and an improvement was registered, not only in the quality of provision provided by a school, but mostly significantly in the shift in teacher practices and their own perception of what being European means and who a European teacher is. This is largely corroborated by data provided by an Erasmus+ delegate of the national Erasmus+ Agency who was very clear about the aims of Erasmus+ KA1 projects for teacher professional development and even for personal growth regarding European citizenship.

**Keywords:** Teacher Professional Development; Erasmus+; Transnational mobilities.

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# ASSESSMENT OF STUDENT TEACHERS' CRITICAL THINKING, CREATIVITY, COOPERATIVE MINDSET AND ENGAGEMENT DURING THEIR UNIVERSITY STUDIES

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Teachers' soft skills play a vital role in enhancing students' educational experience. The development of skills like critical thinking, creativity, and a cooperative mindset is both imperative and challenging in teacher education. Previous studies revealed that students' engagement is associated with the development of some soft skills. Indeed, various educational institutions, such as Mondragon Unibertsitatea, have placed the development and assessment of soft skills and engagement at the core of their educational project. The aim of this proposal is to describe the longitudinal assessment of student teachers' critical thinking, creativity, cooperative mindset, and engagement during their university studies.

The sample comprised 175 undergraduates attending Early Childhood Education and Primary Education degrees, all of whom completed various measures in years 1, 2 and 4 of their degree program. Participants (68% female, 30.86% male, 1.14% non-binary) were aged between 17 and 26 years ( $M = 18.92$ ,  $SD = 1.62$ ) at the start of their respective study program.

Results showed an increase in student teachers' critical thinking, creativity and cooperative mindset over time. Teacher student engagement was found to be associated with an increase in all the soft skills by the end of undergraduate study. From a practical point of view, the findings suggest the need to encourage student teachers' engagement to promote their soft skills. From an institutional perspective, establishing a system for the assessment and promotion of soft skills and engagement appears to be an appropriate strategy to guide teacher education.

**Keywords:** soft skills; engagement; teacher education.

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# A PARADIGM SHIFT IN TEACHER EDUCATION DEGREES: DESIGNING A HOLISTIC AND TRANSFORMATIVE EXPERIENCE FOR STUDENTS

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This abstract introduces a pioneering educational initiative carried out at the Faculty of Humanities and Education from Mondragon Unibertsitatea, where a transformative project was designed to foster the holistic development of students through a comprehensive approach to education (García, Zubizarreta & Astigarraga, 2017). Embracing a forward-thinking philosophy, the Faculty planned an innovative educational framework centered on the development of students' soft skills and supported by a range of curricular elements (Imaz & Ipiña, 2020). By combining both, the Faculty aims to help graduates to thrive in an ever-evolving global landscape.

The implementation required a comprehensive curriculum overhaul. As such, this educational project represents a paradigm shift in higher education. The soft skills were agreed among the community and the consensus resulted in the identification of eight core attributes: creative and transformative; committed to oneself and the profession; autonomous and able to learn throughout life; critical and analytical thinking; cooperative mindset and social justice-oriented person; intercultural, multilingual and multimodal awareness and communication; rooted in the Basque context and committed to the community from a sustainable perspective; and able to manage uncertainty and frustration.

In order to ensure the development of essential soft skills, and thereby guarantee a holistic and transformative educational experience for the students, a set of designated curricular elements, recognized as high-impact practices helpful to the enhancement of the aforementioned personal attributes, were outlined. Among these elements, small-size grouping, interdisciplinary modules, personalized tutoring, emphasis on personal development, "assessment as learning" paradigm, and strategic digital integration could be emphasized.

The presentation will provide an in-depth exploration of the procedural trajectory and advancements made across various domains. Key areas of focus will encompass the formulation of soft skills and curricular elements, curriculum design considerations, and the training undertaken for teacher educators, among other pivotal facets.

**Keywords:** Educational project; soft skills; curricular elements.

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## **BLEAK PEDAGOGY: A NEW TERM UNVEILED FROM RESEARCH ON ADULTCENTRISM**

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With this work we propose an overview of the studies that led to the operationalization and validation of Adultcentrism (AD) and Black Pedagogy (BP) scales (\*), which involved samples of university students, primary school teachers, children, and parents. Moreover, we outline the international research connections that have developed from the exploration of such constructs. Especially, the link with childist theoretical perspective, which has been analyzed in its potential to promote age-inclusive developments and educational methodologies (\*).

The presented research has focused on unacknowledged adultcentric biases of the adult-child relationship, and on their outgrowths in terms of educational methods, which – despite good intentions – may represent practices, values, and methods harmful or counterproductive for children (i.e., “Black Pedagogy”). Through the analyses of the results, it has become clear that Adultcentrism seems to reflect the natural point of view of adults, which risks leading to detrimental practices only if exacerbated (\*). Likewise, the construct of Black Pedagogy proved to be particularly useful if used in a non-judgmental way (\*).

In this contribution we discuss the aspects that increasingly suggest adopting a social constructionist epistemological frame while deepening the understanding of these constructs, and we conclude that, for sake of consistency, the term “Black Pedagogy” itself needs an update. In fact, considering it only as “bad” pedagogy risks to reduce the complexity of the educational culture we are trying to capture: not the easily recognizable maltreatment, but the subtle components – deemed acceptable in society – of adult-child relationship capable of generating psychological and emotional suffering, likely deriving from a lack of resources in practicing an educational role without authoritarian instruments. Therefore, we propose the new label “Bleak Pedagogy”; etymology, meanings, and practical implications are discussed.

\*References anonymized for double-blind peer review.

**Keywords:** Adultcentrism; Bleak Pedagogy; authoritarian education.

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(Florio et al., 2020a, 2020b, 2022b, 2023, 2024); (Biswas et. al, 2023).



## REASONS AND BELIEFS OF (GREEK) TEACHERS FOR PARTICIPATING IN AN MSc RELEVANT TO THEIR PROFESSION

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The present paper is based on a broader survey of teachers' reasons and beliefs for participating in an MSc programme related to teacher education. This survey also explores their reflections on their experiences as postgraduate students. All participants in the research were already professional teachers in public education when they applied for and participated in the MSc programme. They were teachers working in both primary and secondary education. The purpose of forming two separate groups during the analysis process was to compare the responses of the two groups and to point out possible differences or similarities. In the present presentation we will focus on exploring and ultimately answering the central research question: what are the reasons and motivations on the basis of which the research participants, who were already employed in their profession, chose to undertake an MSc in Teacher Education?

The issue was explored using semi-structured interviews. The initial - indicative - questions that were decided to be used helped to develop the discussion in relation to each teacher's reasons, motivations and criteria in his/her decision to participate in an MSc. The data generation and analysis of this data to answer the research question was based on 12 interviews with professional teachers who chose to undertake an MSc in Teacher Education. Specifically, the research sample consisted of 6 primary and 6 secondary professional teachers who had participated in or had just completed an MSc relevant to their profession.

In relation to the analysis and findings from the discussion with our two sample groups, we could argue that there were no major differences between the two groups. Both groups pointed out that the main motives were firstly the desire for new knowledge, then to fill possible cognitive gaps and generally to become more qualified. There were some small differences, especially from the fact that in the first group, the one with primary teachers, it was clear that a very strong motive was the need to appear more qualified to their students' parents, among all the other reasons. Whereas in the second group, a very strong motive seems to be the desire to strengthen their typical qualifications and also their curriculum vitae.

**Keywords:** Teachers' education; Lifelong Learning; Motives.

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# TEACHER AND TEACHER EDUCATORS DEVELOPING EDUCATION AND PEDAGOGICAL PRACTICES WITH VALUES OF HUMAN FLOURISHING IN A COMPLEX, INTER-RELATED WORLD

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The research aim is to contribute to the development of education, research and pedagogical practices with values of human flourishing by teacher and teacher educators “to ensure that education truly transforms lives in the world” (Education 2030 Incheon Declaration, p.70)

The theoretical framework integrates insights from educational theory and research, positive and social psychology and values-led practitioners’ theories and research. It provides the basis of an argument, with evidence, which justifies teachers adopting a Living Educational Theory Research (Whitehead, 2008, 2018) approach to their continuing professional development (CPD). By using this approach teachers develop forms of teacher education and practice that are inclusive, equitable and promote lifelong learning opportunities for all.

The implications of asking, researching and generating answers to questions of the kind, ‘How do I improve my educational influence in the learning of my students and the social formations, which form the context of my practice, to flourish and help others do so too?’ are explored. Notions of social validity (e.g. Habermas, 1976) and rigour (e.g. Winter, 1989) are drawn on to evaluate and improve the effectiveness of Living Educational Theory Research as CPD. The conclusions draw on papers published 2008–2023 in the Educational Journal of Living Theories (<https://ejolts.net/>) and Masters and Doctorates accessible from <https://actionresearch.net/>.

The relevance to “Teacher education research in Europe: trends, challenges, practices and perspectives” is in the explanations of educational influences in learning generated through Living Educational Theory Research as professional development; a form of values-led professional practitioner educational research. This includes insights that emerge in imagining and working towards futures where Humanity flourishes in a more humane world in the course of tackling teaching and learning challenges in the here and now to “Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” (UNESCO, 2016).

**Keywords:** Living Educational Theory Research; professional practitioner educational research; values-led practice.

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# A LIVING EDUCATIONAL THEORY RESEARCH APPROACH TO TEACHER EDUCATION AND PROFESSIONAL DEVELOPMENT IN EUROPE

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We position our research and practice in relation to education as a values-laden process expressed in Magna Charta Universitatum (MCU 2020), the Global Education Network Europe (GENE 2022) and the European Declaration on Global Education to 2050 (Dublin Declaration 2023). As teachers and teacher educators engage Living Educational Theory Research they take responsibility for their own professional and educational development researching questions of the kind, 'How do I improve my educational influences in learning with values of human flourishing?' This includes contributing valid explanations for their educational influence in their own learning, in the learning of others and in the learning of the social formations within which the practice is located, to a globally accessible educational knowledgebase.

Current scenarios that characterize teacher research and practice are epistemological and political. In this paper we show Living Educational Research offers a n approach to developing a values-laden, valid and evidence-based approach to the professional development of teachers and teacher educators and addresses primary issues and proposals for policy recommendations at national and international levels (Huxtable & Whitehead, 2022; Whitehead & Huxtable, 2023).

We illustrate how teacher research and practice can influence the development of a sustainable, peaceful and equitable teaching/learning processes that acknowledge the concept of pluralism, diversity and differentiation and contribute to innovative education policies. An argument is presented for the current and potential re-launch of teacher education research and practices in terms of a Living Educational Theory Research approach to teacher professional development in Europe. We start from theoretical constructs, epistemological insights, specific historical trajectories and evidence-based research (Whitehead & Huxtable, 2024). We then examine past developments, while considering the implications for teachers and teacher educators meeting future challenges in Europe. We draw on an archive of living-educational-theories at <https://www.actionresearch.net/living/living.shtml> and papers published in the Educational Journal of Living Theories (<https://ejolts.net/>).

**Keywords:** Living Educational Theory Research; Professional Development; Educational Values of Human Flourishing.

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*A.4. Teacher education and pedagogical perspective in uncertain times: history, theory, policies and practices (1)*

Whitehead, J. & Huxtable, M. (2023) Why a focus on 'what is educational?' matters so much in reconstructing education? *Irish Educational Studies*. September 2023, <https://doi.org/10.1080/03323315.2023.2251451>

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## **Parallel session n. 1**

**Day 2** // Afternoon / Thursday, 30th May 2024

### **A.5. Teacher education and pedagogical perspective in uncertain times: history, theory, policies and practices (2)**

## GETTING LOST AND REPOSITIONING BETWEEN ACROBATS AND PATHS. MINIMAL REFLECTIONS ON THE LEGACY OF ANDREA CANEVARO

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Andrea Canevaro is renowned for the intellectual and tangible attention to disability. However, his studies were characterized by a broader view on inclusion deeply rooted on the meaningfulness of the body.

Inter, trans-disciplinarity, and a gentle pedagogy, were the fertile ground of his studies on inclusion. His fundamental book “Children Who Get Lost in the Woods: Languages and Identities of Childhood” unfolded a condition that became paradigmatic for diverse forms of exclusion related to disability, socio-economic status, fragility, and risk of being left aside.

According to him, the school and the educational system are unfair if not considering the trace of the one's past, her/his cultural reality engraved in the body and in the whole person. Is wrong, the institution that claims as valid only the culture of reading and writing.

With his evocative style, he focuses the aim of education on mediating the repositioning of the person, opening the way to a variety of life-paths, including the most challenging (“crossing the streams through emerging stones”).

In this perspective, the educators should take-on, among the others, the ethic of the acrobat based on reciprocal responsibility while performing.

Canevaro, in addition to university teaching, has been engaged for decades in continuing education, often sharing operational contexts, inspiring a wide audience of teachers and educators.

**Keywords:** Inclusion; continuing education; mediator.

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# EMPOWERING FUTURE PHYSICAL EDUCATION TEACHER THROUGH INNOVATIVE DIDACTIC

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Physical activity can be practiced not only in sports facilities, but also urban space can be experienced actively. However, not everyone succeeds in leading an active lifestyle within urban areas. Therefore, it is crucial that future teachers acquire the appropriate knowledge and competence to critically assess the use of public spaces as tools for promoting physical activity.

This study aims to highlight an innovative teaching strategy, employed at the University of Bergamo, designed to enhance sports science students' skills and competencies applicable also in the context of urban outdoor education.

This course employed innovative teaching strategies such as Flipped Classroom, group laboratory, participatory teaching alongside frontal teaching. The interdisciplinary approach underpinned the entire course, considering philosophy, architecture, physiology and pedagogy. At the conclusion, students showcased their observational, analytical, and critical thinking skills by identifying various types of human movement suitable for different observed locations. To evaluate the effectiveness of the teaching methodology a total of 36 students participated in an online questionnaire. Additionally, 6 students were engaged in a focus group.

The questionnaire's analysis revealed a preference among students for innovative teaching strategies over frontal teaching. They emphasized the value of group laboratories in enhancing their understanding of the theory and appreciated the constructive peers' feedback. Students who expressed satisfaction with the course were those interested in the course topic. Conversely, those who expressed dissatisfaction were individuals who were not keen on the course theme and those who, in contrast to the Flipped Classroom method, did not invest time in studying at home.

Learning through experience, critical evaluation, and practical engagement helped students to understand theory better but also empowered them competencies to evaluate urban spaces, to identify their potential for promoting physical activity and to become agents of positive change in urban environments.

**Keywords:** urban outdoor education; sport science; teaching skills.

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## BUILDING BRIDGES BETWEEN SCHOOLS AND FAMILIES

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Engaging parents in school is an aspect of the teachers' role that remains a white spot in their official training. COVID 19 and the refugee crisis has shifted school focus and increased the challenges teacher face in both the classroom and the communication with the parents. Migrant parents, often coming from different cultural backgrounds, not having a shared language with the teachers or not being confident enough due to their lack of education, are even more often excluded from participating at school, as teachers are not equipped with tools and methodologies to overcome the barriers.

The Parents Engage project focuses on supporting teachers in engaging parents of various cultural backgrounds in school successfully. Based on our research, in most countries parental engagement is not a topic covered in initial teacher education, and even if there is a course, it is an elective one, while working with families belonging to the majority population is already flagged as challenging for many schools.

The conference presentation will introduce the outcomes of the research done in Parents Engage on the training needs of teachers as well as on successful practices that can serve as inspiration. The presentation will also introduce our evidence-based training for in-service teachers to help them understand the main concepts and benefits of parental engagement and to provide them with support on different obstacles whilst reflecting on their own environment. The main topics of the training cover concepts of parental engagement, managing relationships in diverse school communities, and clarify the role of teachers and parents in the process. The training also offers practical tools and competence development related to these.

Parents Engage builds on the experiences and resources of NGOs and community organizations, suggests innovative education methodologies and addresses alternative policies to decision makers to introduce pluralism and diversity in schools.

**Keywords:** Parental Engagement; Parental Involvement; Pluralism.

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# THE ROLE OF OPPORTUNITIES TO LEARN IN TEACHER EDUCATION RESEARCH

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In recent years, research efforts in the field of teacher education research have increased significantly in Europe. Various conceptual models have been developed to capture different aspects of teacher professionalisation (Cramer, 2020). In so-called competence-orientated models (Bauer et al., 2010), teacher education is understood as a series of 'opportunities to learn' (OTL; Klemenz et al., 2019; Kunina-Habenicht et al., 2013) that contribute to the development of professional competences (König, 2020) if actively used by students (Helmke et al., 2008).

OTL can be described according to different characteristics: while initially much attention was paid to the weight of curricular content (subject, subject didactics, education) and its influence on competence development (Schmidt et al., 2011), currently different formats of teacher education (university courses versus internships) or task elements of teachers (lesson planning, performance assessment, etc.) are frequently examined (Klemenz et al., 2019).

In the first part of the proposed paper, we will examine the concept of OTL, its evolution in the teacher education debate, its potential meanings, and challenges. In the second part, we will use data of the Linz Longitudinal Study of Teacher Education (Weber et al., 2021), to ask how OTL experienced by students (in the secondary teacher education programme 'Secondary General Education' in Upper Austria) are related to their learning outcomes. In particular, we want to focus on the 3rd year of study and students' experience in two central profession-oriented university courses and two internship phases. In our analysis, we ask for the content-focus and frequency of the OTL experienced and their relationship to self-reported competence growth in various dimensions of professional competence. Although the analyzed data come from a single European country, the results may be of broader European relevance, as similar formats and task-related features of OTL recur in many European teacher education curricula (Symeonidis, 2021).

**Keywords:** Teacher education research; opportunities to learn; professional competence.

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# WHO ARE THEY AND WHAT DO THEY NEED? NARRATIVE IDENTITIES OF STUDENT TEACHERS STUDYING IN PERSONAL LEARNING ENVIRONMENTS

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The paper reveals the learning process of university students, future teachers, which takes place in specific conditions - in the environment of an e-learning semestral course (i.e. distance learning), designed so that the student can be as independent as possible from the lecturer's instructions and can take some control over his/her learning process. There are numerous factors that influence the ability of university students to regulate their learning in an online environment - intrinsic motivation, course design, time management skills, metacognitive self-regulation skills, or technological self-efficacy (Eom & Ashill, 2016; Landrum, 2020; Nonthamand & Suaklay, 2021). The theoretical concept defining the environment that should support self-regulated learning is called the personal learning environment (PLE). Through it, one of the components of learning that has a significant impact on academic achievement, called self-regulated learning, can be encouraged. Self-regulated learning (SRL) is a process in which students are actively involved in their own learning (Zimmerman, 2002). It incorporates planning, setting goals, monitoring their progress, adjusting strategies based on feedback and self-evaluation. Our objective was to explore the identity of the students in depth. We carried out 8 in-depth semi-structured interviews in the context of the qualitative research. The research sample consisted of student teachers from the Masaryk University, studying 1st to 5th year. The results suggest that the ability to individualise study content and deadlines increases student satisfaction. At the same time, however, it also shows that there are students who are not comfortable with the study freedom and the low degree of control. These students are more prone to dropping out or failing the course. The research contributes to understanding what students themselves consider important in guiding their learning in the online environment.

**Keywords:** narrative inquiry; personal learning environment; self-regulated learning.

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# LANGUAGE TEACHER EDUCATION BEYOND BORDERS: EXPLORING THE IMPACT OF INTERNATIONAL EXPERIENCES ON NON-NATIVE PRE-SERVICE ENGLISH TEACHERS

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In an era marked by unprecedented globalization, understanding the impact of cross-cultural interactions, international collaborations, mobility programs, and equivalent experiences on linguistic proficiency, intercultural competence, and global awareness is paramount for the preparation of English language teacher candidates (Hiratsuka, 2022; Lee, 2011; Lindhal et al., 2023). Therefore, this research endeavored to explore the transformative effects of such experiences on candidates enrolled at a Turkish university. Through purposive sampling, participants with substantial international exposure have been meticulously chosen, ensuring a comprehensive representation of diverse backgrounds and encounters. The study has employed a qualitative research design, utilizing a series of focused group interviews, to facilitate a thorough exploration of the nuanced impact of these experiences on their professional development and pedagogical outlooks. The study demonstrated a notable self-reported enhancement in linguistic skills and intercultural competence among non-native pre-service English teachers with substantial international exposure. These participants reported an increased proficiency in adapting diverse pedagogical approaches, showcasing their adeptness in responding to the challenges of multicultural classrooms. These findings are anticipated to illuminate the pivotal role of international experiences in shaping future educators' abilities to address the complexities of language instruction in an increasingly globalized world. This study will contribute valuable insights to the broader discourse on teacher education and intercultural competence, particularly in the context of globalization and cross-cultural interactions, offering practical implications for curriculum design and the cultivation of globally-minded educators, thereby addressing the contemporary challenges and opportunities in teacher education.

**Keywords:** Intercultural competence; English language teacher candidates; multicultural classrooms.

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## TEACHERS SECONDED TO CONTINUING TEACHER EDUCATION: IDENTITIES OF THE THIRD KIND

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This paper draws on a study investigating the professional identities of teachers seconded to an Irish Continuing Professional Development (CPD) support service. Specifically it addresses the concept of 'third space' identities described as the overlap of two sites of professional practice (Engeström, 2004) which demands a negotiation of boundaries between two seemingly conflicting worlds. While this has been a growing area of scholarly interest in preservice teacher education (Zeichner, 2010; Whitchurch, 2013), this paper explores it both within continuing teacher education and teacher secondment contexts.

Data was gathered from interviews with primary and post-primary teachers once seconded to the support service who had either returned to school or who took up other roles in the education system post-secondment. Rooted in a theoretical framework setting out key career stages of secondment, the paper chronologically describes how third space identity tensions manifested for these teachers and how hybrid solutions were facilitated through professional supports and the agentic responses of the teachers themselves.

Findings show third space tensions initially emerging during the notoriously challenging transition from teacher to teacher educator (Murray and Male, 2005) and how robust induction structures scaffolded this transition towards a co-existence of dual teacher/teacher educator identities. Data also highlights how intra-professional development within a cross-sectoral multi-disciplinary environment nurtured third space identity construction across subject and sectoral divides through 'expansive learning' networks (Engeström, 2004).

Boundary dilemmas are uncovered while publicly promoting policy ideals as teacher educators on one hand and privately as teachers appreciating the realities of school life on the other. Data show however that participants learned to harness this complexity in behaving as valuable conduits between the teaching population and policymakers. Indeed the findings indicate that reaching proficiency as teacher educators is synonymous with embracing hybridic identities and rejecting previous binaries.

In emancipatory fashion the paper highlights how the neoliberal tenor of secondment policy tasks these teachers with brokering third spaces career identities in belonging to both their schools and the service. Shown to be particularly evident towards the end of secondment when its transformative effects signal a return to school as incompatible with newly acquired identities, it signals a lack of post-secondment career pathways. This coupled with capricious tenure conditions prompted the carving out of 'third space careers' in alternative education settings post-secondment. Those returning to school encountered other third space disturbance as their new identities threatened static school cultures and accountability measures hindered their pedagogical aspirations.

**Keywords:** Continuing Teacher Education; Third Space Identity; Expansive Learning.

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# HOTHOUSING AND TEACHER TRAINING COURSES: HOW COLLABORATIVE, PROJECT-BASED, STEAM ACTIVITIES CARRIED OUT WITH STUDENTS CAN INFLUENCE PRE-SERVICE TEACHERS AND TEACHER TRAINING COURSES

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Digitalising education and introducing STEAM have been discussed since the 90s in America. After the COVID-19 pandemic, a discussion about STEAM also started in Austria raising the need for teachers skilled in STEAM education. However, it takes time to educate a teacher generation confident with and skilled in innovative teaching methods necessary for the STEAM approach, for instance, project-based interdisciplinary collaborative learning, and technology implementation. Research has shown the role of teachers' beliefs, therefore, to increase pre-service teachers' confidence, we designed a course based on the 'hothousing' approach known from the industry. A hothousing workshop consists of three phases: a short input and intensive brainstorming, a follow-up session checking on the progress, and eventually, a presentation and feedback. Hothousing workshops are especially effective because of the time constrain. Following this structure, pre-service teachers are first presented with worked examples and how students and teachers evaluate these tasks to show students' increased motivation. Then, pre-service teachers must design similar tasks in smaller groups, and present and discuss them during the course. We hypothesise that pre-service teachers' confidence increases if they can test innovative teaching approaches in a safe environment first. Since 2021, we have tested the course design in three cycles with more than 30 pre-service teachers. Data collected by questionnaires, observations, pre-service teachers' presentations about their classroom implementation, short papers written by pre-service teachers about their teaching practice, and interviews, seem to prove our hypothesis. As this study focuses on learning environments and teachers' beliefs, we will refer to the Theory of Didactical Learning Situations, Teaching for Robust Understanding, and the Zone Theory. We will also rely on the learning theory of Constructionism and affective learning to study students' motivation. Based on our findings, we hope to design a course offering pre-service teachers a scaffolding to become innovative in-service teachers.

**Keywords:** hothousing; STEAM; beliefs.

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*A.5. Teacher education and pedagogical perspective in uncertain times: history, theory, policies and practices (2)*

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## CHALLENGES AHEAD TO TRAIN CULTURALLY AND LINGUISTICALLY RESPONSIVE TEACHERS

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Training culturally and linguistically responsive teachers (CLRT) is a growing need (Gay, 2018) in a time marked with skyrocketing populations of culturally and linguistically diverse students (UNESCO, 2019) due to tremendous human mobility (Migration Policy Institute, 2016). Numerous calls are made to develop strategies or models that infuse Culturally Responsive Teaching (CRT) (Gay, 2018) into preservice curricula to train CLRT (Villegas & Lucas, 2002). Türkiye, a country experiencing diversity in every field of life, including education, is no exception (Eren & Çavuşoğlu, 2021). However, training CLRT is surrounded by many challenges (Nilsson et al., 2016), and identifying them as a starting point is pivotal to answering these calls.

This study was based on participatory research to understand CRT in teacher education in the Turkish context. We organised a panel discussion with the participation of six experts from different fields and practitioners to explore the challenges of training CLRT. A roundtable discussion was adopted where three major questions were posed to the participants, which resembled a focus-group interview. Two independent rapporteurs inscribed the discussions. The transcriptions were crosschecked to improve reliability. We coded the raw data inductively through content analysis. Following the first cycle of coding, we achieved high intercoder agreement. After a second cycle of coding, sub-themes and overarching themes were articulated.

Three themes inhibiting training CLRT were identified: External, systemic, and personal factors, each with corresponding sub-themes and codes. External factors covered issues not directly stemming from educational frameworks. While systemic factors referred to challenges resulting from educational frameworks and institutions, personal factors included constraints rooted in individuals' capacities in the teaching profession. Training CLRT was a multi-layered issue surrounded by many factors, demanding layer-by-layer solutions at individual, institutional, and systemic levels, for which comprehensive reforms, including teacher education models tailored to the specific needs of teachers, were needed.

**Keywords:** teacher education; panel of experts; culturally responsive teaching.

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# FROM EPISTEMOLOGICAL INTEGRATION TO A NEW THEORETICAL CONSTRUCT: INTERSPECIES EDUCATIONAL ENVIRONMENTS

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Despite the urgent need to envision the interdependence between humans and the planet through the lenses of sustainability, a dualistic view of such a relationship is still rooted in our society. Therefore, pedagogical research can help restore our connections with the more-than-human by developing novel curricula and educational environments aimed at overcoming this dualism (Wals et al., 2022). Consequently, the study relies on an interdisciplinary framework that places education in dialogue with psychology, geography, critical plant studies, and architecture. This study aims to establish active relationships between pre-service teachers and plants by designing a curriculum for initial teacher education (ITE) that fosters their GreenComp (GC). The concept of educational environment, operationalized as a physical, relational, and activity space, informs the creation of three university classrooms with plants needed to further develop the curriculum. The research builds on the theory of transformative learning, draws from recent studies on ITE (Bamber, 2020), and is oriented by the general questions: “How is it possible to foster the development of GC in pre-service teachers by setting up educational environments with plants and formulating an interdisciplinary co-constructed green curriculum (IGCC)? The design and methodology align with the state of the art on curriculum development and EfS in tertiary education (Pritchard et al., 2018): the case study is multiple, vertical, and descriptive and is conducted through a mixed-method approach. Students and professors from two Universities participate in the study for eighteen months. The output of the project is a tool that supports the creation of interspecies educational environments in which plants represent the living variable in the physical, relational, and curriculum spaces. The paper presents the theoretical framework developed through the integration of the foundational epistemologies of the selected disciplines. Its application informs ITE practices and aims to contribute to the innovation of green educational policy.

**Keywords:** Interspecies Educational Environments; Epistemological integration; GreenComp.

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# THE LOGIC OF INQUIRY. THE CONSTRUCTION OF A CRITICAL PEDAGOGY BEYOND THE PRAGMATIST METHOD

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## METHODOLOGY

Critical comparison between the authors in order to highlight, through the classic works and possibly new current proposals, the logical link between them, considering the relevance of each in the analysis of the power-culture pair. In this regard, I decided to compare Dewey's concept of experience throughout the course and to make it dialogue with the main exponents of critical thinking and social change. Indeed, Dewey's thought can represent the methodological framework that provides the elements of reflection suitable for uniting praxis and education.

## THE AUTHORS

I have chosen the authors highlighted below, as their characteristics make it possible to outline a system of investigation between culture and power and a pedagogical line that can produce emancipatory and concrete thinking.

Paulo Freire offers the possibility of developing a method connected to praxis that can be defined as "Reflection on Action for Transformative Education", Henry Giroux is considered one of the major exponents of Critical Pedagogy in North America, and Joe Kincheloe for his ability to produce a constructivist thought.

## THE QUESTIONS

How can the logic of enquiry prove to be a useful method for critical pedagogy?

What are the points of connection between Dewey and the other authors ?

Is it possible to derive a GENERALISABLE METHOD from it ?"

**Keywords:** Critical Pedagogy; education; Inquiry.

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## PROMOTING AND SUPPORTING LEARNER RESILIENCE IN THE HOSPITAL SCHOOL

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The experience of illness and hospitalisation for children, and the impacts of both on their wider life, requires emotional adjustment, often encompassing stress and trauma (Macias et al. 2015; Moses, 2011; Savina et al. 2014). Research confirms children vary in their capacity to cope with such changes (Bishop, 2010), but many successfully navigate the challenges due to underlying resilience (Masten, 2019). Using Masten's conception of resilience, many factors surrounding the child are implicated; individual (e.g. age, self-regulation), familial (e.g. secure caregiving, significant others) and social (e.g. positive relationships, supports; Bain & Durbach, 2021; Masten, 2001;2019). To gain a greater understanding of resilience in hospitalised children, this qualitative study examined the social supports provided to them in the hospital school setting. In particular, the practices of 16, purposively selected, hospital school teachers, in the Republic of Ireland, were examined using interviews. Thematic analysis revealed teachers' on-going social support along two lines: emotional and companionship. Teacher's provision of emotional support was proactive and reactive. This included teachers' emotional comfort and buffering of wider learner stress, as demonstrated in their lessons, wider communications, and considerations. Teachers and hospital schools also offered reassurance, as shown in the flexibility in school and lesson engagement, challenge, and encouragement. Companionship supports included regular and varied opportunities to interact, where teachers endorsed school attendance, learners' meeting and engaging with each other, establishment of new connections, and promotion of social skills. Learner's sense of belonging, within the hospital school, was also pronounced, with teachers endeavouring to minimise isolation and offer a safe space for expression. Finally, in supporting learners, teachers' emotional strain was evident. These findings confirm the dynamic and holistic teacher role, their on-going efforts to offset the negative impacts of illness and hospitalisation, and support and promote resilience in learners. These findings and their implications will be discussed.

**Keywords:** resilience; social support; hospital school.

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## RE-IMAGINING THE ROLE OF TEACHER: EXPLORING WHOLE CHILD DEVELOPMENT IN HOSPITAL SCHOOLS

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Schools are recognised as more than sites of academic learning, providing social spaces to enable learners to interact with peers, establish and maintain supportive relationships and build socio-emotional skills and habits, leading to whole child development (Darling-Hammond et al., 2019). Social isolation, particularly from peers, can be debilitating, often resulting in stress and anxiety (Matthews et al., 2015). We argue that ensuring student teachers engage with heterogeneous learner groups in diverse placement settings such as hospital schools, enables teachers to recontextualise the curriculum, focusing on whole child development going forward. By drawing upon elements of the Relational Development Systems Framework (Darling-Hammond et al., 2019), we explore how the positioning of teacher as a member of a complex and diverse team focusing on whole child development, can ensure diversity, differentiation and inclusion are at the core of teaching practices. Consequently, the role of teacher agency (Biesta et al., 2017) in the development of trust and connections among staff and families and in foregrounding student-centred instruction which embodies the integration of social-emotional skills is examined. This paper reports on findings from one-one interviews with purposively selected schoolteachers (N=16), based in three hospital schools in the Republic of Ireland. Using thematic analysis (Maguire & Delahunt, 2017), similarities and differences in participants' experiences of "aspects of agency such as social relations, trust, power, ideas, values and discourses" (Alvunger, 2018; 483), are identified and organised under the themes of Relationships, Social-emotional skill development and Student-centred instruction. The findings indicate the need for a re-imagining of teacher identity and role to incorporate the establishment of safe boundaries and the skills of negotiator and team member within teacher education programmes; the importance of 'normalcy' in the social-emotional development of learners that hospital schools offer and addressing the multi-faceted nature of child-centred learning in this setting.

**Keywords:** agency; teacher role; child-centred.

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# INTERACTION BETWEEN RESEARCH-BASED AND EXPERIENCE-BASED KNOWLEDGE IN A COLLABORATIVE MASTER'S SUPERVISION PROJECT

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Since 2021, all student teachers in Norway are required to take a master's degree. For their master's thesis, many need empirical data from classrooms. This calls for a collaboration between the university and the practice field.

This presentation reports from PRANO ('Practice-based master's projects in L1-education), a three-year research and development project with the following main objectives: a) to strengthen the integration of research-based and experience-based knowledge in the joint supervision of student teacher's master thesis, and b) to develop a new model for collaboration between university and the field of practice. In PRANO, L1 schoolteachers and university professors collaborate on the supervision of students' master projects, and where their competences complement each other. This paper explores how we can understand the interaction between research-based and experience-based knowledge in the various phases of the work on the student teacher's master thesis. Empirical data are interviews with schoolteachers, professors, and students.

Findings: Overall, the collaboration has dismantled the hierarchical structures between university and practice. Both schoolteachers and professors experience equality and mutual learning. Even though they contribute different knowledge – teachers more about the school context and professors more about research and academic writing, they are both involved in the development of research questions, the data collection and the development of classroom activities, creating a learning process for all roles involved. The student teachers report that they experience the classroom as a place for research, and that the collaborative supervision helps them see the link between the university and the school. Our findings are discussed through theories on research-based and experience-based knowledge (Eraut, 2000; Ertsås, 2017; Cochran-Smith & Lytle, 1999) and theories on third space (Zeichner, 2010; Daza et.al, 2021; Ikpeze et.al., 2012; Lejonberg, et.al., 2017).

**Keywords:** Teacher education; practicum; master.

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## **Parallel session n. 1**

**Day 2** // Afternoon / Thursday, 30th May 2024

### **A.6. Inclusion in teaching and learning processes and school improvement**

## INCLUSIVE PROCESSES OF DISPLACED PUPILS FROM UKRAINE IN ITALIAN SCHOOLS

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Schools had to face the problems caused by student displacement due to war or other political crises. The war in Ukraine displaced a considerable number of people in a very short time. Among the refugees were many school-age children who needed to continue studying and were welcomed into the schools of the host countries. Schools and teachers quickly had to arrange inclusive strategies to integrate the displaced pupils. This study aimed to investigate the factors that encouraged the inclusion of displaced pupils from Ukraine in Italian contexts during the first months of the war. We also investigated the efficacy of the strategies adopted in the different Italian schools. The study involved 208 teachers from all Italian areas and all school levels: preschool, primary, and high school. The participants interviewed welcomed 461 Ukrainian pupils in their classrooms.

The teachers filled in an online qualitative questionnaire to describe their experience from a personal and a professional point of view. They answered questions on: 1) how they managed the initial days when they welcomed the Ukrainian pupils; 2) After the welcoming, how they supported the integration of the Ukrainian pupils; 3) What educational strategies they used to support the learning development of the Ukrainian pupils; 4) If they had the opportunity to work with Ukrainian pupils with special needs; 5) If their school promoted outside educational activities scheduled after usual school hours; 6) How they feel about the Ukrainian pupils' inclusion in terms of efficacy and in terms of feel to have the competences to face an intercultural emergency? The interviews were analysed from a qualitative and quantitative point of view. The coding process was split into three main steps based on grounded theory analysis (Charmaz, 2014; Corbin & Strauss, 2015). The findings revealed five main factors that affected the effectiveness of inclusion. This study suggests the creation of guidelines that principals and teachers can follow to welcome and include displaced pupils.

**Keywords:** displaced children; Intercultural education; Refugee education.

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# FORMATIVE ASSESSMENT WITHIN TEACHER EDUCATION PROGRAMMES AS PROFESSIONAL DEVELOPMENT OF PRESERVICE TEACHERS: SELF-, PEER- AND GROUP-ASSESSMENT

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Formative assessment represents a three-fold challenge for preservice teachers. Firstly, they experience formative assessment as a strategy to improve their own learning during their university programs. Second, they must learn what is formative assessment and practice several methods and techniques. Ultimately, they should be motivated to use formative assessment when they become professionals in the respective fields, inside and outside school. Formative assessment is particularly valuable because it helps students reflect on their learnings and better understand the process of achieving competencies (Shute, 2008; William, 2011). Universities commonly use standard testing for assessment (Kembo, 2020), even in the teacher education programs. Within a "learning by doing approach", we consider educating pre-service teachers on how to arrange and develop formative assessment strategies. To do so, we consider important to set up a teaching approach that allows pre-service teachers to experience formative assessment strategies on themselves. The faculty of Education at the University of Genova (Italy) offers a five-year course to become both kindergarten and primary school teachers. During the academic year 2022/2023, we conducted an exploratory study on formative assessment. This study aimed to train and motivate pre-service teachers in learning and using several strategies of formative assessment. Within a subject named "Curriculum development", 156 pre-service teachers experienced three strategies of formative assessment: self-assessment, peer-assessment, and group-assessment. The study was structured with a three-stage mixed method collecting both quantitative and qualitative data. At the end of each stage, a questionnaire collected the pre-service teachers' opinions, thoughts, and impressions regarding each formative assessment strategy. Qualitative and quantitative data were analysed respectively with NVivo 14 and SPSS29. Findings revealed that pre-service teachers appreciated peer- and group-assessment, although these practices require specific and careful organisation and resources to be run.

**Keywords:** Formative assessment; teacher education programmes; professional development of teachers.

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## EMPOWERING STATUS HOLDERS IN THE CLASSROOM: A PRACTITIONERS PRESENTATION

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This presentation delves into Windesheim University's pioneering initiative 'Status Holders in the Classroom', designed to create inclusive and empowering educational spaces for refugee-status educators. It examines the current state of practice and research within the program, addressing the complexities and risks involved, as well as the innovative solutions required. Aligned with the themes of the ATEE Spring Conference 2024, this initiative contributes vital insights on fostering inclusive and sustainable learning environments. This presentation offers a unique European and Dutch perspective in the rapidly evolving landscape of global teacher education. Since 2019 Windesheim has been offering an educational orientation program, enabling recognized refugee individuals with relevant educational backgrounds to explore teaching in exact sciences in The Netherlands. This initiative by Windesheim with support from UAF, has equipped participants with subject specific teaching methods, Dutch language proficiency and a comprehensive understanding of the Dutch educational system and experience as an intern at a secondary school. The Universal Declaration of Human Rights (United Nations, 1948, art. 26) recognizes that everyone has the right to education. This is especially important for refugees who are building a new life in The Netherlands. Led by teacher educators Ines Hukic and Sanne Koetsier the program emphasizes a holistic approach, intertwining subject-specific methods and pedagogical content knowledge with language development. This adaptive approach with the learning questions from the group accommodates diverse learning needs, often stemming from cultural disparities between participants home countries and The Netherlands.

Participants undergo significant transformations, adapting their teaching methods from traditional lecture style instruction to student-centered, collaborative approaches. They learn to incorporate hands-on activities and interactive materials, aligning with contemporary pedagogical trends. By offering meaningful roles in the community, the program empowers refugee to rebuild their lives and self-worth. The initiative addresses the pressing need for qualified teachers in exact sciences in The Netherlands while advocating for equal opportunities and inclusive education. This program had the ongoing evaluation (Magee & de Vries 2023) from researchers from the department of Social Innovation.

**Keywords:** Refugee-teachers; inclusion; innovative adaptive approach in learning; empowering.

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## SUPPORTING INTERNATIONALLY EDUCATED TEACHERS ACROSS EUROPE?

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Labour shortages are one of the key drivers of migration. The issue of teacher supply and teacher shortage across Europe is well established. A recent Eurydice report refers to a “vocational crisis of the teaching profession” which means that many states “struggle to provide a qualified, modern and valued workforce” (Eurydice, 2021, p. 30). This is not a new development; a decade ago, it was reported that the “need to attract more appropriately qualified staff into the teaching profession is a growing priority in Europe (Eurydice, 2014, p. 13). Given that Eurostat data from 2018 highlight that 40% of primary and secondary teachers across the EU were over 50 years old, the issue of teacher supply is set to shape educational concerns across Europe. Internationally educated teachers offer one strategy to increase the number of teachers in many European countries.

Yet, the academic literature is clear that migrant teachers face considerable barriers as they seek to work in new jurisdictions (Bense, 2016). Many migrant teachers face rejection of previous qualifications, highly bureaucratic application and assessment processes, financial and time costs associated with applications and difficulties in passing language proficiency tests and frequently require recredentialising (Mc Daid and Nowlan, 2022; Proyer et al, 2022; Terhart, 2022; ). While there have been several interventions within member states with regard to the issue of teacher migration and bridging qualification programmes are carried out in some European countries (Krause, Proyer and Kreamsner, 2023), these actions have received very little attention at a central level within the union. This paper reports on the activities of the Internationally Educated Teacher Working Group of the SIRIUS Network as it works to pull together policy makers, advocates, academics and others with a professional interest in the space of increasing teacher mobility to provide, for the first time, a unified European focus on this issue.

**Keywords:** Internationally educated teachers; Teacher migration; Teacher shortage.

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# HIGH SCHOOL STUDENTS' PERCEPTIONS OF STUDENT TEACHERS AND THE TEACHING PRACTICUM

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The teaching practicum is a significant component of Initial Teacher Education (ITE) programs in preparing student teachers for classroom teaching (Kitchen & Petrarca, 2016). Field experiences presumably offer sound pedagogical learning, so much so that Darling-Hammond and Baratz-Snowden (2005) refer to them as “the most pervasive pedagogy in teacher education” (p. 42). Despite the prevalence of the teaching practicum in ITE programs across the globe (including Europe), the ways classroom students experience practicum is not a common focus of scholarship.

Given that classroom students are implicated in the teaching practicum by virtue of their presence in a student teacher's classroom, they presumably experience practice teaching in ways that differ from the student teacher, the mentor teacher, and the university/faculty supervisor (Pattison-Meek, 2024). This presentation will share the results of a qualitative study (drawing on student group interviews) that asked high school students (n=57) in the province of Quebec (Canada) to share their perceptions and understandings of the teaching practicum (as members of recent courses that had hosted a student teacher).

High school students, through group interviews, reported feeling both sympathy and empathy toward their student teachers. Thematically, sympathy describes participants' expressed understanding that it is likely challenging for student teachers to fill the role of an experienced teacher. Empathy is a theme that describes students' feelings of connection to student teachers, based on their perception that they, like them, are also students – and therefore support student teachers' success (“I'm rooting for them!”) because they see themselves reflected as fellow learners. Classroom students also shared that they could play a role in the development of student teachers' professional learning. The inclusion of student voice which informed the findings of this study may be of interest to teacher education programs in Europe to inform models of best practice in the teaching practicum.

**Keywords:** teaching practicum; student voice; high school.

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# GLOBAL READING METHOD FOR DEVELOPING READING SKILLS OF CHILDREN WITH AUTISM SPECTRUM DISORDER

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Education of children with Autism Spectrum Disorder (ASD) is becoming increasingly relevant. Changes in the Education Law from 2024 will create better conditions for children with ASD to learn alongside neurotypical children in mainstream schools. Autism in children manifests in various forms, with different levels of intellect, language, and socialization. Students with ASD often face difficulties in learning to read, as the phonics-based reading method commonly used in schools is usually not suitable for them. However, these students have strong ability to process and memorize visual information, allowing the successful application of the global reading method for the acquisition of basic literacy skills.

The founder of the global reading method, Glenn Doman, observed that young children, even before learning to read, can memorize the whole visual image of a word. Initially, the child does not distinguish letters but memorizes a word as a picture composed of letter combinations. Thus, learning to read begins in a somewhat "reverse" manner, starting from word recognition and association with a specific image, syllable formation, and finally progressing to combining letters to form words and sentences. The main principle of the global reading method is "From the whole to the part."

This study reveals the experiences of applying the Global Reading Method in educating children with ASD. A qualitative research methodology and focus group discussion method were employed. Five teachers with experience in educating children with ASD and applying the Global Reading Method participated in the study. Experiences with the application of the global reading method were analysed using thematic analysis.

The results show that the Glenn Doman method significantly enhances early reading abilities in children with autism. While Global reading cannot replace traditional reading but it may facilitate and accelerate the development of reading skills.

The study also found that teachers use the method in various forms, not only supporting visual learning styles with visual cards but also motivating and encouraging ASD children using apps developed based on this method.

**Keywords:** Global reading method; autism spectrum disorder (ASD); early reading.

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# ENHANCING BEHAVIOUR SUPPORT: A BEHAVIOURAL SKILLS TRAINING APPROACH IN AN IRISH SPECIAL EDUCATION CONTEXT

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**Background:** A growing body of evidence supports the need for enhanced professional learning (PL) in behaviour support in Irish schools. This study investigated the impact of Behavioural Skills Training (BST) on the positive behaviour support (PBS) skills of teachers and Special Needs Assistants (SNAs) (N=17) in a special school for autistic students with cooccurring complex needs. BST is a competency-based training model successfully applied in the education of a broad range of front-line staff. However, it has yet to be evaluated in a study involving Irish educational professionals.

**Methods:** Adopting a mixed-methods research (MMR) framework, the study was divided into two phases: Intervention and Implementation. The Intervention phase involved six 2-hour workshops using BST, focusing on a custom Behaviour Support Curriculum (BSC) with strands in choice-making, functional communication, and tolerance of uncertainty. Skill development was measured through trials-to-criterion, alongside a baseline performance assessment for each BSC unit. A post-training survey explored the acceptability of BST as a form of PL. In the Implementation phase, teacher planning documents were analysed, and semi-structured interviews were conducted to evaluate the application of skills and identify both the barriers and facilitators impacting classroom implementation.

**Results:** Skill mastery was achieved by all participants in each of the nine BSC units. Participants also evaluated the BST intervention positively. Of the 16 students enrolled, BSC units were incorporated into the support plans of 14 students, with an average of 2.375 units per student, though there was significant variation in implementation rates between the highest and lowest implementing classrooms. The semi-structured interviews corroborated the positive survey feedback, highlighting the practicality of the training and the applicability of the content for the student cohort. Key factors raised as impacting implementation were classroom leadership and availability of follow-up support.

**Conclusions:** The findings confirm that BST is an effective and well-received approach for disseminating evidence-based practices to special education professionals. Future research should investigate the long-term effects on staff skills, as well as student behaviour and well-being.

**Keywords:** Behavioural Skills Training; Positive Behaviour Support; Professional Learning

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## SEE THE GIFTED AND TALENTED LEARNER: EDUCATING FOR A MORE INCLUSIVE SOCIETY

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The research undertaken for the publication of 'The Gifted Learner: How to Help' promotes timely awareness and understandings of the gifted and talented, an 'at risk' cohort who comprise up to 10% of the population. It highlights their value to the world and how identifying, understanding and supporting their needs, strengths and sensitivities leads to more inclusive, socially just education systems which empower them to have more fulfilling educational experiences and to take these learnings forward into their personal and professional lives for the benefit of all.

The objective of this research was to produce an educational resource to enable teachers, educators and parents to identify, understand and support the gifted and talented, including the underachieving gifted learner and the twice exceptional learner, a student with a gift and a disability.

The author conducted empirical research where she interviewed 19 gifted learners aged 10-58 years of age, spanning primary, second-level, third level and into adulthood, a parent in each case and a nominated teacher who 'got' them (57 interviews in total).

Towards this end the author designed a gifted learner framework (GLF) to enable the identification of the gifted; she documents student, parent and teacher voices across a range of strengths and sensitivities to enable increased understandings; and provides a 'how to help' (H2H) section chapter by chapter with practical strategies to support teachers and parents.

Findings indicate the diversity of the gifted and talented, the importance of providing challenge coupled with social, emotional and relational support, and individualised education and career guidance programmes which are tailored to meet learners' needs and priorities.

Critically, the need for urgent teacher education at preservice and CPD levels is highlighted so that this 'at risk' cohort is included and adequately supported.

**Keywords:** gifted and talented; identifying the gifted learner; understanding the gifted learner.

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# PREDOMINANT EDUCATIONAL APPROACHES FOR TEACHING CHILDREN WITH AUTISM SPECTRUM DISORDER IN PRIMARY SCHOOL

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The presented study focuses on identifying the predominant educational approaches utilized by primary school teachers in the education of students with autism spectrum disorder (ASD). Differentiated, individualised and personalised education (PE) approaches have similar goals, but their implementation in educational practice differs. Each of these approaches aims at some level to ensure educational equity for all learners, recognising their diversity (Abawi, 2015; Lindner & Schwab, 2020), emphasising the importance of getting to know the learner, and searching for the best ways to teach and learn (Bray & McClaskey, 2015; Lindner & Schwab, 2020; Tomlinson, 2014). PE includes individualisation and differentiation components (Bray & McClaskey, 2015), which is why it is observed that these approaches are often interchangeable in educational practice (Lindner et al., 2019; McDougal et al., 2020; Shemshack & Spector, 2020). The presented exploratory study is grounded in a qualitative methodology, employing an individual semi-structured interview approach with primary school teachers (N=8) who possess experience in instructing learners with ASD. The study shows teachers' eagerness to thoroughly understand each student in the classroom; however, there is a prevailing emphasis on challenges associated with students with ASD. The characterization of students based on their conformity/non-conformity to norms is a common trait of the individualised education approach. Nevertheless, student collaborations, parental involvement, teamwork between teachers and student support specialists, along with acknowledging student diversity, indicate the initiation of a personalised approach to education. The findings indicate that participants utilized a combination of differentiated, individualized, and personalised approaches in educating students with ASD. This dual perspective suggests both a flexible integration of diverse approaches customized to the learners' needs and educational context, and an instinctive method employed by teachers to address educational challenges in the classroom, particularly in situations requiring more substantial theoretical preparation.

**Keywords:** Personalised education; autism spectrum disorder; inclusive education.

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# PROMOTING INCLUSIVE TEACHING AND LEARNING PROCESSES AND ADVANCING SCHOOL IMPROVEMENT FOR VISUALLY IMPAIRED AND BLIND STUDENTS VIA UNIVERSAL DESIGN FOR LEARNING: A LITERATURE REVIEW

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This literature review-based presentation explores the theme of inclusion in teaching and learning processes as well as school improvement for visually impaired and blind students, with a specific emphasis on the application of Universal Design for Learning (UDL) principles. The aim of this review is to discern significant findings, identify trends and gaps in the existing literature, offering a comprehensive overview of the current state of knowledge in this domain. We present a qualitative synthesis of findings from 30 carefully chosen peer-reviewed articles sourced from a pool of 2691 articles retrieved from databases such as Scopus, Sage Journals, ERIC, EBSCO, and Springer Open, published between 2019 and 2024. The literature review methodology [3] was adhered to, employing the following keywords: Inclusive Education, Visually Impaired and Blind Students, and UDL. Articles aligning with the study's objective were chosen for in-depth review. The findings indicate that UDL enhances access to information and learning materials using assistive technologies, alternative formats, and accessible instructional resources [2, 4]. UDL can promote active engagement, participation, and independence among visually impaired and blind students by providing multiple means of representation, action, and expression [2]. Nevertheless, successful implementation of UDL relies significantly on collaboration and communication among teachers, special pedagogues, and educational support staff [2, 6]. This becomes crucial when addressing persistent challenges and barriers in daily practice, including ineffective teaching approaches, negative attitudes, social stigma, inflexible curriculum, insufficient knowledge and training, and inaccessible infrastructure [6, 1]. Moreover, teacher training and professional development programs centred on UDL implementation are pivotal for enhancing the educational experiences of visually impaired and blind students. These programs have the potential to instigate positive changes throughout the entire school community, fostering inclusivity and improving educational outcomes for all students [6, 5].

**Keywords:** Inclusive Education; Visually Impaired and Blind Students; Universal Design for Learning.

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# RECRUITMENT, RETENTION, AND PROGRESSION: CRITICALLY EXAMINING THE HYPO-VISIBILITY OF BLACK SENIOR LEADERS IN UK SCHOOLS

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In an educational landscape reshaped by COVID-19, this oral presentation offers timely insights into the challenges and opportunities within the realm of teacher research and practice. Central to this examination is the oft-marginalised facet of diversity in educational leadership, with a specific emphasis on the trajectories of ethnic minority educators ascending to senior roles within UK schools. Conducted amidst the unprecedented backdrop of a global pandemic, the research adopts a narrative inquiry approach (Clandinin and Caine, 2008), utilising semi-structured interviews with a collective of Black women educators from across the UK.

The study examines their career journeys, uncovering systemic challenges, and highlighting the intersecting (Crenshaw, 1988) barriers faced by minority ethnic educators across the UK education landscape, in the pursuit of career success and upward mobility. This qualitative investigation, underpinned by a rigorous thematic analysis (Braun and Clarke, 2006), lays bare the complexities and multifaceted nature of the hypo-visibility of these educators, emphasising the need for nuanced approaches to enhance their representation in leadership roles (DfE, 2023).

This presentation aims to explore how teacher research can inform policy and practice in the post-pandemic era. It discusses the underrepresentation of Black senior leaders in education, reflecting broader societal inequalities, and underscores the importance of diverse leadership for inclusive and effective educational environments. The findings provide a foundation for policy recommendations, advocating for innovative and equitable strategies to foster a more diverse leadership landscape in UK schools.

In the context of the evolving educational challenges at both European and global levels, this research makes a salient contribution to the ongoing dialogue on diversity, equity, and inclusion. It proffers vital perspectives instrumental in sculpting forward-thinking educational policies, thus enriching the contemporary discourse on educational leadership diversity.

**Keywords:** Leadership; Diversity; Representation.

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## “EVERY TEACHER IS A LANGUAGE TEACHER”: SUPPORTING EAL STUDENTS IN THE FURTHER EDUCATION AND SKILLS SECTOR

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The increasing number of young adults who have English as an additional language (EAL) in the further education (FE) classrooms in the UK (Cara, 2021) has placed challenges on the FE lecturers who are expected to teach their vocational subject to a culturally and linguistically diverse pupil population without having the appropriate pre-service or in-service teacher education. Even though EAL students might have already developed their everyday language skills, they need more time to improve their academic language skills (Cummins, 2008). Additional language teaching needs to be included alongside subject content teaching in mainstream classrooms to facilitate EAL students' language and cognitive development (Leung & Creese, 2010).

This study aims to investigate the pedagogical principles and teaching practices that FE lecturers adopt to address the needs of EAL students in a FE college in South London with high numbers of EAL students. The research is guided by the following research questions:

1. What teaching practices do the focal FE lecturers adopt to support EAL young students in the FE classrooms?
2. What are the focal FE lecturers' perspectives about these teaching practices?

A multiple case study approach will be adopted to explore this phenomenon in depth and from different perspectives (Stake, 2005). Classroom observations and ethnographic interviews will be conducted to reveal the teaching practices and underpinning perspectives of four experienced FE teachers in FE college who have high numbers of EAL students (Kvale, 1996; Merriam, 1998).

The research findings will contribute to the development of professional knowledge base that would make the college's FE lecturers aware of practices that they could adopt to provide an outstanding learning experience for all students regardless of their linguistic and cultural background. As Johnson and Golombek (2020) argue, teacher education needs to be located and linked to teacher cognition to effectively prepare teachers for their classroom reality.

**Keywords:** mainstream classroom; teacher education; further education and skills sector.

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# INCLUSIVE TEACHING AND LITERACY ACQUISITION PRACTICES: TEACHER'S PERCEPTIONS ABOUT EARLY INTERVENTION'S MODELS

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The need to renew teaching-learning processes represents an educational emergency that primarily involves teachers, committed to ensuring the educational success of each student. In light of what emerges from empirical evidence, it can be affirmed that the inclusive nature of the school is also measured by its ability to guide projects and teaching towards a perspective of full accessibility, to address the multiple challenges and specific learning difficulties of students (Cottini & Morganti, 2015; Mura, 2016; Zurru, 2023). Moreover, the progressive increase in the number of children with Specific Learning Disorders, consistently with the regulations, emphasizes the need to identify innovative forms of intervention capable of proactively responding to the students' needs (Giaconi & Aparecida Capellini, 2021; Zappaterra, 2017, 2021, 2022).

Among the contributions of international literature, the Response to Intervention (RTI) stands out as a methodology aimed at supporting teaching-learning processes through targeted paths of support and constant monitoring at the individual and class levels (Grosche & Volpe, 2013; Jimerson et al., 2015; Kovaleski et al., 2013). The possibility of differentiating types of intervention and modes of support for students makes RTI a transformative and innovative methodology potentially integrable into the teacher's educational practices.

Therefore, it becomes relevant to investigate the conditions under which it's possible to reasonably adapt the principles underlying RTI to the Italian school context, already predisposed to welcome a model with these peculiarities.

In light of these considerations, this contribution describes the initial phases of a broader collaborative research-action project aimed at the professional development of a group of teachers from the Infant and Primary Schools of two educational institutions in Sardinia. Through the use of focus group, the knowledge and perceptions of participants regarding early intervention and difficulties in reading and writing were explored to identify the conditions for adapting RTI principles into their daily teaching practices.

**Keywords:** Response to Intervention; Innovative teaching; Reading and writing difficulties.

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# PROFESSIONAL DEVELOPMENT AND SOCIAL AND EMOTIONAL LEARNING: EXPERIENCES AND PERCEPTIONS OF SPECIALIZED TEACHERS ON SOCIO-EMOTIONAL SKILLS

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In an increasingly various and complex school environment, where teachers are called upon to respond to a variety of educational needs and individual specificities, the professionalism of the teacher is characterized by rising levels of complexity, requiring the possession of skills aimed at promoting inclusive educational practices and supporting classroom dynamics focused on relational and emotional well-being (Aiello & Sibilio, 2018; De Vivo et al., 2022; Mura, 2019).

In this regard, Social and Emotional Learning (SEL) becomes important, referring to a complex interweaving of skills useful for recognizing and regulating emotions, establishing positive and lasting relationships, understanding others' perspectives, making responsible decisions, and appropriately addressing interpersonal relationships (CASEL, 2003). These skills are indispensable for the individual and social growth of students and for the professional development of teachers (Bombieri, 2021; Morganti, 2018).

Despite the prominence of the construct in educational contexts, there is a clear prevalence of intervention models focused on students, where the role of the teacher is defined exclusively in terms of their ability to implement socio-emotional education programs for the class (Jennings & Greenberg, 2009). Indeed, few contributions have examined the outcomes of training programs aimed at teachers for the learning of socio-emotional skills and the role that such acquisitions can play in their growth and professional development paths (Blewitt et al., 2020; Gimbert et al., 2023; Mura et al., 2023).

In light of these considerations, the contribution presents an exploratory study, part of a broader participatory action research project involving a group of specialized teachers. Through the use of focus groups, teachers' perceptions and experiences regarding the role of Social and Emotional Learning in professional development were explored. The goal was to develop, based on their teaching experiences, training paths focused on learning and developing such skills.

**Keywords:** Social and Emotional Learning; Professional Development; Teacher Education.

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# INCLUDING CRITICAL LANGUAGE AWARENESS INTO TERTIARY LEVEL LANGUAGE EDUCATION

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Critical perceptions towards language and language education have been widely acknowledged because of the contemporary changes in society which are the results of globalization, neo-colonialism, racism, gender issues, stereotypes, power relations, and cultural conflicts (Fairclough, 2013). As changes impact the role of language in social life (Fairclough, 2013) pursuing a language education and solely based on linguistic features will fail individuals and societies as it cannot meet the requirements of being a human in the 21st century. Therefore; it is essential to keep an inclusive stance and equip both language teachers and language learners with the knowledge and skills of critical language awareness (CLA) (Shepard-Carey & Gopalakrishnan, 2021). There is an enriched literature on increasing CLA of teachers and undergraduate level students. However, there is a limited number of studies related to including the objective of improving students' CLA into the language learning process at a preparatory school. Therefore, this mixed methods study aims at increasing CLA of tertiary level preparatory school students by including explicit discussions of social justice related issues into their curriculum. The study includes a survey which is used as pre and posttest, to elaborate on students' CLA before and after the treatment and a semi-structured questionnaire to triangulate the data.

**Keywords:** Critical language awareness; inclusion; curriculum.

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## **Parallel session n. 1**

**Day 2** // Afternoon / Thursday, 30th May 2024

### **A.7. Digital innovation and artificial intelligence (AI): schools, teachers and students between real and virtual world**

## A SERIOUS GAME TO TRAIN TEACHERS IN THE DESIGN OF LEARNING ACTIVITIES FOR THEIR STUDENTS

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In spite of a wealth of literature in favor of teacher agency and self-regulation in their professional development (TPD), transmissive models are still largely used in TPD interventions. This clashes with the urge to adopt learner-centered approaches which is increasingly a central message of teacher training initiatives. In particular, according to recent research, it seems game-based learning (GBL) approaches are rarely used in teacher training contexts (Meredith, 2016; Pozzi et al., 2023), while evidence of the potential of GBL in education is increasing, especially when engagement in active learning processes is concerned (Haggis et al., 2018; Persico et al., 2019; Pinedo et al., 2022).

To contrast this, the authors have proposed a serious board game in a number of training events for teachers in the context of 2 European projects (PLEIADE and SuperRED), with the aim of supporting the design of learning activities for students. The game comes into three formats: tangible (i.e. paper-based), digital, and hybrid (combining digital and paper elements).

In this contribution, after presenting the game, we share the results of the evaluation carried out during real life game use (participants: N.=128) to investigate the following questions: 1) what is the level of acceptance by teachers of the game? 2) what is the level of satisfaction with the 3 formats? 3) what is the level of the teachers' learning achievements? Thanks to a mixed -method approach, we have collected both quantitative and qualitative data regarding the teachers' opinions (through a questionnaire) and their learning achievements (through pre and post-tests). The study provides valuable insights into the capacity of the game to foster teacher engagement and motivation and to enhance their ability to design learning activities for their students. The data also suggests that the digital format yields better results than the hybrid and tangible ones.

**Keywords:** serious game; teacher training; learning design.

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# INVESTIGATING THE (RE)CONSTRUCTION OF EFL TEACHERS' IDENTITY AMID EMERGENCY REMOTE TEACHING: A NARRATIVE STUDY IN THE TURKISH CONTEXT

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This study investigates how elementary school EFL teachers (re)construct their professional identities in implementing Emergency Remote Teaching (ERT) in such cases of pandemics or earthquakes. The study focused on the variables, conflicts, and compromises that affected (re)constructing a professional identity. Five EFL teachers from an elementary school in a city in Türkiye participated in the study. The study employed a narrative inquiry approach to learn more about teachers' experiences in the context of ERT and to obtain a clearer understanding of those experiences. Personal data forms, narrative interviews, letters, and field notes were used to gather data. Thematic analysis was employed to analyze the transcriptions. Interpretation and meaning-making were used to retell the story. The findings showed that several contextual factors, such as lower student attendance, power outages, internet disconnections, issues with technological devices, and remote learning experiences, shaped the teacher's professional identity. The main conflicts that educators had to resolve were the demands for teacher preparation, the need to strike a work-life balance, parents' unduly intrusive behavior, remote classroom management, and student assessment. By (re)constructing their professional identities and thinking back on their prior successes, they contributed to finishing this crucial process. It is implicated that there is a need to plan and create an emergency educational strategy, assess the requirements for academic recovery, and equip both pre-service and in-service EFL teachers in elementary schools for unforeseen emergencies is evident. Emphasizing a robust professional identity is crucial to fostering future deliberations and ensuring effective involvement in diverse initiatives.

**Keywords:** ERT (Emergency Remote Teaching); EFL teachers; Professional identity.

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# EXPLORING THE IMPACT OF CHATGPT-BASED FEEDBACK ON EFL WRITING PERFORMANCE: A QUASI-EXPERIMENTAL STUDY

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Feedback in language teaching is one of the biggest challenges for educators. Especially, giving feedback on productive skills like speaking and writing needs more detailed attention. In giving feedback to students' written performances, the use of Artificial Intelligence Technologies may be said to simplify the process. However, the effectiveness level of the Artificial Intelligence tools needs further and deeper investigation. By taking this information into account, this quasi-experimental study investigates the integration of ChatGPT, a conversational AI language model, as an innovative tool for providing feedback on English as a Foreign Language (EFL) writing performance. In acknowledgment of the challenges faced by EFL writing instructors in delivering individual feedback to a large number of students, this research explores the efficacy of employing ChatGPT-generated feedback alongside traditional teacher feedback. The study involved 35 Turkish university students enrolled in EFL courses, utilizing both quantitative and qualitative methods to assess the impact on writing scores and accuracy. The findings of the study could pave the way for developing up-to-date efficient feedback tools and as well as methodologies that would help scholars and practitioners to understand the use and practicalities of AI tools in the feedback process.

**Keywords:** ChatGPT; Writing; Feedback.

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# AI IN, ACADEMIC WRITING OUT? REFLECTIONS ON TRIALLING AN AI SOFTWARE APPLICATION IN AN IRISH UNDERGRADUATE TEACHER EDUCATION PROGRAMME

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The authors reflect on their pilot use of an Artificial Intelligence (AI) software application in an Irish undergraduate Teacher Education programme in 2023-'24, emerging from their professional dialogue about developing assessment practices using innovative technologies. An initial conversation culminated in considering how AI tools might be harnessed to serve on their respective taught programmes. The authors reviewed literature regarding AI in education by Lameris and Arnab (2021) to further examine the concept of 'intelligence' in this field.

In this research, 85 Bachelor of Education students evaluated an AI application as a research tool for an academic essay submitted for assessment purposes. Students were later invited to offer feedback on their experience of using AI, particularly for the review of literature. Using AI, the software finds relevant papers without perfect keyword matches, summarizes takeaways from the paper specific to the research question, and extracts key information from the papers. While answering questions within research is the main focus of this software, other tasks help with brainstorming, summarization, and text classification.

This pilot project was trialled in an Initial Teacher Education programme. Both educators lead and lecture on higher education programmes including modules which aim to develop personal and professional skills for teaching and learning. Such modules focus on various requisite teaching and learning skills, from academic referencing to academic reading and writing skills to reflective writing. This behoves critical engagement with and reflection on AI tools.

To this end, further to an account of the AI implementation process and the associated research component, analysis of personal and professional learning are shared, drawing on the work of Tunjera and Chigona (2023). Further, the identification of potential future developments are examined and their implications for the role of the initial teacher educator as a critically reflective practitioner are elucidated.

**Keywords:** Artificial Intelligence/AI; academic writing ; research study skills.

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# KNOWLEDGE RETENTION IN FACE-TO-FACE, ONLINE, AND BLENDED ENGLISH COURSES FOR ADULTS

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Adult and continuing education are gaining significance as people need to train and re-train to adjust to the changing demands of the labor market. To accommodate the needs of adult learners, many education providers increased their offer of online and blended courses. However, to be effective, training must be properly structured and delivered. Educators, students, and employers need to know that online and blended learning ensure the outcomes comparable to those after face-to-face (F2F) modality, which is considered a benchmark in language training. Even more importantly, learning outcomes need to be long-term; however, in adult education these are difficult to evaluate.

In this quasi-experiment, we assess knowledge retention by comparing the difference in the level of English demonstrated in an external proficiency language test with the one achieved in a course. The adult students of comparable demographics attended courses of the same content and volume delivered by the same provider in F2F (n1=19), online (n2=19), and blended (n3=24) modalities between 2019 and 2022. Online and blended courses were developed in response to COVID-related restrictions and incorporated flipped classroom. The test assesses the overall level as well reading, writing, listening, and speaking skills and was administered a year after the course. We analyze mean values of the differences in level using modality as an independent variable. Descriptive statistics show the highest knowledge retention is demonstrated after the blended course and the lowest after the F2F one. However, the differences are significant only for writing skills. While larger samples might prove the differences to be significant, the results imply that a well-structured online or blended course ensures at least as good long-term learning outcomes as an F2F one.

**Keywords:** knowledge retention; teaching modality; adult learners.

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## SELF-ASSESSMENT OF DIGITAL COMPETENCES OF PRIMARY AND SECONDARY SCHOOL TEACHERS

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Analyzing previous and recent research (Jamieson et al, 2010, Chai et al, 2013), it is assumed that teachers, despite the sudden integration into the educational system, are mostly still shying away from using digital technology in the teaching process. In order to adapt the teaching process to modern digital changes, the teacher's readiness for continuous self-assessment, and then the development of digital competences, is necessary. The aim of this quantitative research is to obtain an insight into the results of the self-assessment of the digital competences of teachers in primary and secondary schools through the statistical processing and analysis of the data of the survey questionnaire, "Digital Literac", using the methods of inferential statistics. The respondents were part of the e-School project that took place in the Republic of Croatia from 2015 to 2018 as a pilot project designed by the Croatian Academic and Research Network-CARNet, and the project was co-financed by the European Union from the European Social Fund. This assumes that the level of self-assessment of digital competence will be higher compared to the average, because the teachers were part of the education for developing digital competences. 120 respondents participated in the research, of which 60 were primary school teachers and 60 secondary school teachers. The aim of the research is to determine whether there is a statistically significant correlation in the self-assessment of digital competences of teachers with regard to age and whether there is a statistically significant difference compared to teachers in primary and secondary schools. The scientific contribution of this work is manifested in the determination of possibilities and procedures for the development of digital competences in the further work of teachers.

**Keywords:** digital competences; digital technology; educational system; teachers.

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# HOW TO INTRODUCE ARTIFICIAL INTELLIGENCE INTO EDUCATION

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The literature of learning in the onlife era is focused on identifying the impacts of artificial intelligence (AI) on formal and informal learning, the role of educational institutions, and the role of teachers.

This paper presents the results of a research involving 123 secondary school students. It set out to analyze how the emotional states (Panas test) and engagement (Sem test) of learners change after the performance of a cooperative teaching activity (T0) and a second activity (T1) identical to the first except for the introduction, to support the performance, of CHATGPT.

The measured emotional results, at T1 compared to T0, show interesting variations: in particular, relatively better results are reported in terms of both interest, enthusiasm, determination, and resolve and also states of arousal, less strength, less concentration, agitation and nervousness. Direct observation confirms the "disruption effect," evidenced by the data, especially at the start of the second activity. The cooperation adopted, played a key role in abating the disruption effect: confrontation and cooperation allowed the groups to regain, after a few minutes, a balance for carrying out the delivery. It is pointed out that the introduction of AI, as a working tool, requires adequate training on the new tools and at the same time a careful in-depth study by the teachers of the cooperative methodologies in which to incorporate AI. Cooperative work, adaptable to any type of teaching action, is a key piece necessary for a homogeneous dissemination of the potential of AI tools. Cooperative work is a key necessary for homogeneous dissemination of AI tools. Good cooperative design, thanks to its implicit functioning, allows for the abatement of negative states and the recovery of group members' involvement and the non-accentuation of cultural differences among students. The results show that AI requires teacher training that takes these info account.

**Keywords:** AI; teacher; learning.

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# HIGH SCHOOL TEACHERS' ADOPTION OF GENERATIVE AI: ANTECEDENTS OF INSTRUCTIONAL AI UTILITY IN THE EARLY STAGES OF SCHOOL-SPECIFIC CHATBOT IMPLEMENTATION

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In 2023, the breakthrough of generative artificial intelligence led to its adoption. While some teachers expressed frustration over pupil misuse of generative AI, others advocated for the availability of a school-relevant chatbot for pupil use. In October 2023, a local chatbot intended to meet that goal was launched by Norway's capital, Oslo Municipality. After six weeks, an investigation was conducted to examine how 246 teachers perceived this new technology. The research questions that the study aims to address are: How have teachers adopted the chatbot into their instructional practices? How does teachers' belief in their own ability to effectively incorporate AI into their teaching (instructional self-efficacy) relate to their perceived instructional AI utility? What is the role of school management in the successful integration of AI into teaching and learning processes? How do discussions among teachers about the AI technology affect their use of it? Are these discussions contributing positively to increasing teacher efficacy and perceived utility of AI? The examination used structural equation modelling to explore antecedents of instructional AI utility. The analysis shows that the pathway between instructional self-efficacy and AI utility has the highest positively charged value. Considering that teachers typically carry out their primary task of teaching independently, it makes sense that their own beliefs and attitudes towards AI would have a significant impact. The pathways between management and AI utility have low numerical value. This last finding can be interpreted as the influence of an untapped management potential and must be seen in context of the fact that no guidelines for the use of AI in schools existed when the survey was conducted. In addition, the pathway between colleague discussion and AI utility has relatively low numerical values. The potential for learning through discussion among colleagues can be utilized to an even greater degree.

**Keywords:** generative AI; chatbot; teachers.

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# THE RELATIONSHIP BETWEEN SCREEN TIME USE AND SCHOOL BOREDOM

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Children's leisure time is an important factor that can result in developmental benefits or risky behaviours (Livazović, 2018). With the rapid technological progress, children's leisure time has expanded to include the virtual domain (Gómez-Gonzalvo et al., 2020). The impact of leisure time spent in front of screens differs depending on the amount of usage and the type of device (Mignot et al., 2019). All of these factors can have a negative impact that manifests itself in the school environment (Tomoniko, 2019). This paper aims to investigate whether there is a relationship between the amount of screen use, the type of device used during children's leisure time, and the perception of boredom at school. The research involved 217 participants between the ages of 8 and 14. A survey questionnaire consisting of three parts was used as a research instrument. The first part examined the sociodemographic aspects of the respondents. In the second part, the "Screen time use questionnaire for children" (STQCH) was constructed, and respondents assessed the amount of use of various devices during the school week and weekend. The last part, the questionnaire of already used questionnaire "School Boredom Proneness" (Carrington, 2019) was adopted. Respondents assessed their agreement with the statements on a 4-point Likert scale. It has been shown that there are gender and age differences in the perception of boredom at school, but also the amount of use of devices with screens for entertainment. This research showed that there is also a connection between the amount of time spent on screens and the perception of school boredom.

**Keywords:** leisure time; screen time use; boredom.

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# INVESTIGATING THE RELATIONSHIPS BETWEEN IN-SERVICE TEACHERS' TECHNOLOGY PEDAGOGY CONTENT KNOWLEDGE AND VIRTUAL LEARNING ENVIRONMENT SUCCESS

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Teachers' attitudes and skills in integrating Technology Pedagogy Content Knowledge (TPACK) into classroom practice and virtual learning environments outcomes register an increasing interest from various stakeholders, including academics, civil society, and policymakers. Using a quantitative research design, the article aims to investigate the relationship between TPACK and Virtual Environment Learning success. Following an informed consent procedure, the study collected data from 107 in-service Romanian teachers who voluntarily agreed to answer an online questionnaire comprising the Technology Pedagogy Content Knowledge and the Virtual Learning Environment Scales, exhibiting notable psychometric characteristics. The results showcase that teachers with a higher level of integration of pedagogical technology and content knowledge tend to achieve a higher degree of success in using the virtual learning environment. Moreover, differences regarding the success of teaching in the virtual environment recorded by teachers belonging to various age categories, teaching levels, specialization, and professional status are highlighted. The article focuses also discussing the practical implications of study regarding teacher training programs, 21st-century skills, curriculum design, technology integration policies, and learning outcomes within virtual environments.

**Keywords:** TPACK; Virtual Environment Learning; teacher training.

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## DEVELOPMENT OF TEACHERS' COMPETENCIES ON LEARNING DESIGN AND ON SUPPORTING STUDENT'S SELF-REGULATED LEARNING IN THE LOWER SECONDARY SCHOOL

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The Erasmus+ project "Supporting Self-Regulated Learning in Digital and Remote Education" (SuperRED), conceived and led by University of Florence, originated from the challenges encountered in remote education during the COVID-19 pandemic, focusing on the limited digital competences of students and teachers in utilizing digital technologies for teaching and learning (Carretero-Gomez et al., 2021; Ranieri, Gaggioli, Borges, 2020). SuperRED's activities focus on augmenting teachers' learning design (LD) capabilities to boost students' Self-Regulated Learning (SRL), according to Zimmerman's SRL phases (Zimmerman, 2008), by using a game for the macro-design of collaborative activities (Ceregini, et al., 2019) supported by digital technologies to enhance students' SRL. This approach was implemented in 2023 in three schools (Belgium, Italy, and Spain), involving a co-design process with teachers and researchers. Afterward, a survey was developed to collect teachers' perceptions of their LD competences and ability to support students' SRL. Results indicated teachers perceived improvement in LD phases (Conceptualization, Planning and authoring, Implementation and enactment with learners) following the SuperRED methodology, although during the scenario implementation, challenges arose due to motivational aspects related to the LD tool, time constraints, and student dynamics. The implementation of the scenarios led the teachers to acknowledge the value of all SRL phases, deeming the SuperRED approach effective in developing SRL competences in the performance phase. Responses also highlighted an increase in student autonomy and motivation, though some challenges in fostering deep reflections were noted, suggesting a need for further investigation and support in the reflections phase. Thus, the SuperRED approach shown to effectively improve teachers' LD skills and promote students' SRL competences, and identified areas for teachers' competency improvement in terms of professional development such as: the effective design of activities (considering time constraints), the mediation of student collaboration, and the enhancement of students' self-reflection during learning activities.

**Keywords:** Learning Design; Self-Regulated Learning; Digital Technology.

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# DIGITAL TECHNOLOGIES AND COLLABORATIVE ACTIVITIES FOR SCIENCE TEACHING IN THE UPPER SECONDARY SCHOOL: A QUALITATIVE STUDY ON TEACHER'S PERSPECTIVE

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Currently STEM teaching is facing a challenging switch to student-centered approaches, giving more emphasis on the active role of students in knowledge co-construction and on experience with real life problems (Al-Balushi, et al. 2023). This represents a critical issue for teachers of secondary school, in terms of their readiness to perform such a change, since how to teach science turns out to be one of the major training needs (Eurydice, 2022). In this context, a chemistry educational scenario has been designed to improve STEM teaching competences of upper secondary school teachers, also in the perspective of fostering a positive impact on student's scientific learning. The approach used in this study foresees the design of collaborative activities in which students experience the social co-construction of knowledge (Vygotskij, 1978) with the use of digital, intended as "cognitive tool", supporting students' cognitive processes (Lajoie, 2000; Ranieri, 2011). In 2023, the teacher and researcher co-designed the educational scenario, using a digital game, supporting the conceptualization phase of the design (Ceregini, et al. 2019). It was then implemented in one class of the 4-level of an upper secondary school. The qualitative tools used for data collection were the reflective diary and the semi-structured interview. The teacher underlined that the approach was effective in improving the design and management competence of the collaborative activities. Moreover, the scenario has been appreciated by students, leading to positive results on their deductive reasoning processes. As for the critical aspects, the teacher highlighted the need to better estimate the time required for each activity, taking into account also the students' level of attention. In conclusion, the proposed approach was effective in improving the teacher's competence in designing and managing the collaborative activities with the support of technologies and this is reflected in the positive outcomes observed in students.

**Keywords:** STEM teaching; digital technology; collaborative activities

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## **Parallel session n. 2**

**Day 3** // Morning / Friday, 31st May 2024

### **B.1. Teaching and learning challenges and professional development (1)**

## **SUPPORTING ACTIVE LEARNING IN ONLINE LEARNING: CREATING A CULTURE OF CARE**

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The purpose of this research was to examine the influence of teacher caring behaviors on student active learning and engagement. It is based on prior research that teacher interactions with students affect student motivation and achievement (McCombs, 2010, 2015, 2001; Umbach & Wawrzynski, 2005).

Kort et al.'s (2001) learning spiral model of emotions and learning served as the theoretical framework for this study. This model asserts that teacher interactions with students have a strong effect on student motivation and achievement and that teachers who show their concern for students are able to motivate students to be successful.

The research was guided by three main questions: 1) To what extent would the announcement generate interaction from students? 2) To what extent would the questions generate interaction from students? 3) What kinds of concerns would students express? The methodology of this study involved collecting responses from participants in online classes. Each assignment prompted students to respond to a "Check In" of how they were doing in the course and whether they had any questions.

The results of the study indicated that the concerns expressed from participants were about seeking help from an assignment, further explanation about an upcoming assignment, and questions about grades. The prompts also generated questions on course material that extended beyond the textbook content. Additionally, some questions were directed toward the instructor, such as why they chose to their area of teaching.

The significance of this study is trifold. First, it shows that frequent communication is important in online education. Secondly, students who are active in their course appear to be more engaged in learning. Thirdly, this tool has the potential to strengthen student motivation by showing concern for students as human beings.

**Keywords:** Active learning; virtual learning; teacher caring behaviors.

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# TEACHERS REFLECT ON THEIR IDENTITIES AS FORMER STUDENTS AND FUTURE TEACHERS

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The purpose of this qualitative research was to describe the educational experiences of a purposeful sample of preservice teachers enrolled in educational courses required for the fulfillment of a teaching degree. Theories of teachers' beliefs and qualitative constructivist epistemologies framed the study. The preparation of preservice teachers is an important area of research. Examining teacher's thinking through qualitative research opens the door to the thinking of new teachers. However, it is not known how preservice teachers describe their experience as students and relate it to their future identities as teachers.

Two primary questions guided this qualitative research: 1) How do preservice teachers describe their experience as students? 2) How do preservice see themselves as teachers?

Data were collected over the course of one college semester. The participants were asked to respond to the following prompts. As a student I was \_\_\_\_\_, and as a Teacher, I want to be \_\_\_\_\_ .

The statements of the participants were analyzed using Braun and Clarke's thematic analysis (2021). The following themes emerged following inductive data analysis. As a student, I was procrastinating, lazy, uninterested, and extroverted. As a teacher, I want to be a leader, knowledge imparter, impact others, and inspire students.

In conclusion, the participants in this study identified weaknesses in their work habits as students that they wanted to correct as teachers. However, more importantly, they see their future roles as teachers as ones where they are intricately involved in the lives of their students, being a leader for them and sharing knowledge. However, they also want to be positive forces in the lives of their future students, inspiring them to do great things with their lives.

**Keywords:** Teacher beliefs; constructivism; teacher identity.

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# EXTRACURRICULAR AS AN OPPORTUNITY. SYSTEMATIC REVIEW OF EXTRACURRICULAR ACTIVITIES OF CHILDREN LIVING IN FOSTER CARE

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The research highlights that fostered students, especially those living with foster parents, face challenges in school for which school participants are not always adequately prepared. The social, emotional, behavioral, and learning needs of children living with foster parents differ from those in their primary families, increasing the likelihood of school absenteeism and the necessity for specialized teaching methods. Schools need to pay special attention to the diverse needs of students living with foster families, as it affects the success of the school (Scherr, 2014; Zetlin et al., 2004; Fredricks & Eccles, 2006; Feldman et al., 2005).

Extracurricular activities may offer an opportunity for students to compensate for disadvantages, although their effectiveness may decrease in cases of frequent changes in residence or relationship dynamics. Structured leisure activities and regularity are important in the lives of children struggling with changes, contributing to their resilience (Farineau et al., 2011; Herczog 2013; Lemkin et al., 2018).

The study conducts a systematic review, applying the PRISMA guidelines and criteria. It presents the unique situation of foster families and the positive effects of extracurricular activities on the development of children. The results of the qualitative, semi-structured questionnaire investigation confirm that the specified compensatory factors are indeed present in the lives of children living with foster families who participate in extracurricular activities (Balogh et al., 2019; Connelly et al., 2022).

**Keywords:** foster family; child welfare; extracurricular activities.

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# UNVEILING THE MONTESSORI MOSAIC: EXPLORING TYPOLOGIES OF PROFESSIONAL IDENTITY AMONG MONTESSORI EDUCATORS

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This research delves into the intricate realm of Montessori teacher professional identity through an in-depth qualitative investigation involving eight experienced Montessori educators. Teacher professional identity research investigates the complex interplay of personal experiences, educational philosophies, and social influences that shape how educators perceive their roles, responsibilities, and sense of self within the teaching profession. (Beijaard, 2004; Gee, 2000) Employing a methodology centered on narrative interviews and reflective video-recall interviews (Nguyen & Tran, 2013), our study aims to unravel the socially and narratively constructed dimensions of Montessori teacher identities.

Utilizing Interpretative Phenomenological Analysis (Smith et al., 2009) as our analytical lens, we navigate the rich tapestry of Montessori educators' experiences and perceptions. Through an exploration of their narratives and reflections, we seek to illuminate the diverse ways in which professional identity is shaped within the Montessori context (Seldin & Epstein, 2003).

The core findings of our research converge on the emergence of two distinctive typologies within Montessori teacher professional identity. The first typology unfolds as the "Professional Identity of the Creator of Prepared Environment," where educators identify strongly with the design and organization of the classroom environment. The second typology surfaces as the "Professional Identity of the Individual Guide," emphasizing the personalized and responsive nature of teaching within the Montessori philosophy.

By shedding light on these typologies, our research contributes valuable insights into the multifaceted nature of Montessori teacher professional identity. These findings not only enrich our understanding of the diverse roles and perspectives within the Montessori community but also provide a foundation for further exploration and development of teacher training programs and professional development initiatives tailored to the unique identities within this educational framework.

**Keywords:** professional identity; Montessori; teacher.

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## RESILIENCE AND PURPOSE AS PREDICTORS OF PORTUGUESE SCHOOL LEADERS' WORK WELL-BEING

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School leadership is an emotionally demanding job and the considerable demands experienced by school principals may impact the whole-school well-being (Buskila & Chen-Levi, 2021; Heffernan et al., 2022; Sutton & Gong, 2021; Tikkanen et al., 2017). In a constantly changing educational context, the increasing pressure on these professionals may affect their job performance, satisfaction, psychological and physical health, well-being, and relationships with others. Resilience and purpose have been associated with work well-being (Hascher et al., 2021; Olomo-Extremera et al., 2022; Papaioannou et al., 2022; Platsidou & Daniilidou, 2021; Sanz-Ponce et al., 2022). However, limited empirical evidence exists on the liaison between these constructs and Portuguese school leaders' psychological and physical distress and work well-being. In line with existing literature suggesting that work-related well-being is influenced by multiple factors, this study sought to explore the relationships between resilience, purpose, and well-being in 921 teachers who perform leadership roles in Portuguese schools. Data were analysed through structural equation modelling and mediation analysis. The main findings show that psychological and physical distress are negative predictors of school leadership work well-being, whereas resilience and purpose predict positively work well-being. The mediating analysis revealed one indirect mediation effect: resilience buffered the psychological distress and work well-being relationship. Overall, the findings align with existing literature and make a unique contribution to the understanding of the interplay between resilience, purpose, psychological and physical distress, and work well-being.

**Keywords:** school leadership; work well-being; purpose; resilience.

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# STEAM-FOCUSED IN-SERVICE TEACHER PROGRAMS: CHALLENGES AND TRENDS IN TEACHER PROFESSIONAL DEVELOPMENT

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The adoption of the STEAM educational approach (Science, Technology, Engineering, Arts and Mathematics) is on the rise in schools, research initiatives, projects, and teacher training programs. Considering the relatively recent nature of the topic and the limited number of systematic reviews addressing STEAM education, which is further reduced when dealing with STEAM-focused teacher professional development, the paper aims to describe the state of the art regarding the professional development of teachers in STEAM education, in a general and global way, conducting background research in the area, offering a comprehensive and global overview.

To achieve this objective, it was conducted a review of the literature in specialized journals and reports, and a comprehensive mapping of the area highlights key insights found in the current scientific literature. This insight encompass: 1) design principles for teacher professional development programs in STEAM education; 2) the diverse types of professional development programs that have been implemented and evaluated; 3) an exploration of current topics in these trainings' initiatives along with presumed trends.

This study additionally details the models of teacher training in STEAM, particularly in the Europe unfolding through pertinent projects. Some challenges are informed by reports and present some pillars such as the use of technology in learning, problem-solving, creativity and critical thinking in teacher training. It further explores the requisite adjustments needed to align with evolving educational landscapes and emerging realities.

Research indicates that teachers value STEAM, however, they often perceive a gap in their initial training and professional development to integrate interdisciplinary and innovative approaches into their teaching practices. Within the framework of strategies and initiatives aimed at empowering teachers to effectively implement STEAM curricula, some ideas already established by advances in educational research will be discussed in this paper with implications to the field.

**Keywords:** STEAM Education; Teacher Trainings or Programs; Teacher Professional Development.

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# A FORMATIVE ASSESSMENT SYSTEM OF ITEMS TO PROMOTE PRE-SERVICE AND IN-SERVICE TEACHERS' CHANGE OF PRACTICES AND BELIEFS ON ASSESSMENT

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Literature on video analysis emphasizes its potential to promote teachers' professional vision important for supporting change in teaching beliefs and practices (Sherin & van Es, 2002, 2008). Professional vision can be defined as a systematic way to observe a classroom situation that promotes a reflective process toward more responsive teaching and it is a crucial goal of teachers' professional development programs. However, this observation should be accompanied by a structure that can help teachers focus on certain elements essential for implementing noticing and reasoning activities which are the two components of the professional vision's construct. Regarding the content of the video analysis activities, this paper pays attention to formative assessment (FA) practices which seem to be a valuable means to sustain students' achievement, in line with the idea of assessment for learning (Black & Wiliam, 2009). Indeed, much research has shown a positive effect of those practices on students' learnings in primary and secondary education (Hattie, 2009) as well as in higher education (Schneider & Preckel, 2017), although the debate is still open. Therefore, the purpose is to describe a framework and a system of items useful to guide structured observation during video analysis activities within a pre-service or/and in-service professional development program on FA. The system contains more than 100 items distributed over different areas corresponding to FA strategies described by the literature. Since it contains items also related to both Formal and Informal FA techniques (Ruiz-Primo, 2011), sections can be considered together or separately to better meet students' and teachers' needs. This tool, along with video analysis, provides teachers and students with strong content, and the opportunity to notice their own practices and students' reactions assuming an external perspective which is essential for an authentic reasoning process and for the change of the teachers' practices.

**Keywords:** video analysis; teachers' change; formative assessment framework.

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# DOES TEACHERS' PROFESSIONAL DEVELOPMENT MATTER FOR PRIMARY SCHOOL STUDENTS? AN EMPIRICAL ANALYSIS USING TIMMS 2019 DATA

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In education, research has shown that teaching quality is one of the most important factors for student learning (Chetty et al., 2014; Jackson, 2018). In this context, professional development (PD) is an important strategy that can help teachers continually expand their knowledge and skills to implement the best educational practices and, accordingly, raise student achievement (Darling-Hammond et al. 2017).

However, PD participation might potentially provide both detrimental and beneficial impacts on pupils' learning outcomes. On the one hand, PD may negatively affect student achievement by diverting teachers' time and school resources from other purposes, such as teaching (Harris and Sass, 2011). Furthermore, in some cases, the new teaching methods learned through training courses could hamper students learning (Sykes and Wilson, 2016). On the other hand, PD may enhance student outcomes because the new didactic approach developed could improve not only the teachers performances but also teachers' self-efficacy and job satisfaction, which in turn may raise both retention and teaching quality (Coldwell, 2017).

From an empirical point of view, several meta-reviews of quasi-experimental studies and randomised controlled trials have shown a positive effect between PD programmes and student achievement (Basma and Savage, 2023; Kraft et al., 2018; Sims et al., 2021). However, most PD programmes studied are conducted on a small scale, which can overestimate the magnitude of the association with student learning.

Based on that, this study aims to contribute to this area of research by investigating the effect of teachers' participation in mathematics and science PD on primary school student achievement in the 4th grade. We used data from the 2019 cycle of the Trends in International Mathematics and Science Study (TIMSS) for this purpose.

**Keywords:** primary school teachers; professional development; student achievement.

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# WHY AND HOW TO INNOVATE TEACHING AND LEARNING: LEARNING FROM PRACTICE

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During this session we will present the methodology and results of the Creating New Learning (CNL) research, an initiative under the European Training Foundation (ETF). With the research we aim to answer the following research questions: Which specific characteristics of innovations in teaching and learning contribute towards better learning experiences and outcomes?; What factors facilitate the initiation, development, implementation, sustainability and wider uptake of innovations in teaching and learning?; What factors hinder the initiation, development, implementation, sustainability and wider uptake of innovations in teaching and learning?

The research started in 2020 with a literature review to identify trends and innovations in five domains: Digital and Online Learning; Learning environment; Personalised and differentiated learning; Curriculum and key competences; Educators and Educators' professional development.

Although the literature review helped us in identifying trends and innovations, it also showed that the EU neighbouring countries were rarely represented in the literature consulted. Therefore, we decided to develop case studies of innovative practices in the ETF partner countries. We have developed thirteen case studies on innovative practices in teaching and learning from nine ETF partner countries. A practice is called innovative when something new is introduced with the aim and expectation to enhance the learning experiences and the learning outcomes.

For the development of the case studies, we used an iterative and participatory research approach. With the case studies we not only aimed to inspire others by disseminating them, but also to support the initiators of the respective practice to further develop their own practice. Secondly, the case studies form the basis of a cross-analysis to answer the research questions. This cross-analysis will be finalised in March and results will be presented during the conference. The answers to the research questions will also provide hints for teacher training which we will discuss during the conference.

**Keywords:** Innovation in teaching and learning; participatory research; professional development.

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## EXPLORING SCHOOL-UNIVERSITY PARTNERSHIPS: THE ROLES, EXPERIENCES, AND INTERACTIONS OF STUDENT TEACHERS, COOPERATING TEACHERS, AND PLACEMENT TUTORS

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This doctoral study focused on the problematisation of school-university partnerships at post-primary level in the Republic of Ireland, which mirrors international difficulties associated with such partnerships. Partnerships primarily occur during ITE programmes in the Republic of Ireland and involves placement tutors, cooperating teachers, and student teachers during school placement. Despite the value placed on partnerships between this triad for over thirty years, there are inconsistencies in their dyadic and triadic interactions, with partnerships ranging from anything between dysfunctional to productive (Chambers & Armour, 2012; O'Grady et al., 2018). Tensions can result from differing expectations of the triad in relation to each other's role, particularly if these expectations are not discussed (Johnson and Napper-Owen, 2011; Lillejord & Børte, 2016; Nguyen, 2020). This ultimately leads to inequitable student teacher support (Heinz, 2014; Young et al., 2015; Hall et al., 2018; O'Grady et al., 2018; Heinz & Fleming, 2019; Farrell, 2021), therefore this research explored role expectation, as well as interactions amongst this triad in one ITE programme in the Republic of Ireland and was guided by two research questions:

- What are the experiences of student teachers, placement tutors, and cooperating teachers in supporting student teachers in the process of learning to teach and the perceived role of self and others in this process?
- How do these experiences illuminate the opportunities and challenges in enhancing school-university partnerships?

The research questions were investigated through an interpretivist methodological approach, involving interviews, focus groups, and questionnaires. The data is analysed using reflexive thematic analysis and is discussed through a social theory of learning theoretical framework.

The findings are divided into three main themes:

1. 'The impact of communication on practice': some participants were unaware of school placement guidelines, while others do not engage with the guidelines. Some participants are reluctant to engage in professional conversations, in part owing to power dynamics or a lack of confidence. 2. 'The complexity of relationships across the landscape of practice' revealed that each member of the partnership is valued but this materialises in different ways. Time is a crucial feature in building relationships, but relationships are fragile, with assessment and the goodwill of schools impacting partner interactions. 3. 'Forming and supporting partnerships': most participants believe partnerships are effective, but partnerships are understood differently amongst participants, with some indicating that partnerships can happen beyond school placement. The themes highlight different levels of access, support, and participation for triad members as they boundary-cross during school placement, with some responsibilities claimed, while others were displaced, resulting in varying levels of partnerships.

**Keywords:** School-university partnerships; School placement triad.

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Chambers & Armour, 2012; O'Grady et al., 2018; Johnson and Napper-Owen, 2011; Lillejord & Børte, 2016; Nguyen, 2020; Heinz, 2014; Young et al., 2015; Hall et al., 2018; O'Grady et al., 2018; Heinz & Fleming, 2019; Farrell, 2021.

## TUTOR TEACHER IN ITALY: TRAINING PATH AND PROFESSIONAL PROFILE OF THIS NEW FIGURE

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Given the complex challenges in the teaching and learning processes (Kowalczyk-Waledziak et al. 2019; Bertagna 2023), school guidance plays a central role in helping to overcome inequalities and school drop-out (Recommendation European Union 2011/C 191/01; Psifidou et al. 2021; Eurostat 2023), thanks to the recognition and valorisation of each student's potential (Bertagna 2017).

For these reasons, it represents a key issue not only in the international context (2018/C 189/01; Athanasou-Perera 2020), but also at the national level (Mura 2018; Cunti-Priore 2020). In Italy, indeed, Decree No. 328 (22/12/2022) introduced important innovations in the first and second cycle of secondary schools, including the institution of tutor teacher's figure, who plays a crucial role in guiding each student along his educational and vocational life path, also by acting as an intermediary between other colleagues, the student and his family. In this way, the tutor teacher, in accordance with the goals set out by the PNRR (Mission 4), represents an authentic magister, helping each student, viewed as a human person (Bertagna 2017, 2020), to become aware of his own potential (Bertagna 2017, 2023; Magni 2023) also thanks to the support offered during the preparation of his E-portfolio (Decree No. 328). Taking these aspects into account, the contribution aims to highlight, from a pedagogical point of view, the fundamental features that distinguish the tutor teacher's profile, analysing his professional practice through the pedagogical categories of *agoghé* and personalization (Bertagna 2017; 2023), showing how relevant these aspects are in each student's guidance process. The analysis of the tutor teacher's training and the discussion of the pedagogical aspects related to his professional practice thus provides an opportunity to critically reflect on the centrality of pedagogical competences in the education process of a teacher who is able to promote relationships that enhance the potential of each student.

**Keywords:** tutor teacher; teacher education; professional profile.

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## **Parallel session n. 2**

**Day 3** // Morning / Friday, 31st May 2024

### **B.2. Teaching and learning challenges and professional development (2)**

# COGNITIVE/NON COGNITIVE SKILLS: THE CHEETAH'S CLOAK SOLUTION

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The most recent scientific debate on teaching and learning challenges has paid much attention to the training of non-cognitive skills, as they are considered more functional than cognitive ones, both for an effective management of personal and social life and for academic and professional success. This attention has led to the creation of several theories, that have proposed a definition of cognitive skills and hypothesized their training in school. In this direction, we can find the theories of the life skills, soft skills, character skills, socio-emotional skills, EntreComp, LifeComp, GreenComp, DigComp, etc.

However, although this attention has allowed a focus on the meanings and functions of non cognitive skills, the different theories seem to have failed to grasp and enhance the abilities that distinguish the non cognitive from the cognitive field. The non cognitive skills are always recognized secondary to cognitive ones, since the cognitive character remains prominent and privileged. From these theories the interpenetration between cognition and understanding, reason and feeling is excluded, also if it is necessary for a full and complete human education of the new generations.

Then the need to rethink human skills outside the cognitive/non cognitive binomial emerges. The need for a different configuration of the cognitive/non cognitive relationship emerges, which overcomes its conceptual limits and formative partiality.

The contribution aims to propose a new configuration that connects human skills according to a hermeneutic logic that sets aside the distinction between cognitive and non-cognitive. The proposed configuration finds a significant and effective representation in the cheetah's coat. Indeed, the cheetah's cloak consists of a combination of two parts, the base and the spots, both characterized by distinct but interdependent functions. This new configuration aims to account for the trait that distinguishes the exceptional nature of the human skills. The typically human trait of the skills is not given by an artificial separation/juxtaposition between cognitive and non-cognitive, but by their rooting in a common sensible fund that orients them, whether they are declined in a cognitive or not cognitive sense.

Therefore, the profile of the "cheetah's cloak" skills assigns a new and unexpected position to the different skills and recognizes the importance of new skills: approaching skill, questioning skill, nuances making skill and re-enchanting skill.

It follows the promotion of new methodologies and training practices, that are consistent with the configuration of the new skills profile and adequate for their exercise and orientation: the methodology and practice of 3RPlay (reflecting, researching, replying) work to support the "cheetah's cloak" skills.

**Keywords:** Social Challenges; Teacher Education; Non Cognitive Skills.

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# EFFECTIVE COLLABORATION AMONG SECONDARY SCHOOL TEACHERS. WAYS AND PATHS OF DEVELOPMENT FROM A SURVEY OF NEEDS IN THE PROVINCE OF VARESE

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Relational, dialogic, and systemic interaction among teachers in both secondary school and university contexts plays a crucial role in shaping students' educational experience (World Economic Forum, 2023; Unesco, 2015; Censis, 2023). This investigation examines, through a review of the literature (Siped-Perugia, 2023; Benvenuto, 2023; Batini, Agrusti, Falcinelli, Salvato, Vannini, 2022; Mulè, 2022; Zecca, 2021; Buber, 1993) and the use of a questionnaire addressed to secondary school teachers in the province of Varese, the implementation of training programs specifically geared toward preparing teachers for collaborative work. This initiative aims to enhance relational skills, which are considered essential for significant progress in teachers' professionalism (Salvadori, 2022; Cera, 2021; Fiorucci, 2022). The questionnaire, administered to a representative sample of teachers, focuses on their training needs, specifically investigating the importance teachers attach to collegial work at the formal and informal levels and how much this aspect affects their perception of their professionalism. The results, analyzed through Maxqda (Wenger-Trayner & al., 2017), indicate a significant awareness at the ideal level of the challenges related to collaboration, with a significant percentage of respondents attaching importance to collaborative work, but on the other hand, they show how the relationship between colleagues is not a foundational element of the teacher's professional perception, who sees himself or herself as autonomous or at best in relationship with students. After highlighting the main findings that emerged, the research proposes the adoption of systemic-relational methodologies in teacher education, enhancing the model of experiential and small-group learning through the activation of collaborative contexts for the development of skills such as Wenger's (1988) communities of practice, which provide a collaborative context for sharing knowledge and experiences, and change labs, proposed by Engeström (Virkkunen and Newnham, 2013), which present an innovative approach to educational transformation.

**Keywords:** Teacher training; Relational skills; Systemic-relational methodologies.

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# FROM BURNOUT TOWARD TEACHER EDUCATION. A PEDAGOGICAL INQUIRY

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Many psychological and pedagogical studies have highlighted that the relational and care work of teaching is closely linked to the risk of burnout. The burnout construct, in a psychodynamic perspective, can be understood as a response to chronic interpersonal stress factors experienced in the workplace, with consequent worsening on the psycho-physical well-being of the teacher as well as on the student's learning process.

Burnout is progressively becoming a focal point of educational professionalism, insofar as it can help to understand the complexity of the scholastic institution, supporting and accompanying teacher professionalism development through specific educational pathways.

The paper presents the first results of a quanti-qualitative research, aimed at analyzing risk factors related to teacher burnout and work dissatisfaction as well as the identification of dimensions related to teachers' educational needs. In this framework, the specific objectives of the research can be summarized as follows: to investigate the incidence produced by the Sars-Covid 19 health emergency on the levels of burnout and work satisfaction of secondary school teachers in the province of Palermo, through a longitudinal study; to investigate the perceptions of the burnout through a hermeneutic-phenomenological approach focused on the interpretation of the person's lived-experiences, beyond the observational and measurable data.

Starting from emerging results, in the framework of adult generative education and community care, primary prevention and educational paths will be designed.

**Keywords:** school; teacher education; burnout.

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## “LÆRINGSGLEDE” AND CHALLENGES IN CULTURAL ENCOUNTERS

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The reach of globalisation mean that what happens in one part of the world affects what happens in another. Educators operate in a rapidly changing society; the status quo may not be the same for the students when they finish their education. Based on this, teachers have no choice but to teach beyond the boundaries of their local context.

Student teachers at UiT- The Arctic university of Norway, can go abroad for their practicum in the fourth year of their study. We have followed several cohorts of students who have completed this practicum. In Norwegian, “læringsglede”, which can be translated to joy of learning, will be in focus for this presentation. We will address the experiences student teachers had from attending practice in unfamiliar cultural contexts. How the students have experienced embodied learning and joy of learning in South African schools. Being in an unfamiliar context, dealing with unwritten rules, and facing emotional challenges are some of the areas we discuss this considering the concepts of embodied learning and “læringsglede”. This presentation builds on a research study we have done collecting data from observation and interview after they returned from practicum. Our experience was that such cultural encounters, and dialogue, create a sense of achievement and feeling of self-efficacy (Bakhtin, 1984; Bandura, 1987; de Diego-Lazaro, Winn & Restrepo, 2020; Mo, Apple, Kim & Lee, 2021). The students find that they are given challenging tasks in connection with teaching large groups and with limited resources. A consequence of encountering teaching in an unknown context is that they experience different expectations of how they should position themselves with respect to the learners, both inside and outside teaching situations. Furthermore, they encounter disciplinary practices they cannot identify with, and they see teacher roles that are practiced differently than in a Norwegian context (Steele & Leming, 2022). Alongside this, they observe a different kind of “læringsglede”, and a different form of embodied learning than what they are familiar with from their own context.

**Keywords:** Student teachers; Exchange; Globalisation.

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# TEACHER EDUCATION CHALLENGES FOR EARLY LANGUAGE EDUCATION CONTEXTS IN BRAZIL

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English language teaching is an expanding reality in schools throughout Brazil and it has reached early language education contexts, which has increased the demand for specific teacher education to work in this context. Moreover, there are no formal language policies for this age group (0-5 years old) and teachers who work in this scenario face many challenges regarding specific knowledge. This presentation focuses on the results of a Master's thesis that analyzed curricular proposals of majors in English and Literature in Brazilian Universities regarding pre-service teacher's education to work with children. It aimed at answering which strategies are applied in university contexts. The documentary survey includes data from 108 institutions in Brazil. All curricula were analyzed concerning teacher education approaches to early childhood context. Furthermore, five institutions were invited to participate in semi-structured interviews involving general and specific aspects about documents of each institution. Data was combined to identify strategies employed by institutions. From 108 public universities considered, 15 explicitly presented actions related to teacher education and teaching English to young learners in their documents. The English Majors analyzed offered significant contributions to the area, presenting ways of dealing with this demand and strategies employed. The interviews highlighted the fragmentation of the area, since the expansion is random and marked by particular initiatives. Through reflections based on curricular theories, transdisciplinarity and teacher education, the research offers a national overview around the topic. Teaching English to young learners is a reality in Brazil, both in public and private schools, and it needs to be directly approached in teacher education programs. Despite the lack of national guidelines, it is surprising that a significant number of universities are taking action and making curriculum changes to meet the future demands of teachers' professional development.

**Keywords:** Curriculum changes; Teaching English to Young Learners; Professional development demands.

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# STRATEGIES EMPLOYED BY EXTERNAL FACILITATORS TO SUPPORT AND SUSTAIN COMMUNITIES OF PRACTICE AMONG TEACHERS

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As collaborative approaches to teachers' professional development have gained popularity, and accumulating evidence highlights their positive impact, several studies have begun to explore the factors contributing to the effectiveness and sustainability of teachers' communities of practice. Facilitation processes have consistently emerged as crucial elements, as noted in various studies (Margalef, 2011; Margalef & Pareja Roblin, 2016; Marsh et al., 2015; Richmond & Manokore, 2011; Stoll & Louis, 2007). This paper reports and discusses the strategies employed by facilitators when supporting communities of practice of in-service teachers in Andalusia (Spain). Facilitators, former experienced teachers, are employed as teacher educators in official institutions responsible for the professional development of in-service schoolteachers within the jurisdiction of the regional educational administration. In this context, the term "facilitator" refers to an individual external to the community who assists a group of teachers. Five focus groups were conducted, each comprising four to six facilitators of schoolteachers' teams. The identified strategies align with those found in the facilitators of university teachers' Professional Learning Communities (PLCs) by Margalef (2011) and Margalef and Pareja Roblin (2016). The strategies identified in their studies were categorized into three groups: group work strategies designed to enhance collaboration and group interactions, thereby establishing an essential environment for teacher learning; knowledge-building strategies intended to advance teachers' pedagogical knowledge and assist in enhancing their practice; and reflection strategies associated with fostering occasions for both individual and collective reflection. Furthermore, two additional categories were recognized as being employed by the facilitators in our study: communication-facilitating strategies directed at enhancing and optimizing communication effectiveness within the group to ensure active participation of all members in the discussion, and strategies aimed at facilitating the bureaucracy inherent in formal collaborative development initiatives.

**Keywords:** facilitation; leadership; communities of practice.

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## PROMOTING PROFESSIONAL LEARNING COMMUNITIES (PLCS): AN EXPERIENCE IN IN-SERVICE TEACHER TRAINING CENTERS

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Within the framework of the Erasmus+ K220 project titled "Leading and Facilitating Professional Learning Communities in Schools towards an Inquiry-based and Reflective Practice," the In-Service Teacher Training Centers of Málaga and Marbella-Coín, in collaboration with partners from Germany, Austria, Norway, Cyprus, Greece, and Spain, are engaged in an educational transformation process. This initiative focuses on the implementation of Professional Learning Communities (PLCs) both internally and in schools which we work with.

The primary goal is to improve teachers' professional competencies by providing strategies for peer support grounded in scientific knowledge, thereby enhancing their effectiveness and improving student learning outcomes.

We adopt a threefold vision (Krichesky and Murillo, 2011), commencing with an analysis of teaching practices from a critical and student-oriented perspective (Stoll, Bolam et al., 2006, Pino, González, and Ahumada, 2018). Concerning the school, we emphasize the development of distributed leadership and cooperative work (März et al., 2021). Finally, from a broader perspective, integrating external institutions and other members of the educational community, we view Professional Learning Communities (PLCs) as a pathway to empower both teachers and the community (Hargreaves, 2008).

The proposal advocates the integration of four research methods (Rodríguez, Pozo, and Gutiérrez, 2006). Action research (Elliot, 1990) is employed to analyze real educational practices, enabling transformation through coherent decision-making. Design research seeks to understand and improve the educational reality through intervention in natural contexts (Molina et al., 2011). Narrative-biographical research accompanies practice through personal stories (Tsang, 2011). Lastly, the case study approach provides a balanced perspective, bridging scientific, narrative, and ethnographic elements (Vázquez, 2011).

Definitely, this study contributes valuable insights into the enhancement of teacher competencies and the transformative potential of Professional Learning Communities in educational settings.

**Keywords:** Teaching and training; educational leadership; Empirical research.

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*B.2. Teaching and learning challenges and professional development (2)*

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# UNPACKING THE DYNAMICS OF A SCHOOL-UNIVERSITY PARTNERSHIP FOR TRANSFORMATIVE SCIENCE EDUCATION PROFESSIONAL DEVELOPMENT IN LUXEMBOURG: A CASE STUDY OF TEACHER-RESEARCHER COLLABORATION

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This study explores a school-university partnership as a third space for organizational education, focusing on primary teacher professional development (PD) in science education in Luxembourg. The work within the SciTeach Center, a collaborative structure, involves a team of seven researchers and ten teachers. Grounded in sociocultural perspective, this contribution builds a case study on the challenges and opportunities of/professional learning as a researcher and a teacher span their boundaries and get together to develop a PD offering on science teaching in multilingual learning contexts for other teachers in Luxembourg. Data sources include video recordings, field notes, and reflective pieces and, using ethnographic and participatory research lenses, this study analyzes the professional learning dynamics of these two team members while co-developing and co-teaching the PD offering on Science and Language. Episodes illustrate collaboration across different roles, resulting in an analysis of interactional structures and achievements. Findings reveal the partnership's dynamics built on a reflect-dialogue-act process and highlights the team's alternating roles as trainers and trainees, contributing to transformative teacher education. The conceptual framework includes discussions from collaborative structures, community of practice, distributed leadership, co-generative dialogues, and boundary spanning. This contribution underscores the potential of structured partnerships for sustainable teacher education, offering insights for ongoing open dialogue and trust-building. The study reflects on the alternating roles of researchers and teachers, aligning with contextualized needs. It also presents a research methodology for transformative research practice, emphasizing the voices of teacher leaders and teachers.

**Keywords:** Teacher education; Professional development/learning; Challenges and opportunities.

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# RETHINKING TEACHER TRAINING IN EMOTIONAL EDUCATION THROUGH SPORTS (EDUCATION)

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Contemporary society is experiencing a transformation of emotional experience which, being diversified and expanded compared to the past, has become more complex, accelerated and contingent.

The transition from the analogue dimension, characterized by extended times, to the digital one, characterized using technological devices that access reality in a very short time, has brought out a need for accompaniment that defines new experiential categories also for emotion.

This transformation, although problematic, is enriching because, like a multifaceted prism, it launches a cultural challenge that is played out on different fields: anthropological, sociological, psychological and pedagogical.

From a pedagogical point of view, this challenge forces society to rethink new ways of teaching and learning.

On the teaching front, the teacher is called to play a key role in mediation-training in the emotional education of the new generations to make them aware of the mutation by taking charge, with renewed care and attention, of the new needs that emerge.

On the learning front, the teacher must rethink emotional education by involving extra-curricular areas, particularly those of sport, recognized as an important part of the educational experience for the discovery and awareness of the emotional sphere.

Mastering emotional awareness is a challenge, shared by teachers and sports educators, which can be understood from two perspectives: the cultural one, which focuses on the relevance of emotional education, and the methodological one, which highlights the need for training through adequate methodologies.

This dual challenge was accepted by the Stereo Project, designed and tested to bring school and sport into dialogue, through a reflective methodology (3RPlay) which makes use of a methodological device (Pretext) which allows one to identify with an educational situation by exercising the skills necessary pedagogies.

**Keywords:** Complexity; Questioning Approach; Teacher Training.

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# THE IMPACT OF TEACHING AND LEARNING CENTRES (TLCs) ON NEW INITIAL TEACHERS EDUCATION PROGRAM IN ITALY

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Teaching and Learning Centers are facilities found in many universities that aim to support and improve the quality of teaching and learning. Some key aspects that characterize these centers include faculty development, professional and student support, research on teaching and learning, evaluation and feedback (Lotti, Lampugnani, 2020; Connely, 2023).

TLCs have traditionally focused on direct interaction with faculty to enhance pedagogical expertise (Lieberman, 2005; Coryell, 2016). Over fifty years of evolution, TLCs have transformed, adapted to educational advancements, and acted as channels in transitioning from traditional to innovative pedagogical approaches (Lotti, Serbati et al., 2022).

Through TLCs, professors can participate in various teaching education initiatives (Austin, 2003). In order to maintain high standards of teaching, it is important that university teachers receive pedagogical education that can adapt to sudden changes in context and student needs (Kowalczyk-Walędziak, Korzeniecka-Bondar A., et al. 2019; Madalinska-Michalak, Flores, et al. 2021).

The significance of TLCs, especially in Italy, is underscored in light of the recent education reforms and the initial and ongoing education of teachers. Italy's educational reform, particularly Law no. 79/2022, is part of a larger European trend and is bolstered by initiatives like the Next Generation EU (NGEU) and the Italian National Recovery and Resilience Plan (NRRP) (Bertagna & Magni, 2022; Magni, 2019).

A key component of these reforms is the overhaul of initial teacher education. The proposed Italian model introduces a one-year, 60 ECTS course, delivered by interdepartmental TLCs. This course combines practical placements, pedagogical lectures, and workshops, integrating seamlessly with existing university programs to offer a comprehensive educational experience.

This abstract offers an examination of the latest advancements in initial teacher education in Italy. It aims to elucidate the significant strides made in this domain and underscore the pivotal role played by Teaching and Learning Centers (TLCs) in spearheading and facilitating these developments (Austin, 2023).

**Keywords:** Teaching and Learning Center; Teacher Education; Higher Education.

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## GLOBAL TEACHERS AND PRACTICUM IN THE GLOBAL SOUTH

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Teacher education must teach student about both developmental issues and multicultural contexts to be qualified to work in a multicultural context (O'Tool (2006). While theoretical courses are important, they are not enough to create a global teacher, lived experience is also necessary. (Merryfield, 2000). International practicum programs has the potential to transforming perspectives, increase global awareness and intercultural competence; qualifications that is necessary for teachers in multicultural classrooms (Mezirow 1997, Wikan & Klein,2017,).

This paper present long-term effects of an international practicum programme in Namibia for Norwegian student teachers. Such studies are rare as most studies on effects of international practicum programmes are based on data gathered immediately after the student teachers are back in their home country (Nunan, 2006). The aim of the programme was to expose students to diversity and to develop their global and intercultural competences. That is to educate them as global teachers for the 21st century. The objective of the study is to investigate how the participants evaluate the value of international practicum after having practiced as teachers for some years. We especially address issues such personal and professional growth, gaining a global perspective and intercultural competence.

This is a case study based on qualitative data gathered from 7 former student teachers who had a 3-month practicum period in Namibia and are presently working as schoolteachers. On the personal level we found, increased self-esteem, and greater interest in international affairs and increased competence as a teacher in diverse classrooms. On the professional level, we found an impact on curricular and instructional practices such as focus on global and multicultural aspects.

This study in part of a larger project: Teachers in a Globalized World: The Long-term Impact of Intranational Practicum on Professional Development.

**Keywords:** International practicum; long-term effects; teacher education.

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## **Parallel session n. 2**

**Day 3** // Morning / Friday, 31st May 2024

### **B.3. Teacher education and pedagogical perspective in uncertain times: history, theory, policies and practices (1)**

## TEACHER RESEARCH IN THE WRITINGS OF GIUSEPPE LOMBARDO RADICE

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Community, inclusion, empathy, creativity: these school and educational concepts and practices, widely traveled in contemporary pedagogical debate, were pioneered as early as the second decade of the twentieth century by Giuseppe Lombardo Radice (1879-1938). A forerunner of what we now call sustainable, peaceful and equitable teaching/learning processes that recognize the concept of pluralism, diversification and diversity, Lombardo Radice left us a great lesson in how one can pare research on teachers, valuing their culture and ability to interact with complex, changing and sometimes unpredictable realities. The interventions that the great Sicilian pedagogue collected in the series of writings entitled *From my teaching archive* still represent an effective model for investigating and communicating what happens inside school walls. Instead, these texts, which the author called "sudiets and notes", are a great lesson in the "study of the school" and "didactic criticism" for planning its reform and renewal. The technique of remote inspection and the technique of "approaching teachers" produced what for us is an extraordinary and irreplaceable source of historical knowledge of teachers, methods, environments, children who found in the school an effective instrument of emancipation. Special pedagogy, the teaching of science, adult education, the school-family relationship, language and dialect, the pleasure of reading, the relationship between graphic sign and word, etc., are these and many other avant-garde aspects that characterize the pages *From my teaching archive* and make Lombardo Radice's writing, even today, a fundamental moral and ethical guide for those who want to become critical and reformist observers of school and educational practices.

**Keywords:** Giuseppe Lombardo Radice; school; education.

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## NOTES ON THE ITALIAN DEBATE ABOUT THE TRAINING OF PRIMARY SCHOOL TEACHERS IN THE FIRST TWO DECADES OF THE 20TH CENTURY

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In the first two decades of the twentieth century, the debate on the training of primary school teachers became very lively in some European countries: it started from a unanimous criticism of the initial training pathway, which was considered inadequate for many reasons.

In Italy, the animated discussion on this subject was set in a particular framework: on the one hand, the first teachers' associations were being formed that intended to play the role of interlocutor towards institutional actors; on the other hand, Italian pedagogical reflection was influenced by Herbartism: the main exponent of this pedagogical position was, among others, Luigi Credaro, first coordinator of Unione Nazionale Magistrale, and then Minister of Public Education.

Moreover, some interesting educational and didactic experiments saw the light in those years, partly also connected with stimuli from abroad: for example, Salvoni's school, the Rinnovata Pizzigoni, and Montessori's Children's Houses. These experimentations were characterized by innovative solutions concerning the design of spaces, materials and teaching methods, and required a radical renewal of the initial training of teachers: it was to focus on the intertwining of theory and practice, on didactic internships, on training in observation and the acquisition of a scientific habitus.

The debate on the initial training of primary teachers was, therefore, affected in Italy by this particular lively climate and followed lines of reflection also present in other European countries, such as England or France, albeit in some ways going in different directions: the questions concerned the cultural versus professional training of teachers, internships in schools, indispensable subjects, and the duration of the training course.

This contribution proposes an in-depth examination of some of the voices and themes of this debate through an analysis of the pages of one of the most popular Italian pedagogical journals at the time, *La Coltura Popolare*.

**Keywords:** Teacher's training in the early 20th century; History of school in the 20th century; History of teachers in Italy.

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## CREATING EDUCATIONAL AND DIDACTIC PATHWAYS BETWEEN SCHOOL, UNIVERSITY AND TERRITORY

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The communication aims to describe a training activity for teachers of all levels promoted and launched over the last three years in the context of the Third Stream Activities by the writer together with a working and research group of the The Department of Education, Languages, Interculture, Literatures and Psychology (identified with the acronym FORLILPSI) of the University of Florence.

The educational path is, in fact, the basis for the co-design of educational and didactic paths between school, university and territory capable of building, especially thanks to the sharing of Memories, democratic and inclusive communities following the provisions of Law no. 92 of 2019, which introduced in all Italian schools in Italy the transversal teaching of Civic Education.

The co-design therefore involves all the various actors, first and foremost the teachers, and privileges the historical-educational approach to educate citizenship and provide teachers with useful tools for the training of citizens (starting with their students) in compliance with the principles of equality and respect for diversity enshrined in the Constitution of the Italian Republic.

The communication will therefore focus on describing the various phases of co-designing and the training course, without forgetting its epistemological foundation and methodological aspects.

**Keywords:** Citizenship Education; Public History; Third Stream.

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## TEACHER EDUCATION IN THE MONTESSORI PERSPECTIVE

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Teacher education constituted and still constitutes one of the central issues within Maria Montessori's thought. It was precisely from the awareness of the criticalities and limitations in the training of teachers of the time, acquired in the early years of the twentieth century during her experiences as a teacher of Hygiene and Anthropology at the Higher Institute of Magisterium for Women, as well as at the Pedagogical School of Rome (at that time a course of specialisation for the graduates of the Normal Schools), that the elaboration of the pedagogical 'new method' that would make her famous throughout the world would begin. As has been pointed out, within the sphere of pedagogical activism, Montessori was the most committed to accurately delineating the behaviour, functions and characteristics that the teachers in her schools were to assume. Against the idea of teaching as a mere transmission of notions and contents, according to rigidly predetermined times and objectives, Maria Montessori believed above all that the teacher should take on a guiding and mediating role with the environment, based on the principle of the autonomy of the child and on an approach that she herself defined as "non-interventionist". Maria Montessori's pedagogy at the beginning of the last century thus brought about a radical change in the teacher's relationship with her pupils: to educate means to provide the tools for the child to develop his or her personality to the fullest in self-fulfillment together with others, aware of and responsible to the entire cosmos.

**Keywords:** Montessori pedagogy; teacher training; history of education.

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## TEACHERS AND CHILDREN'S WRITERS: EDUCATIONAL PATHS BETWEEN PAST AND PRESENT

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The late 1800s saw strong feminization of the elementary teaching profession, a phenomenon that intensified over the 1900s. The same phenomenon is found in children's literature: if the best-known works were written by men (e.g. Lorenzini/Collodi, Edmondo De Amicis, Bertelli/Vamba), from a quantitative point of view it was women who published the greatest number of tales, short stories and novels. In most cases the "humble workers of the pen" – as they were defined – had a similar path: they studied to become teachers and, only later, dedicated themselves to a career as a journalist and children's writer. The case of Ida Baccini is interesting: in her autobiography *La mia vita* (1904), but also in her previous work *Il romanzo di una maestra* (1901), she tells her teacher education and her subsequent dissociation from a school too far from her beliefs. Often, yesterday as today, the roles of teacher and children's writer have coincided. Between past and present, the research aims to analyse the school education and non-institutional learning of these women, but also to understand how their training as a teacher has affected their literary texts and how their role as writers has affected their teaching. In particular, alongside historical figures (Baccini, Vertua-Gentile), the education and pedagogical ideas of teachers and children's writers Janna Carioli (Premio Rodari 2023) and Luisa Mattia (Premio Andersen 2008) will be explored in depth. Janna Carioli, born in Bologna in 1944, was trained in a Marxist context – by joining the Associazione Pionieri d'Italia (Pagliarini, Rodari) – and became a children's teacher in 1973, teaching at the innovative San Pietro school in Casale (Bologna). Instead Luisa Mattia (Rome, 1953), graduated in Pedagogy at La Sapienza University, taught in the Roman elementary school "Parco di Veio" using Celestin Freinet's theories.

**Keywords:** Teacher; Children's literature; Children's writer.

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## THE TEACHER BODY BETWEEN ENTHUSIASM AND ABSENCE

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From a learning perspective, many studies have highlighted the benefits of incorporating body movements into formal learning contexts. Body movements can significantly impact cognition, communication, reasoning, and learning (Reeves, Miller & Chavez, 2016). In more general terms, mental processes are influenced by bodily systems, as suggested by the model of embodied cognition (Alibali & Nathan, 2012) and embodied learning. In our proposal, we aim to explore the topic from a teaching perspective. An exploratory research study we conducted on high school students' experiences with distance learning provided insights into teaching practices. According to the literature, teacher enthusiasm emerged as a central factor (Bieg et al., 2022). Teacher enthusiasm does not have the traits of immateriality; it is fundamentally an embodied category (Keller et al., 2016) linked to a relational dimension. The educational relationship involves verbal language, as well as paralinguistic and kinesic systems, proxemics, and haptics (Simeone, 2017). The teacher's body shapes the classroom space and contributes to a strong and productive relationship with students (Damiano, 2013), significantly influencing learning. Students receive "embodied knowledge" that is associated with the physical presence of the teacher (Pujade-Renaud, 1983). However, the significance of the teacher's body in the classroom is often overlooked in teacher education (Babad, 2007). In recent years, educational researchers have recognized the value of embodied knowledge and the embodied nature of teaching and learning, emphasizing the need for specific teacher training (Hegna & Ørbæk, 2021; Craig et al., 2018). These perspectives are not without risks, such as teachers overacting. At the same time, they open new epistemological challenges for educational research, encouraging exploration of embodied teaching and learning as a new interdisciplinary field of research with a specific educational focus.

**Keywords:** embodied teaching; teacher enthusiasm; teacher body.

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## **CHALLENGES FOR TEACHERS AND EMERGING PERSPECTIVES ON THEIR TRAINING IN A SOCIETY UNDERGOING PROFOUND CHANGES (1960-1970): THE HUMANISTIC APPROACH OF THE 'SCUOLA ITALIANA MODERNA' JOURNAL**

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This contribution aims to reconstruct, from a historical-pedagogical perspective, reflections on the concept of teachers and their training that emerged between the 1960s and the early 1970s in the pages of 'Scuola Italiana Moderna', an Italian journal with a Catholic orientation specifically tailored for educational professionals. These ideas are closely connected to the perception and awareness, as evidenced in the articles, of being in a period marked by profound social, welfare, legislative, and pedagogical changes. The examined period is significant for Italy for several reasons: at the regulatory level, schools undergo decisive shifts that reshape their structure and orientations. In the post-World War II years, the country transitions from a predominantly agricultural framework to an industrial one, giving rise to new demands in the realms of work and professional training. The economic boom and international investments in new technologies, industry, information technology, and digitization propel Western societies towards the future. In the specific case of the journal under analysis, the focus is directed towards the perspective of the teacher and the school of the future.

Examining articles and reflections contributing to defining the journal's stance, this contribution aims to outline how schools and education should have adapted to the new demands of society. Teachers were expected to rapidly adjust and renew their skills, rethinking school, teaching, and teacher training concepts. The analyzed articles delve into some 'unsettling questions': how can the progress of material things be accompanied by a spiritual growth? What is the teacher's role in this scenario? Discussions assert that cultural, moral, and educational progress should not lag behind industrial or agricultural growth, thereby avoiding the risk of human reality being confined within the patterns of an expanding consumer society. This ethical-humanistic perspective can forge an interesting connection with current challenges in the teaching profession and teacher training.

**Keywords:** history of education; teacher; teacher training.

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## «POOR OLD SEMI-ILLITERATES, POOR HUMAN WRECKS»: WOMEN INFANT SCHOOL TEACHERS IN EARLY TWENTIETH-CENTURY ITALY

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This paper examines the training of infant-school teachers in the early twentieth century. In Italy, this occupational category was long overlooked by legislators, largely due to the state's lack of interest in pre-school education and the institutions tasked with delivering it. The few laws on infant school education that were introduced in the nineteenth century were not particularly impactful. Rather, they confirmed the status of infant schools as welfare or charitable institutions. Consequently, they entailed no new investment in the teachers who worked in these schools. The teachers thus lacked both training and proper legal and economic status. This had a negative impact on their motivation and meant that they were often poorly prepared for their work from the educational and cultural perspectives. Only at the beginning of the twentieth century did the Ministry of Public Education approve regulations on obtaining a qualification to teach in infant schools. Here, I set out to investigate whether the professional training pathways established during the Giolitti and fascist eras (Practical Teacher Training Schools, Method Schools, Teacher Training Schools) led to a significant improvement in the training of teachers and, consequently, made infant schools less backward in terms of the quality of education and teaching they provided. Specifically, I assess whether and to what extent the new training courses enhanced infant-school teachers' competence and their ability to understand and apply the innovations introduced by the first Italian ministerial programs for kindergartens (1914) and by the teaching methods that, in that historical period, were being developed for preschool education. To this end, I go beyond examining institutional history, also drawing on more recent historiographical approaches. My research spans contemporary ministerial reviews of the infant school sector, as well as a source that remains to be fully exploited by historical-educational research, namely journals for infant-school teachers. The latter publications themselves played a key role in the professionalisation of teachers, as studies on the topic have shown.

**Keywords:** Training for women infant-school teachers; Italy; Twentieth century.

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## THE «ITALIAN DIDACTIC SECRET». THE TEACHERS' EDUCATION ACCORDING TO GIUSEPPE LOMBARDO-RADICE'S THOUGHT

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A hundred years after the reform of the Italian school carried out in 1923 by the minister Giovanni Gentile, it could be useful to meditate on the great role recognised to the teachers' education, especially on the primary school ones detailed in the programmes set by Giuseppe Lombardo Radice.

What he used to consider the «Italian didactic secret» consisted in an education that consistently conjugated theory and practice, namely a philosophy-based pedagogy looking to the newest outcomes of the psychological researches and opened to the modern experimentations of the activism, but strictly refusing any didactic pre-established and rigid "method": his famous polemic with Maria Montessori has been lasted for decades.

In particular Lombardo Radice criticised the claim according to which the pedagogy had to focus on the child, indulging his or her spontaneity, while the main task of pedagogy is to define the educator's profile. The claim of children's spontaneity derives from a mistaken comprehension of Rousseau's work: even if the child is actually spontaneous, that spontaneity shows itself inside an educative room under the strict control of the pedagogue, who cannot neglect it. The main risk in the activist pedagogical approach, according to Giuseppe Lombardo Radice, was to «close children in their infanthood», instead to lead them to adulthood. This risk can be avoided through the education of authoritative and trustworthy teachers, as cultivated people in whom children could see some models of wise and sensible adults. It is culture to assure authority to the teacher: he or she possesses knowledge and competence that the child does not have, but that he aspire to conquer in order to leave childhood.

**Keywords:** Giuseppe Lombardo Radice; neoidealism; serene school.

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## EDUCATING FOR DEMOCRACY. THE CIVIC COLLABORATION MOVEMENT AND TEACHER TRAINING COURSES

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The Civic Collaboration movement was born in Italy on 29 November 1945 as an expression of democratic rebirth in a state torn apart by the war. Aware of the alienation of the citizens of the new state from the values of democracy, men and women such as Giuliana Benzoni, Cecrope Barilli and Ebe Flamini gave life to the movement with the precise aim, among others, of promoting «studies and experiences that could benefit and provide a better preparation to all those who [would] exercise or intend to exercise a voluntary work of social service and education» (art. 3 of the statutes). The movement took shape as an interesting experience born in the context of a non-communist, secular and democratic left, which took as a pedagogical reference point above all the lesson of Dewey, matured in the immediate post-war period, on democracy as education for socialisation. It was a culturally lively, anti-fascist and reformist world, with the teaching of figures of rigorous moral calibre such as Gaetano Salvemini and Ernesto Rossi behind it. An important fruit of the movement were the courses for educators held starting in 1949 in the Caetani castle in Sermoneta: a minority experience, often opposed by the ministerial bureaucracy, as recalled in the memoirs of one of its founders, Augusto Frassinetti. The social tension, civil ethics, but also the passion and the impetus of what was a sort of youth self-organisation ante litteram with respect to the cultural climate of the 1960s, remain the main interpretative feature of an experience that set itself the task of contributing to the moral construction of the new republic, in the conviction that reconstruction would pass first and foremost through the education of a civic conscience.

**Keywords:** Civic collaboration movement; democracy; courses for educators.

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## **“FROM MEMORY TO DIALOGUE”: PATHS OF A CONTINUOUS PROFESSIONAL DEVELOPMENT PROMOTED BY THE ITALIAN ASSOCIATION OF CATHOLIC TEACHERS**

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The contribution concentrates on the evolution of teachers' professional development, emphasizing the transition from individual recollection to collaborative dialogue. The focus is on two experiences organized by the Italian Association of Catholic Teachers (AIMC) in Milan and Monza-Brianza (Northern Italy), aiming to illustrate how ongoing professional development has evolved within the teaching community (Wenger, McDermott, Snyder, 2002).

Both the experiences have taken place starting from the awareness that sharing one's profession is inherently a formative experience, thanks to the ability to bring out implicit knowledge, values, and opportunities for reflection on one's professional self (Cadei, 2017). As part of an effort to rediscover and promote the role of teachers' professional associations as a fundamental opportunity for professional development, storytelling (Bruner, 1991) is at the centre of two converging research and training areas, focusing on the possibility of transitioning professionalization processes (Evans, 2008) through the narratives of "lived teaching", capable of representing and exemplifying the cultivation of professional profiles.

The first experience originates from the practice of pedagogical dialogues, starting from readings of Father Lorenzo Milani and the School of Barbiana, as moments of co-construction and storytelling by groups of teachers (AIMC, 2017). The meetings—centred around democratic school, school time, care for the person and language—have revealed professional implicit aspects and enhanced the maieutic work in teacher training (Aglieri, 2020).

The second experience, drawn on the interdisciplinary conceptual frameworks of the Public History of Education (Bandini, Oliviero, 2019) and the methodology of oral history (Suárez Pazos, 2002; Paciaroni, 2020), was aimed at "giving voice", through video interviews, to the biographies of teachers who were protagonists during the 1970s of the pedagogical-didactic experimentation led by Alfredo Giunti, to promote a primary school as a "centre of research" (Giunti, 1973).

**Keywords:** Teachers' Professional Association; Professional Development; Storytelling.

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## **Parallel session n. 2**

**Day 3** // Morning / Friday, 31st May 2024

### **B.4. Teacher education and pedagogical perspective in uncertain times: history, theory, policies and practices (2)**

# IN SEARCH OF TEACHER PROFESSIONALISM IN A TIME OF POLYCRISIS: WHY TEACHER RESILIENCE MATTERS

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Within the dynamic landscape of modern education, teachers and other educationalists find themselves navigating a complex array of challenges that extend far beyond conventional school and classroom settings. The contemporary permacrisis (Fabbrini et al. 2023), characterized by a convergence of societal, economic, technological, and health-related challenges, has significantly impacted the teaching profession at every level. The proposal presentation explores the nature of this impact and argues the need to support educators in cultivating both professional and personal resilience in the face of an unprecedented context.

We advance discussion from – among others – Homer-Dixon et al (2021) on the dangers of what they term a global polycrisis. We also advance more hopeful lines of reasoning from the social theorist and activist Kathleen Lynch (2020, 2021) and the education philosopher TH McLaughlin (Carr et al 2008). These address both the individualised and collective nature of professionalism and explore how it can be meaningfully reconstituted for crisis response. Through a recognition of these inherent challenges and an emphasis on professional ethics alongside the cultivation of moral values, we argue both the need and a way to equip educators not only to withstand but to thrive in the constantly changing, fibril contemporary world. Ultimately, we propose, fostering resilience in teachers and other educators constitutes a crucial factor in shaping a sustainable and purposeful professionalism shaped to educate for kindness, fairness, solidarity and equity. Although doing so remains a matter of substantive difficulty, we believe it deserves the attempt.

Essentially, the proposed presentation explores the intricate interplay between teacher education and the development of a values-led social conscience. We open a discussion on teacher education that contributes to nurturing the holistic and ethically grounded learning experiences necessary to form and sustain a progressive and well-informed teacher professionalism fit for the times in which we live.

**Keywords:** Teacher Professionalism; Resilience; Values-centred Teacher education.

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*B.4. Teacher education and pedagogical perspective in uncertain times: history, theory, policies and practices (2)*

Purdy, N., Hall, K., Khanolainen, D., & Galvin, C. (2022) Teacher Quality Driven by Equity and Social Justice: Arguments for an Alternative Values-Centred Vision of Teacher Education. In Madalińska-Michalak, J. (ed) Quality in Teaching and Teacher Education (pp. 50-71). Leiden: Brill.

## HOW DO YOU SOLVE A PROBLEM LIKE MARIA? DESIGNING OPPORTUNITIES FOR MODELLING AND REFLECTING ON INSTRUCTIONAL ACTIVITY WITHIN EU TAP-TS LEARNING & TEACHING PACKAGES

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As part of system-level capacity building for the European Education Area by 2025, the European Commission has funded a series of Teacher Academies that address areas of education which are of particular interest and concern to the Commission. The Erasmus+ Teacher Academies aim to create European partnerships that promote cooperation between teacher education institutions and training providers in order to improve support for teachers and strengthen continuous professional development (Sorensen and Graf, forthcoming). This is a novel and ambitious initiative under the ERASMUS+ framework (Galvin et al 2024) – 27 academies have been launched, 15 more will follow this year.

The Teacher Academy Project on Teaching Sustainability (TAP-TS) of one of first eleven inaugural academy projects. TAP-TS brings together a new, creative, and diverse European partnership of teacher education providers working to build novel and challenging teacher-education experiences based in high-quality resources and pedagogical innovation – our LTPs (Learning and Teaching Packages). (See TAP-TS.eu.)

At the heart of the co-production, piloting and use of our LTPs is a vision of professional learning based in a model that is ‘deeply reflective’ (Cavadas et al 2023; Goodwin et al 2023; Menter and Flores 2021) and ‘values-led’ (Purdy et al 2023). This paper presents our experiences of designing-for and building-in opportunities for this systematic, reflective teacher learning as the project nears the half-way point.

In the paper, we describe in detail our work and the centrality of EU GreenComp (Bianchi et al 2022) to this. We outline the TAP-TS Roadmap which shows how we approached planning for deeply reflective learning experiences within project activities (involving resources, materials, and approaches). We also describe the TAP-TS MaRIA framework which guides Follow-Up activity when using TAP-TS Learning & Teaching Packages. In this way, we hope to initiate a broader conversation among the European teacher education community around teachers values-led’ reflective learning and how this can be planned for and catalysed.

**Keywords:** Reflective professional learning; EU GreenComp; EU TAP-TS Teacher Academy.

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## FINDING A SUCCESSFUL TEACHER IDENTITY: THE ROLE OF THE MENTOR-MENTEE RELATIONSHIP

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In a time when many countries within Europe and beyond are experiencing serious problems keeping newly qualified teachers in the public education system (European Commission, 2023), it is important to understand what factors affect the development of trainee teachers during the most crucial period of their training: their teaching practice. At the centre of their experience during their practice lies their relationship with their mentor teacher, the nature of which has a determining influence on their ability to successfully develop a teaching identity for themselves and may also play a decisive role in their decision on whether to remain in the profession beyond the completion of their degree. Given the importance of this relationship it seems worth investigating it in more detail. In this paper I will draw on data from several phases of an ongoing research project investigating the experience of English as a Foreign Language teacher trainees in Hungary. The first phase of the project involved 13 trainees doing their teaching practice during the Covid-19 pandemic (Prescott-Pickup, 2023), and the second phase explored the experiences of 33 trainees who were graduating in the summer of 2023 (Prescott-Pickup, in press). Both studies used video-recorded in-depth qualitative interviews based on an interview guide (Patton, 2014). This paper seeks to describe the trainees' relationships with their mentors in order to identify those characteristics most associated with success or failure in the functioning of this vital partnership, and also to see how the nature of the relationship between mentor and mentee might affect the trainees' thinking about themselves as teachers. Specific problems which can lead to breakdown in the relationship will be highlighted. It is hoped that the findings may be useful to both future mentors and to teacher educators generally.

**Keywords:** teacher training; mentor-mentee relationship; qualitative research.

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## RETHINKING THE SOCIAL AND PROFESSIONAL IDENTITY OF TEACHERS: EMERGING ISSUES FOR TEACHER EDUCATION IN THE DIGITAL ERA

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A recent OECD study highlights the centrality of technology in addressing growing demands for equity and inclusion in the face of increasingly diverse student learning needs [1]. Social networks, digital platforms, and artificial intelligence increasingly act as educational 'agents', influencing how teachers approach their pedagogical practices [2, 3] – and how teacher educators rethink theirs [4, 5]. Similarly, Maria Ranieri, in her analysis of digital competence models for teachers, reflects closely on the reinterpretation of teacher pedagogical knowledge [6]. A key message here is that teacher competency models should evolve beyond technical skills, emphasizing the ethical dimensions of teaching and the development of a responsible professional identity. This potentially transformative shift is also highlighted by some policy makers. For instance, the OECD Learning Compass 2030 [7] positions the concept of student agency [8] to address global trends like digitalisation, climate change, and artificial intelligence. This repositioning of technology introduces intriguing opportunities and challenges that can influence educators in shaping and defining their professional identity and capabilities [9].

As teacher education researchers from four countries we are collaborating to better understand how recent developments in identity theory can be used to unpack this change. We are investigating how the advent of new digital technologies – and novel applications of more established ones – catalyse novel ways of engaging with professional colleagues and students. Digital technologies now confront teacher professional identity in unprecedented ways [10], driving a growing shift towards a perspective on teacher education and development that focuses on capability, resilience, and agility [11] – rather than technical competence alone [12]. We will suggest that this is both cause and result of a necessary rethinking of traditional understandings of teachers' identity and professional formation. We note within this some interesting practices and processes to build resilience, flexibility, and innovation for teacher education and development.

**Keywords:** teacher professional identity; teacher agency; equity.

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# TEACHER PROFESSIONAL LEARNING: IRELAND'S TPL EVALUATION AS A BASIS FOR DESCRIBING AND EVALUATING TPL IN ITALY

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Recent work by the OECD emphasises the importance of teacher professional learning (TPL), noting that TPL enables teachers to develop the necessary knowledge, skills and practices to effectively conduct all aspects of their work with a high level of self-efficacy and professionalism (Boeskens et al., 2020). Similarly, Margiotta (2018) highlights the role of TPL in shaping teacher agency. Despite the recognised importance of TPL, its evaluation has been described as the “weakest link” (Earley & Porritt, 2014) with a recognised need for a greater focus on this area by policy makers and researchers (e.g., DES, 2018; Angotti & Fonzo 2022; King et al., 2023). This presentation has three main elements. The first provides an outline of Ireland’s TPL evaluation framework (Gilleece et al., 2023), developed in response to a commitment made by Ireland’s Department of Education, to better evaluate the outcomes of TPL activities. The work involved several phases including a systematic review (Rawdon et al., 2020), a survey of teachers and principals (Rawdon et al., 2021), and consultation with children, young people and TPL providers (Rawdon et al., 2022a, 2022b). Drawing on Compen et al. (2019), the Irish evaluation framework comprises four components: context; key features; teacher outcomes; and student, school or system outcomes.

The second part of this presentation describes qualitative research conducted with Italian lecturers, school principals and teachers. The Italian research aimed to gather the perspectives of lecturers, principals and teachers of the Irish framework and to examine the perceived relevance to the Italian context.

The third part of this presentation focuses on an Italian framework for TPL evaluation – an adapted version of the Irish framework. In doing so, we consider the main differences and similarities between the two frameworks, also referencing the OECD’s report on TPL (Boeskens et al., 2020).

**Keywords:** teacher professional learning; continuing professional development; evaluation.

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## A CASE STUDY ON THE EVOLUTION OF COMPETENCY-BASED RUBRICS BY A HIGH-SCHOOL PHYSICS TEACHER USING SCCD

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Competency-based education is advocated to help students meet the demands of the contemporary world. To monitor learning outcomes in the competency tasks, the development of rubric standards is crucial for both teachers and students. Therefore, the purpose of this study was to explore the process and rationale behind the development of rubric standards by a high-school Physics teacher utilizing the System of Competency-Based Curriculum Design (SCCD). SCCD, developed by Lu (2023), introduces a 5-stage framework that encompasses: i) determining core knowledge, ii) establishing learning objectives, iii) designing learning assessments, iv) planning learning activities, and v) confirming learning materials. During the third stage, a competency-based task is crafted using the SAROPAS framework (Setting/Scenario, Aim, Role, Observer, Products, Actions, Standards), where the final "S" represents the standards for evaluating learning outcomes authentically. The connection of "S" extends to stages 4 and 5, ultimately responding to stages 1 and 2. Data collection, involved interview with the Physics teacher and students, content analysis of unit plans, classroom observations, and examination of follow-up academic records. The study revealed that the Physics teacher actively modified rubric designs over two years of applying SCCD, primarily focusing on enhancing the clarity of Physics concepts, with a significant alteration being the revision of criteria descriptions. The key catalyst for change was the students' performance, offering the teacher insights to refine unit plan. Furthermore, the change contributed to increased student autonomy, promoted active learning behaviors, and fostered cognitive development. Students became actively engaged and exhibited heightened cognitive skills, driven by their efforts to understand the rubrics for better performance. The findings suggest that well-defined standards within SCCD rubrics not only contribute to students' cognitive growth and self-directed learning but also align with the goals of competency-based education.

**Keywords:** competency-based education; rubrics; the System of Competency-Based Curriculum Design (SCCD).

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# CULTIVATING IN-SERVICE TEACHER PROFESSIONAL DEVELOPMENT THROUGH A COOPERATIVE TEACHER PROFESSIONAL DEVELOPMENT PROGRAM: A CASE STUDY OF SCCD IN TAIWAN

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In the dynamic landscape of rapid technological advancements and heightened competition, teachers encounter evolving roles and elevated expectations. Consequently, in-service teacher professional development becomes imperative to uphold education quality and safeguard student rights. However, the existing in-service education system grapples with challenges posed by conventional one-shot, one-way transmitting training programs that restrict constructive changes in teacher behavior. This study scrutinizes the impact of the System of Competency-based Curriculum Design (SCCD) model, developed by a prestigious university in Taiwan, on teacher professional development (TPD). Specifically, it seeks to delve into the driving forces behind and sustainability of teacher learning in SCCD, examining their experiences in applying SCCD in unit design and instruction. The research recruits six SCCD teachers with diverse teaching backgrounds as participants through criterion sampling. Data sources encompass participants' unit plans and in-depth interviews, interpreted using Glatthorn's (1987) cooperative professional development model. The findings unveil that teachers are drawn to SCCD by the curriculum reform emphasizing competency-based education. The cooperative environment of SCCD groups aids participants in overcoming challenges during learning, fostering perseverance. Over a minimum of two years, participants attend introductory and advanced SCCD workshops, engage in TPD groups for professional dialogue, refining unit designs with peers and coaches. Implementing these unit plans in classrooms significantly impacts student learning, motivating teachers to pursue more SCCD units. As a result, participants evolve into coaches, supporting new teacher learners. Based on the outcomes, the study recommends educational authorities adopt SCCD programs fostering professional dialogues and peer support, facilitating teachers in overcoming challenges during educational reform. This shift from a traditional "receiving model" to an "empowerment model" leads to in-depth learning. Additionally, the research suggests future studies incorporate students' perspectives and involve participants with diverse attributes for a more comprehensive understanding of SCCD's effectiveness.

**Keywords:** The System of Competency-based Curriculum Design; SCCD; cooperative teacher professional development model.

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# THE EFFECTS OF SCCD ON TEACHERS' AND STUDENTS' EXPERIENCES IN AN INTEGRATED MAKER COURSE

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The study aims to explore the collective experiences of participants in a maker-integrated course, deciphering the universal significance of these experiences. This course, anchored in educational standards, utilizes the System of Competency-Based Curriculum Design (SCCD) framework to design an integrated course that spans mathematics, information technology, and the arts. The research involves the collection and analysis of unit plans, interviews, and instructional videos from the four high school teachers who collaboratively designed and taught the course. Additionally, interviews, learning artifacts, task performance photos, final learning questionnaires, and open-ended reflective feedback from the 15 students who participated in the course are collected and analyzed. The findings indicate that teachers, through the experiences of designing and teaching the SCCD maker-integrated course, acquire knowledge and skills in curriculum design. The experiences enable them to overcome challenges associated with the design capabilities required for maker education and integrated courses. Furthermore, teachers develop professional competence and confidence in their teaching and cultivate a positive value system and attitude towards curriculum design and professionalism through their teaching experiences. Conversely, during the learning process of the SCCD maker-integrated course, students recognize the interconnectedness of knowledge from different domains, facilitating easier and more tangible learning. They apply theoretical concepts to solve both simple and complex tasks, present their findings, and exhibit a response to the key knowledge, skills, attitudes, and values outlined in the course objectives. Additionally, students develop a sense of identity towards learning and undergo a change in their attitudes towards classmates and teachers.

**Keywords:** integrated curriculum; maker education; system of competency-based curriculum design.

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## EXAMINING THE TRANSFORMATION OF LANGUAGE TEACHER IDENTITY IN THE WAKE OF THE COVID-19 PANDEMIC: A CASE STUDY

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Teacher identity is an ongoing process, and therefore that identity is dynamic rather than stable, a constantly evolving phenomenon (Beauchamp&Thomas, 2009). This study delves into the transformative effects of the COVID-19 pandemic on the identity of language teachers within the context of a private university's preparatory school in Ankara. Utilizing a mixed-methods approach encompassing semi-structured interviews and questionnaires, 20 participants were engaged to explore shifts in identity across key domains, namely technological proficiency, pedagogical approaches, professional development, student engagement, work-life balance, teacher well-being, student performance and assessment, and communication and collaboration. Findings revealed an apparent evolution in teacher identity post-pandemic. Positive shifts were evident in technological proficiency, pedagogical approaches, and professional development. However, a contrasting narrative emerged in areas such as student engagement, work-life balance, teacher well-being, student performance and assessment, and communication and collaboration, where responses predominantly conveyed a negative trend.

Furthermore, the research scrutinized teaching philosophies and adaptability by comparing teachers' perceptions before and after the pandemic based on their responses to semi-structured interview questions. Participants unequivocally expressed that their teaching philosophies had undergone transformation, and adaptability, a hallmark of effective educators, exhibited notable disparities.

This study contributes to the growing body of literature on the impact of global disruptions on education and teacher identity, offering insights into the nuanced and multifaceted nature of these transformations. The findings underscore the imperative for educational stakeholders to consider comprehensive support structures and professional development opportunities, acknowledging the dynamic nature of language teacher identity in the face of unprecedented challenges. This study holds substantive implications for highlighting the importance of teacher identity after the pandemic and it is pivotal since identity not only embodies the here-and-now selfunderstanding individual, but it also emphasises understanding individuals' sociohistorical backgrounds in shaping their perceptions and future selves (Nazari&Seyri,2021). As educators grapple with the aftermath of the pandemic, this research aims to inform pedagogical perspectives and practices, institutional policies, and future research endeavors within the broader international educational landscape.

**Keywords:** teacher identity; identity shift; COVID-19; online teaching, professional identity.

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# EDUCATIONAL CONTINUITY IN ECEC SERVICES (0-6): A CHALLENGE FOR FUTURE ITALIAN EDUCATORS AND TEACHERS

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The theme of educational continuity, emphasized and encouraged by pedagogical discourse and current European and Italian regulations in Early childhood education and care, is considered central in ECEC services' (0-6) educational proposals. From a pedagogical perspective, this theme is closely related to the contemporary view of the child as an integral, active, and free person from birth (Scaglia 2020). A child who has the right to access a quality educational path throughout all stages of their life, in which, through the sharing and co-design of an educational pact between family and educational figures, they will be guided towards the enhancement of their potential and the full development of their capabilities (Eurydice 2023; Hansen, Ringsmose 2023). In this way, the child actively participates in a formative - unitary and transformative - process (Potestio 2020). This vision foresees an educational action characterized by circularity, flexibility, and awareness (European Commission 2021; Hansen, Ringsmose 2023), which often clashes with the organizational differentiation of the Italian educational and scholastic system and of the paths leading to the professional qualification eligible to work in the ECEC services. In Italy, in fact, there are two academic paths dedicated to the training of new educators/teachers: the bachelor's degree in educational sciences, with a focus on Early Childhood (L-19) and the single-cycle master's degree in Primary Education Sciences (LM-85bis).

The presentation aims to highlight the historical, educational and organizational similarities and differences between the professional profile of the nursery school educator (0-3) and the pre-school teacher (3-6) who, in Italy, are trained through the two above-mentioned study paths.

**Keywords:** educational continuity; training; early childhood.

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## TRAINING TEACHERS OF RELIGION IN A MULTICULTURAL CONTEXT: PEDAGOGICAL BASES FOR A DIALOGUE TEACHING

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The political and pedagogical debate on Religious education (RE), in a pluralistic context, proposes different scenarios and points of view. There are confessional, interfaith or even ""neutral"" teachings. The political sensitivity of the actors involved is overcoming with difficulty the perspective of a ""secularization"" that seemed to induce ""secular"" solutions even in the field of RE. A pluralistic approach is emerging today, which can be linked to the reflections of sociologist Peter Berger and the Pluralism project of Harvard University.

We can also try to read in this perspective the evolution of the teaching of the Catholic religion (TCR) in Italy. TCR is a confessional teaching, founded on a Concordat between the Italian State and the Holy See, which was concluded in 1929 and updated in 1984. In this period there was a first evolution of TCR, which has overcome a catechetical approach becoming a cultural teaching, fully integrated into the mission and the goals of the school. TCR has had a further, interesting evolution in the first two decades of the third millennium, through the progressive revision of the teaching programs. The new programs (or guidelines) are mindful of the multicultural context and provide opportunities for interreligious dialogue. We can assume that dialogue can be the key to identify the pedagogical identity of TCR.

It is in this perspective that we will try to meet some challenges regarding the initial and in service training of Teachers of Religion in Italy. We wonder if and how the intercultural and interreligious dimension is cultivated in the initial and in service training of teachers of religion. The data from some recent surveys are not encouraging, but it is in this direction that the next steps can be taken.

**Keywords:** Religious education; Teacher training; Teaching of catholic religion.

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## EMERGENCY AND PEOPLE WITH INTELLECTUAL DISABILITIES. TEACHERS' TRAINING IN THE LEBEL PROPOSAL

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Current life scenarios are marked by significant elements of randomness, undermining the foundations of post-modern man's castle of rational certainties, not least of which is the possibility of exercising, through planning and monitoring processes, purposeful control over everything that happens around him. It seems evident that pedagogical studies, too, cannot but consider itself in the forefront, contributing its specific perspective of inquiry to a necessary reflection on the matter. All this seems to be true for anyone in the situation of having to face a catastrophic event equipped with personal tools and resources, but, even more so, for those who experience an intrinsic condition of difficulty, including people with intellectual disabilities or autism spectrum disorder, for whom clear design thinking needs to be promoted. In line with these considerations is the international Erasmus + project "I learn and get beyond my limits" - LEBEL. The working hypothesis, conceived within the research team of AFAD - Disaster and Emergency Management Authority, the Turkish Ministry of Interior's authority in charge of managing disasters and maxi-emergencies, was developed over a two-year period through the collaboration of entities pertaining to four European countries (Italy, Belgium, North Macedonia, as well as Turkey). The entire course aimed to investigate the most appropriate and effective ways to facilitate the exchange of useful information in emergency situations and contexts for people with communication difficulties attributable to a condition of intellectual disability. Specifically, the working group designed and produced accessible materials, developed training programs aimed at families and teachers, and produced informational documents for personnel working in early care services, with the aim of activating processes capable of supporting and responding to the specific needs of people with complex communication needs.

**Keywords:** Emergency contexts; Intellectual disabilities; Teacher training.

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## PROBLEMATIC BEHAVIORS AND CLASSROOM MANAGEMENT. TEACHERS' REPRESENTATIONS

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Among the many challenges facing the current school system, arises a feeling, shared by many insiders, of growing difficulty experienced by teaching staff in succeeding to educate and teach to new generations. Indeed, research report how a substantial number of students struggle to recognize the school's proper educational and training role. These difficulties translate into delays, dropout, suspension of schooling, or in different discomfort expressions, overt and acted out, starting from forms of abuse of power and aggression, arriving to a general and more submerged juvenile malaise, at least in part traceable to a state of fragility of the adult educator. It is also necessary to consider how, in dealing with youngsters' discomfort, schools are confronted with children, adolescents and young people whose social status seems to have changed profoundly from the past.

Owing to these considerations, it becomes interesting to understand the role that teachers' representations assume connected to the orientation, definition and implementation of possible intervention strategies in the management of conduct acted by pupils and deemed inappropriate. Investigating teachers' representations in this regard can, therefore, constitute a valuable starting point in the activation of a reflective professional posture, with the aim, moreover, of acquiring a fundamental datum on which to trigger change and awareness-seeking processes. Further to this point, an exploratory survey was conducted aimed at understanding implicit constructs that animate thinking and, consequently daily teaching action, of educational professionals with respect to the interpretation of inappropriate behaviors adopted by pupils/students at different moments and levels of school. This paper aims to offer an initial analysis of emerging dimensions in order to activate reflections and animate debate around issues deemed crucial in the promotion of truly inclusive education.

**Keywords:** Problematic behaviors at school; Classroom management; Inclusion.

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## EXPLORING DIGITAL STRATEGY IMPLEMENTATION IN RURAL PRIMARY SCHOOLS

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The Digital Strategy for Schools 2027 in Ireland sets out an ambitious target for schools, endeavouring to navigate a complex and evolving digital world. Identifying three key objectives, namely teaching, learning, and assessment, it aims to equip both teachers and learners with the tools and competences required to participate and compete in today's digital society. This strategy and implementation plan supports the EU Digital Education Action Plan (DEAP) (2021-2027), resetting education and training for the digital age with two priorities, developing a high performing digital ecosystem and enhancing digital competences. In addition, the development of a new primary curriculum framework by the National Council for Curriculum and Assessment (NCCA) incorporating the inclusion of STEM education as a new curriculum area, further emphasizes the government's commitment to prepare primary school children to participate in a STEM oriented and digitally centric world.

Supporting these developments, this research will examine the practical implementation of the Digital Strategy 2027 in Rural Primary Schools. It will explore the execution of this Digital strategy as it is evaluated, implemented, and assessed. The unit of study will be the school, incorporating the views and attitudes of principals, and teachers, using a participant sample of rural schools. Through the establishment and facilitation of a research cluster, this study will provide an intervention which examines the implementation in areas of infrastructure, Teacher Professional Development (TPD), inclusion, curriculum, and assessment. The effective use of European tools such as SELFIE for Schools and SELFIE for Teachers, and the UNESCO ICT Competence framework for Teachers will be explored.

It is envisaged that the nature, environmental setting, interventions, and evaluation of this research, will provide insight into the efforts, challenges and successes encountered by Irish Rural Schools, as they develop a competitive digital ecosystem, in a rapidly changing Digital World.

**Keywords:** Digital Strategy Implementation.

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## **Parallel session n. 2**

**Day 3** // Morning / Friday, 31st May 2024

### **B.5. Digital innovation and artificial intelligence (AI): schools, teachers and students between real and virtual world**

## TEACHER EDUCATION AND MOTIVATION CULTURE

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The relationship between school motivation and teacher education is a key issue for education systems in the near future. In fact, many social analysts highlight the growing disaffection of young people (at least in western countries) towards the school practices inherited from the 20th century, and the growing fatigue of the adult world in helping those born in the new millennium to discover for themselves why it is worthwhile to embark on the path of knowledge proposed by educational institutions. The professional referentials of teaching action, understood as descriptors of the teaching profession, must necessarily include the ability to establish appropriate systems of relations with pupils and the ability to promote their motivation and participation, ensuring the gradual progression of meaningful learning. Initial training processes can be the place where the paradigmatic transformation of the novices' imagery of teaching takes place, with the consequent overcoming of the idea of the teacher as a mere subject matter expert. It is therefore necessary to use this training season to develop an awareness of the fact that school learning and study are not exclusively intellectual phenomena: they cannot be understood by ignoring the affective-motivational dimensions and not considering the person as a whole. The work on learner motivation then highlights the quality of teachers' educational-professional motivation and the need to continually reawaken it throughout their professional life, through adequate in-service training. In this perspective, the teacher as a 'motivated motivator', constantly engaged in the worksite of his professionalism and still curious about the questions he tries to arouse in his pupils, appears to be the main factor in promoting a quality inclusive school, capable of launching the young generations of the liquid, plural and hyper-technological society of the third millennium into the adventure of knowledge.

**Keywords:** school motivation; teacher education; meaningful learning

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## TOUCH IN SMALL HANDS. RESPONDING TO THE CHALLENGES OF TECHNOLOGY IN CHILDHOOD 0-6

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In 2018, the Italian Society of Pediatrics published research regarding the use of media devices (tablets, smartphones, PCs, etc.) in the 0-6 age group. Among the various findings, the one that is pedagogically astounding is (beyond the relevant numerical data about their use by boys and girls) the reason why families use media devices: 30% of parents use smartphones to help calm their boys and girls as early as the first year of life (and still 70% of little boys and girls use media devices regularly from the second year of life). Certainly, disconcerting data that, while pointing to the complex nature of the technological phenomenon, also invite pedagogical and systematic reflection around the experience with media devices. Technological experience tends to emerge more "on-life" and less online, that is, permanent condition of connection (online) even in life (on-life). This is an ontological and anthropological transformation that, since early childhood, asks us to rethink differently the educational process and the whole way of relating to the world. In this sense, the educational challenge posed is both to research what technology can do "with children and girls" and not "for children and girls," and to pay attention to the training of educators and teachers of kindergarten 0-6 in order to reinvent the technology-children relationship. A considerable pedagogical challenge that collides with the need to act quickly, in front of a technological hypercomplexity that moves forward rapidly and creates disorientation and restlessness.

**Keywords:** childhood 0-6; media device; educational process

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# EXPLORING THE IMPACT OF ARTIFICIAL INTELLIGENCE IN HIGHER EDUCATION: A CASE STUDY USING THE TECHNOLOGY ACCEPTANCE MODEL

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The integration of artificial intelligence (AI) has become a transformative force in the changing field of education, opening new challenges and opportunities for innovation in higher education. This research paper investigates teachers' acceptance of AI in the realm of education, using the Technology Acceptance Model (TAM) as a guiding framework. The study uses surveys to gather data on teacher attitudes and behaviours concerning AI in educational settings, with the primary goal of understanding the factors influencing teachers' attitudes, perceived usefulness, and behavioural intentions towards AI. Findings highlight the interplay between AI and higher education, unravelling challenges and opportunities associated with its implementation. The paper discusses the implications for educators in fostering a conducive environment for the effective use of AI technologies in teaching and learning. By contributing empirical insights within the TAM framework, this research advances our understanding of the acceptance dynamics specific to higher education, providing a foundation for future research and guiding institutions in navigating the evolving landscape of AI integration.

**Keywords:** artificial intelligence; higher education; technology acceptance model

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# CHALLENGES AND CONSTRAINTS ASSOCIATED WITH TEACHING CIVIC ENGAGEMENT THROUGH TEACHERS' AND STUDENTS OF EDUCATION CIVIC COMPETENCE PERSPECTIVE IN LATVIA

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This study adds to the larger conversation on teachers' preparation and ongoing professional development by addressing related issues about the role of teachers' civic competencies in teaching civic engagement. Teachers must possess various professional competencies to navigate the complex system of contemporary education in the digital era. Education's role in fostering learners' civic engagement has recently been resurrected. Despite the absence of opportunities for professional development in civic education for teachers, these experiences can positively impact teachers' competence in teaching civic engagement. High-quality professional development for teachers is required to support learners' civic education in schools. Civic engagement involves three main areas: democratic norms and principles, participation and activities, and motives, attitudes, and efficacy. In contrast, civic competency comprises civic knowledge, analytical abilities, and participative and involvement skills.

The purpose of the study was to describe the challenges and constraints in learning civic engagement among learners based on teachers' civic competency perspective. Data about students of education and their civic competency was derived from the report from the University of Latvia research "Assessment of Competencies of Higher Education Students and Their Development Dynamics During the Study Period". Data about teachers' civic competency was taken from the "First International and Latvian Results of the IEA ICCS 2022 International Civic Education Study" report. The methodology used in this study was literature and source analysis with a mapping review strategy. Data analysis from research reports and literature identified challenges and constraints within teachers' civic competence to engage learners in civic participatory activities in school.

**Keywords:** digital civic engagement; teacher civic competency; professional development

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# PROGRAMMING ERRORS AND THE ATTRIBUTION OF INTENTIONALITY TO EDUCATIONAL ROBOTS

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Robots can be used as programming platforms for educational purposes (Anwar et al. 2019). In so-called educational robotics (ER) activities, students are invited to program robots so that they display certain behaviours or exhibit certain capacities. To understand the dynamics of ER activities, guide them properly, and assess their outcomes, it is crucial to investigate the nature of the programming errors made by students and their cause. This work starts from the presupposition that programming errors may be caused by students' conceptions, or mental models, of robots, a presupposition that has been initially voiced by Pea (1986). More specifically, Pea identified the so-called "superbug", which is a type of programming errors flowing from an misguided attribution of intentionality to computers, causing the assumption that the machine can go "beyond the information given" in the program. This paper has two goals. The first one is to substantiate, and illustrate with examples, the claim that a connection between one's mental model of a robot and their programming errors may exist (in accordance with Pea). The second goal is to argue, against Pea, that the attribution of intentionality to a robot need not cause the "superbug". Drawing on the philosophical literature on the structure of psychological explanations (e.g., Bechtel, 2008), it will be argued that one can conceive the robot as a possessing a mind, or even emotions, without necessarily assuming that it goes "beyond the information given" and exhibits free will (which, arguably, is at the basis of the "superbug"). As such, this paper aims at paving the way for a conceptual and empirical reflection on the nature and cause of errors in robotics programming, which can be useful for teachers to design and guide educational robotics activities.

**Keywords:** educational robotics; programming errors; mental states attribution

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## LET ME INTRODUCE OPEN EDUCATION... FACILITATING PROSPECTIVE TEACHERS' UNDERSTANDING OF OPEN EDUCATION THROUGH AN AI-BASED TOOL

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Open Educational Resources (OERs), first defined by UNESCO (2011) as “any educational material that can be used, adapted, and shared without restriction”, are central to promote access and inclusion. The EU still expresses the importance of open education ([https://joint-research-centre.ec.europa.eu/what-open-education\\_en](https://joint-research-centre.ec.europa.eu/what-open-education_en)) as a driver in the innovation of educational provision, reducing the barriers to access to quality education. However, embracing OER is still a badly understood and little practised approach (Ossiannilsson et al., 2020).

In this presentation, we explore ENCORE, a tool for undergraduate and prospective teachers designed to embrace open education. As mediational tool (Ghislandi et al., 2013), we hypothesised that it could enhance prior pedagogical knowledge and values to move towards an open educational perspective.

ENCORE combines AI-driven tools to retrieve relevant open educational resources to improve the teaching-learning process. Its main goal is to guide educators in designing courses to address contemporary challenges such as digitalization, climate change, and post-COVID economic recovery (Raffaghelli et al., 2023).

Two project-based workshops on ENCORE were implemented, with 64 participants. A pre-post test (student's t-test) based on EU recommendation (OpenEdu Framework, Inamorato et al., 2016) shows relevant results. The subscales “OER knowledge,” “Using OER,” and “Understanding and contribution to Open Knowledge” were significant at the cut-off level of  $<.001$  ( $df = 63$ ,  $t = 9.43, 9.83, 7.22$ , respectively). Moreover, the UTAUT scale was applied, observing that the most important variables for this sample were, in decreasing order: 1) performance expectation (avg. score 15.4) and behavioural intentions (15.1); 2) social influences (13), facilitating conditions (12.9) and effort expectation (12.3). This means that for the participants, the impact of using ENCORE to embrace an open educational perspective is relevant.

The results show the validity of ENCORE for the initial teachers' training (undergraduate level) to embrace an open educational perspective.

**Keywords:** open education; AI-driven tools; initial teachers' training

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# FROM PAST TO PRESENT: COMPARING EDUCATORS' PERCEPTION OF WIKIS TO AI TOOLS – A SYSTEMATIC REVIEW

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Technological developments have profound implications for education, and after each significant step, we can see their ripples in education (Ghory & Ghafory, 2021; Raja & Nagasubramani, 2018). With the rise of Web 2.0 tools, user-generated content has become popular, and sites such as Wikipedia or wikis have started to be used as sources of information and knowledge (Haider and Sundin, 2020, pp. 169-184), altering the role of educators, and we see a similar pattern today (Eijkman, 2010; Felix, 2020; Annuš, 2023). We are amidst another breakthrough with the rapid advancements in artificial intelligence tools. While the capabilities of such tools are exceptionally unique, the reactions to these tools are not, as educators recognize the potential of these tools with some shared skepticism, as suggested by our preliminary review (Kim & Kim, 2022; Shirin, 2022; Polak et al., 2022). This qualitative systematic review seeks to explore educators' perceptions, from K-12 to higher education, on the impact of wikis and compare these with current responses to AI advancements in education. In addition, crucial topics such as the diffusion of these technologies, access to them, and the critical implications of adopting them will be discussed. To fulfill this in-depth synthesis, published works from databases (Web of Science, Scopus, Google Scholar, ERIC) will be gathered using a review protocol. To ensure transparency and eliminate bias, a PRISMA Flow Diagram will be created. After critically appraising the found works, a map of perceptions of the wikis and AI tools and their status quo resonance in education will be created. Governed by these findings, an outlook on AI integration in education and its implications for the theoretical foundations of education will be made to harness its benefits efficiently.

**Keywords:** web 2.0; artificial intelligence; educators' perspectives

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## **TASK REPETITION AND CHATGPT INTEGRATION IN REMEDIAL EFL LESSONS: A TEACHER'S RESEARCH JOURNEY**

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The integration of artificial intelligence (AI) and ChatGPT technology into English as a Foreign Language (EFL) instruction has sparked significant changes in language learning and assessment methods (Kohnke et al., 2023). This research introduces a practical method for improving speaking skills in a Turkish university's 7-week B1 course, targeting a group of 17 remedial students. Addressing the unique challenges faced by these students, who have limited opportunities to practice English outside the classroom, presents particular difficulties. Remedial learners can benefit from diverse instruction methods and customized materials (Siddiqui & Alghamdi, 2017). The teacher in this study opted for evidence-based teaching through action research (Cochran-Smith & Lytle, 1990; Burns, 2005), focusing on meeting students' needs by employing a test-teach-test grammar teaching approach. This approach involved incorporating repeated speaking tasks to identify areas of grammar weakness, followed by personalized support using ChatGPT for real-time language practice (Young & Shishido, 2023). To evaluate the effectiveness of the intervention, a mixed-methods approach was employed, including pre- and post-intervention data collection through questionnaires, speaking exams, and semi-structured interviews. Results indicated improvements in task completion and language use in student speaking performance, along with enhanced attitudes and motivation towards speaking by the end of the module. Participants viewed the intervention positively, describing it as an engaging and interactive method for enhancing L2 speaking skills and promoting student engagement in the learning process. This study puts forward the practical advantages of ChatGPT integration for tailored interventions facilitating language learning success. By addressing challenges and prioritizing ethical principles, equitable access, and meaningful human interaction, a more effective and engaging EFL learning experience becomes achievable.

**Keywords:** ChatGPT; action research; English language learning/teaching

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## ENHANCING INCLUSIVE LANGUAGE LEARNING THROUGH DIGITAL MUSEUM PATHS: A COLLABORATIVE EVALUATION PRACTICE BETWEEN TEACHERS AND RESEARCHERS

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Effective collaboration between teachers and researchers in empirical studies is paramount for advancing educational research (Schenke, Van Driel, Geijssel & Volman, 2017). Within the context of a doctoral research project, inclusive digital museum paths were designed following the Universal Design for Learning (UDL) guidelines to facilitate the development of multilinguistic competences, one of the key competences identified by the European Council (European Council, 2018; European Commission, 2019). These paths were systematically tested by Italian high school students during a pilot test. They attended two museum visits followed by post-visit workshops. To assess the efficacy of these pilot inclusive digital museum paths for language learning, it was essential to engage teachers in the evaluation process, as they could provide valuable feedback. The three teachers that followed the activities attended a focus group of 45-minutes (Abramczyk, 1995). The collaboration with teachers proved instrumental in refining and enhancing the inclusivity of the digital museum paths. Valuable insights emerged from the focus group discussions, with teachers identifying areas for improvement and suggesting adjustments. For instance, feedback from the teachers highlighted that the application of "multiple means of action & expression," as outlined in UDL guidelines (specifically points 4.1, 4.2, 5.1, 5.2) (Meyer, Rose, & Gordon, 2014) did not yield as positive effects as anticipated. Students, it was noted, required more explicit instructions and structured frameworks to achieve learning objectives. These findings from the focus group not only contribute to the ongoing discourse on inclusive language learning but also provide concrete guidance for refining and re-implementing the digital museum paths in subsequent experimental phases. This collaborative approach underscores the importance of integrating teacher perspectives in the design and assessment of inclusive educational interventions, facilitating a more comprehensive understanding of the challenges and opportunities presented by innovative teaching methods (Kieren, Krainer, & Shaughnessy, 2013).

**Keywords:** collaborative evaluation; digital museum education; UDL

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## EDUCATION IN THE ELECTRONIC AGE: A LECTURE BY MARSHALL MCLUHAN WITH TEACHERS ON EDUCATION IN THE DIGITAL ENVIRONMENT

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«Our kids have no goals because they understand the world they are living in and you can't have goals in an electronic total-field world. You cannot have fixed objectives. What do you put in their place? Roles! Involvement – participation in depth – in processes. Our youngsters [...] understand that the new kind of world in which they live demands absolute participation in processes. [...] Under electronic conditions everything becomes a service industry, including education. Education is the biggest service industry in the world and it is only beginning».

So said Marshall McLuhan in 1967 at a conference with Ontario secondary school teachers organized by the Provincial Committee on Aims and Objectives of Education about national education. In those years, the Canadian scholar was very popular: his opinion on pedagogical issues is so crucial that he can range, in his own way, from one discipline to another, from mediology to the history of education, literature, and even the sciences. A close final discussion ensues with the teachers present, who pose questions and seek clarification directly from McLuhan.

The transcript of the talk is published, with postscript and final debate, in issue 4 of the review ""Interchange"" in 1970, within a dossier entitled *The Best of Times, the Worst of Times*, now translated into Italian for the Ets publisher. The paper is of great relevance because it surfaces pedagogical and educational issues that are still alive for a world that has become, with the advent of the media, a great ""global village"" and a huge service industry, now challenged by artificial intelligences. The final discussion with teachers deserves particular attention in this context since it allows us to reason about the new role they assume in the age of complexity, reasoning about key concepts such as that of involvement in the educational process.

**Keywords:** Marshall McLuhan; education; electronic age

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## **Parallel session n. 2**

**Day 3** // Morning / Friday, 31st May 2024

### **B.6. Inclusion in teaching and learning processes and school improvement (1)**



## PLANNING THE TRANSITION TO ADULTHOOD FOR STUDENTS WITH DISABILITIES: KNOWLEDGE, PERCEPTIONS, CHALLENGES FROM STRADE TEACHER TRAINING PROGRAM

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Transition represents the step into specific adult roles and responsibilities (Morgan, Reisen, 2016) and commonly it is challenging for young adults with disabilities (YAWD) (Stewart et al., 2006). This lifetime has often been reported by students with disabilities, families and caregivers as a period of upheaval, confusion, stress and missed decisions (Caton, Kagan, 2007).

To face these trends, research calls schools and related stakeholders for assuming a precise, integrated, and prospective design vision in relation to the different actions involved in transition guidance and planning, such as: the collection, processing, and use of educational and vocational information; planning and implementation of decisions also respecting the preferences, expectations, desires; individualized life and education plans (Izzo, Lamb, 2003). Although literature question the crucial role that Transition Plans play in the construction of YAWD life project (Cavendish, Connor, 2018; Thoma et al., 2020), these statements still struggle to find their effective adoption and implementation in the teachers' practices. This reinforces the importance of enhancing specific training initiatives for teachers on issues of transition to adulthood of YAWD (Grigal, 2000).

This contribution presents the model and the results of a training program carried out during the action research STRADE (Supporting the Transition to Adulthood for persons with Disabilities from an Ecosystemic perspective) delivered to Italian secondary school teachers in Bergamo area and aimed at promoting cultural, pedagogical, didactic and design knowledge to support the co-design process for individualized Transition Plans. Specifically, the paper analyses knowledge, perceptions, challenges, and results collected by an online pre and post qualitative survey for teachers participating in STRADE training program. The collected data were subjected to thematic (open questions) (Braun, Clarke, 2006) and descriptive/inferential statistical analysis (closed questions) (Arbuckle, 2011).

**Keywords:** disability; transition to adulthood; teacher training; transition plan

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## UNIVERSITY INCLUSION PROGRAM FOR STUDENTS WITH AUTISM SPECTRUM DISORDER (ASD) IN FRANCE

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The 'Atypie-Friendly' program aims to promote the inclusion of autistic students in higher education. The University of Picardie Jules Verne (UPJV), a member of the Bauhaus4EU Alliance, has been part of this initiative since its accreditation in 2018 by the National Research Agency Investments (2018-2028) led by Bertrand Monthubert of the University of Toulouse Paul Sabatier. Several local actions are implemented for students with ASD at UPJV. For instance, the student association for individuals with ASD has initiated a project for the academic year 2022/2023 with the goal of enhancing cultural accessibility, particularly in the areas of theater and orchestral performances, for both ASD and neurotypical students. The pedagogical project, known as COMPAF (COMPétences Aspie Friendly), focuses on adapting training modules and customizing educational paths for this specific population, including the 'Academic Work Methodology Module,' for instance. A national assessment of the program revealed the unique characteristics of autistic students before the implementation of the program. For example, they seek help less frequently, encounter difficulties in mental flexibility and control during problem-solving tasks, and exhibit lower social participation (Cilia, Kruck, & Dell'armi, 2021). The study of the psychological impact of the program is currently underway and will provide insights into the well-being, autonomy, and social participation of students. Preliminary national results have shown correlations between academic performance and academic self-esteem among typical students and other students with disabilities, but not among autistic students (Kruck et al., submitted). It is worth noting that one of the main objectives of the program is to build an inclusive university, and the program and actions implemented can benefit all students in an inclusive campus. This presentation will showcase the ongoing study's results, focusing on the satisfaction of students within a University with an 'Atypie Friendly' team that has been in place for 5 years.

**Keywords:** autism spectrum disorder; university inclusion; well being

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## KALEIDOSCOPE - A CAMPAIGN FOR DIVERSITY AND INCLUSION

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In the higher education community, there are various differences within the population, including students, teaching, and non-teaching staff. At the Polytechnic Institute of Castelo Branco, Portugal, approximately 5000 students study, representing diverse cultures, ages, genders, sexual orientations, educational needs, and socioeconomic levels, enriching the heterogeneity of the university campus. According to literature, the path to inclusion involves the acceptance, recognition, and appreciation of this diversity within the population. Given that attitudinal barriers are challenging to modify, Kaleidoscope was conceived and developed as a campaign to encourage the appreciation of diversity among members of the academic community, with the ultimate goal of promoting inclusion. Kaleidoscope aims through a more informative and educational strategy to modify beliefs and attitudes, reduce inequalities, and combat discriminatory behaviors that may exist. The adopted methodology involves the use of different communication channels (posters, badges, IPCB social media, workshops, podcasts), with a monthly focus on a specific minority group (LGBTQ, international students, special educational needs, etc.). This campaign seeks to reach the entire population of the Polytechnic Institute of Castelo Branco community (students, faculty, and non-teaching staff). The impact analysis of the campaign on the IPCB community will be conducted through the collection of information using social media metrics and surveys designed for participants to express their perceptions.

**Keywords:** higher education; diversity; inclusion

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# IMPROVING INCLUSIVE EDUCATION: THE TURIN MODEL OF COLLABORATION BETWEEN SCHOOLS, UNIVERSITIES AND COMMUNITIES

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Promoting constitutive synergies between the main international standards and documents and teacher training is a priority task in our times. In 2006, with the ratification of the UN Convention on the Rights of Persons with Disabilities, the Italian school system was already well positioned in terms of inclusion compared to other European countries. Today, the evolving legislation poses new challenges. In December 2021, the “Legge Delegata al Governo per la disabilità” (Law Delegating the Government on Disability) was passed, which introduces a reform of services for people with disabilities. In the new universe of services to be introduced in the coming years, students with disabilities will no longer be placed in special centres or places, but will be able to live “on an equal basis with others” in the real world. This new perspective poses new challenges for schools and gives inclusion – and the professionals who promote it – even more complex tasks. In order to meet these challenges, it is necessary to provide teachers with theoretical and practical tools that are suitable for their daily working environment. The University of Turin, together with regional and municipal institutions and in collaboration with the teachers' unions, has launched a series of measures to better harmonise pedagogical theory and practice. These include the Professional Development Course (CUAP) “Expert in the processes of inclusive education”, which has been organised over the last three academic years. This course was developed as part of a comprehensive Memorandum of Understanding to improve the skills of teachers qualified in special educational needs. It focuses specifically on improving the skills of their trainers, with particular emphasis on those responsible for the laboratory activities in the specialisation courses. This initiative is an example of a proactive approach to inclusive education that is aligned with current needs and international standards.

**Keywords:** experts; inclusion; train the trainer

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## AN ONGOING TEACHER TRAINING PROJECT TO INVESTIGATE AND IMPLEMENT THE ACCESSIBILITY OF EDUCATIONAL SPACES AND CONTENTS THROUGH THE TOOLS OF INCLUSIVE INQUIRY AND STUDENT VOICE

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In the European context, Italian schools have been pioneers in the integration of students with disabilities. However, current research highlights a gap between theory and practice in achieving full inclusion that recognizes the importance of the participation of all individuals in school and social life, conceiving diversity as an essential element for collective growth. The tools for individualised design in use still partially reflect a medical model of disability, deviating from the internationally recognized rights paradigm established by the 2006 UN Convention, which guides European directives. Despite attempts to translate legislation into operational tools guided by the vision of a world where every person has access to relevant, quality education and lifelong learning, teachers feel that research does not fully address their concerns about the implementation of inclusion.

This research aims to investigate the constructs of inclusive inquiry and student voice in the landscape of initial and ongoing teacher education. It seeks to evaluate the potential demonstrated by these practices in building inclusive contexts through a systematic review of European and Italian practices and an on-field experimentation following the Educational Design Research model. Specifically, the research explores the complexity and variety of experiences of student voice involving people with intellectual disabilities. Given the relevance of linguistic communication in educational contexts, the study aims to investigate the accessibility of educational content and the actual effectiveness of Easy to Read writing practices in improving the understanding and academic outcomes of students who perceive language as a barrier to their learning. The literature on this subject is actually very scattered, although this practice is increasingly used at European level for the training of adults with intellectual disabilities in order to improve the accessibility of information.

**Keywords:** accessibility; student voice; inclusive inquiry

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## THE STUDENT VOICE IN TEACHER TRAINING: AN INVESTIGATION INTO THE INCLUSIVENESS OF EUROPEAN PRACTICES

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Through a literature review of experiences at European level, this work aims to investigate how much the student voice is integrated within the teacher training and how this practice has repercussions on the professional practice of teachers. Specifically, we aim to investigate how much the student voice is integrated into the academic training curriculum of future teachers and how this practice impacts on teachers' professional practice in an inclusive perspective.

Indeed, the literature shows that students involved in student voice practices demonstrate greater involvement and responsibility for the tasks assigned to them, increasing the likelihood of generating meaningful learning. Based on this assumption, the research hypothesises that experiencing student voice in one's own training helps teachers who will go on to work with students with disabilities to internalise the importance and urgency of giving voice to the people for whom they are designing, and that experiencing engagement and advocacy can help future teachers to replicate this practice in their work.

This research therefore explores how the practice of student voice in teacher education can respond to one of the open questions of inclusive design in pedagogy, where people with disabilities are often not involved in the decision-making processes that affect them. With this work, we aim not only to support Cook-Sather and Felten in their call for universities to move away from seeing students as products of the 'training factory' to seeing them as active and responsible members of the learning process, but to investigate how they act within their professional practices the learned practice of listening to the voice of all students.

**Keywords:** inclusion; student voice; teacher training

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*B.6. Inclusion in teaching and learning processes and school improvement (1)*

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## THE USE OF ARTIFICIAL INTELLIGENCE IN SECONDARY SCHOOLS: EXPERIENCES IN INITIAL TEACHER TRAINING

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The integration of Artificial Intelligence (AI) in education represents a breakthrough in the learning and teaching paradigm.

AI can facilitate preparatory work and allow teachers to use their time for student-centred activities. The potential of AI for personalised learning is in line with the need for inclusive education as highlighted by UNESCO and the EU. However, the effective integration of AIED requires careful consideration. Challenges include ensuring that AI is used in a pedagogically meaningful way and that students are educated to use AI critically and responsibly.

These statements emphasise the need to integrate AI into teacher training (TT), which is the focus of our study at the University of Turin. We analyse and provide concrete examples of the integration of AI in two related TTs during the academic year 22/23: the TT "Expert in the Processes of Inclusive Education" aims at the training of trainers of new teachers; the TT "Specialisation course in special educational needs" aims at the training of new school teachers. The curricula of both courses include a section on new learning technologies, in which training on AI was offered.

With this presentation, we would like to contribute to the ongoing discourse on AIED by presenting empirical data from our TTs. These include practical applications of AI in classroom, the effectiveness of these applications in promoting inclusive education by supporting individualised teaching. The potential risks will also be discussed, such as distorted perceptions of reality introduced by AI.

The presentation concludes with a proposal for a framework for the effective integration of AIED. It emphasises the role of TT in harnessing the potential of AI while mitigating its risks and contributing to a better understanding of its impact on schools, teachers and students.

**Keywords:** artificial Intelligence; school inclusion; teacher training

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*B.6. Inclusion in teaching and learning processes and school improvement (1)*

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# UNITOGETHER PROJECT: DEVELOPMENT OF SCIENCE COMMUNICATION APPROACHES THROUGH THE ACTIVE CO-INVOLVEMENT OF YOUNG PEOPLE: FROM ELEMENTARY SCHOOL TO UNIVERSITY

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Science dissemination is becoming pervasive on many levels. However, it encounters critical issues with fake news and misinformation, and it is difficult for researchers to share their research processes with a non-specialized audience (Roche et al., 2020). People need the tools to understand the processes under research, develop the key competencies, and read reality (EU, 2018). For these reasons, we present Unitogether, a project coordinated by the Department of Life Sciences and Systems Biology of the University of Turin. The main aim of the project is to disseminate scientific knowledge through the writing of research by the academic community, with two key aims: 1) offer to academic researchers and teachers a pedagogical model to promote excellent education actions (Fung et al., 2017; Wilcox, 2021) and to disseminate scientific papers addresses for a non-expert audience. 2). To involve young people in the process of dissemination of research.

We chose Frontiers For Young Minds, a constructivist approach that provides the engagement of students as evaluators to review articles in terms of comprehensibility of content, clarity of exposition, and logical and methodological consistency. The work was structured in the following phases:

1. Manuscripts collection by academic community
2. Submission of texts to schools
3. Feedback from students
4. Publication of manuscripts on the Zenodo (platform to create an online repository accessible to all).

Through two questionnaires, it was possible to collect the data about reviews of articles and satisfaction of experience. The aim of the first tool was to help students to reflect on the content of manuscripts' contents and offer feedback to the authors. The second included nominal rating scales to measure satisfaction with the experience. From the start of the project (2021) to 2023, results show a significant intensification of school engagement from 10 to 17 institutes in the first and second years of operation. The number of students involved also increased, growing from 445 to 639. 46 authors participated in the activity in the first year, while in the second 60 were involved.

Results demonstrate a remarkable success, with a graduation rate of about 90%, and have had a significant impact on interest in science disciplines (89%).

**Keywords:** unitogether; excellent education; pedagogical model

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*B.6. Inclusion in teaching and learning processes and school improvement (1)*

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## DIGITAL ESCAPE ROOMS: FOSTERING INTERPROFESSIONAL COLLABORATION FOR UNIVERSITY STUDENTS

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The challenges presented in contemporary healthcare settings demands the collaboration of professionals capable of navigating complex scenarios. In response to this need, Interprofessional Training (WHO, 2010; Reeves et al., 2016) emerges as a valuable framework within the training landscape for healthcare professionals. Diverse strategies can be advocated for its promotion (Lotti, 2022), with an overarching focus on the incorporation of active and interactive approaches and methodologies.

Among the innovative didactic methodologies, game-based learning (GBL) has gained significant prominence, extending its influence into medical education (Martin F, 2020). The integration of gaming elements into education positively impacts learning outcomes, evident in heightened motivation and the cultivation of specific and transferable skills (Ozdemir et al., 2022; Xu et al., 2023). Virtual Escape Rooms have emerged as a noteworthy application of GBL, particularly beneficial for fostering collaboration (Fotaris P, Mastoras T, 2019). In these settings, the educational emphasis on interprofessional issues must be ingrained both in the structural characteristics of the learning environments and in the dynamics established among student participants.

Delving into the creation of Escape Rooms involves contemplating various factors central to their development (Davis et al., 2022). A reflective consideration of an educational-didactic nature surfaces, encompassing multiple aspects. Achieving effective collaborative learning necessitates meticulous structuring with a focus on interaction (Trincherò, R., 2017), surpassing mere co-presence of students with diverse educational backgrounds. Consequently, the construction of such environments, from an interprofessional perspective, mandates adherence to specific guidelines and design elements that strike a balance between the playful and educational dimensions while aligning with learning principles.

**Keywords:** digital educational escape room; interprofessional; technologies

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## INCLUSIVE CO-TEACHING MODEL IN HIGHER EDUCATION: AN OPPORTUNITY TO LEARN WITH EXPERTS BY EXPERIENCE

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This work is part of the R&D Project SI3/PJI/2021-00164, "Pedagogical Voices and Co-teaching in University Education", focusing on inclusive research with people with intellectual disabilities. Employing a mixed-method approach, it combines quantitative and qualitative aspects.

We propose an innovative teaching model known as "inclusive co-teaching", aimed at training future educators in inclusive education, implemented at the Autonomous University of Madrid, featuring intellectually disabled teachers.

The model is designed to develop competencies that embrace all human diversity, fostering a more inclusive educational system and grounding the training in real-world expertise. The approach underscores the importance of giving a voice to traditionally silenced groups.

Inclusive co-teaching is defined as the collaborative teaching of a subject by academic staff alongside lecturers who are experts by life experience.

For the model's development, training for both academic teachers and life-experienced experts is essential. Preliminary results indicate a significant positive impact on teacher training, enhancing empathy, collaborative work, and the unlearning of previous misconceptions about disability, diversity, and inclusion, leading to a deeper understanding of others.

**Keywords:** inclusive education; teacher education; intellectual disability

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## INCLUSION OF DEATH IN EDUCATION: IMPLICATIONS AND CHANGES AFTER THE PANDEMIC

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This paper is included in the R&D "Pedagogy of Death, Pandemic, and Improvement of Education", endorsed in the 2021 Call for "Knowledge Generation Projects" within the State Plan for Scientific, Technical, and Innovation Research 2021-2023. The study uses a mixed-method approach, integrating both quantitative and qualitative aspects. It aims to examine significant shifts in educational perceptions and practices concerning death due to the pandemic. The research contributes to understanding the pandemic's impact on education and the necessity of pedagogical adaptation to address previously taboo subjects such as death in formal education. In this work, we share the initial findings of the project, focusing on how researchers and educational institutions have understood and adapted the integration of death into education following the pandemic experience. This analysis is key to comprehending the profound changes that society, and specifically the educational domain, has undergone.

**Keywords:** death pedagogy; pandemic; education

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Pablo Rodríguez Herrero, Agustín de la Herrán Gascón & Belén Poveda García-Noblejas (2023). *How Do School Principals Perceive Education that Includes Death? A Phenomenological Study, Leadership and Policy in Schools*, 22:4, 1052-1065, DOI: 10.1080/15700763.2022.2063749  
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Pablo Rodríguez Herrero, Agustín de la Herrán Gascón & Pablo García Sempere (2023). *Impact of a teacher-training MOOC on the Pedagogy of Death during the pandemic*, *Death Studies*, 47:7, 804-813, DOI: 10.1080/07481187.2022.2132549



## EXPLORATIVE ANALYSIS ON SELF-PERCEIVED USE OF TEACHING STYLES IN SECONDARY SCHOOL PHYSICAL EDUCATION TEACHERS

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The need to guarantee an education oriented to the promotion of personalized didactic interventions has opened new scenarios of psycho-pedagogical, sociological, and methodological reflection aimed at enhancing the inclinations, abilities, potential and needs of each student. To date, extending, strengthening, and ensuring the accessibility of educational and educational opportunities in the school context are essential prerogatives and development objectives for teacher training. In the field of Physical Education (PE), the educational research has made significant progress and developments deepening the disciplinary analysis in different contexts and educational environments. The present contribution aims to assess teachers' perception use of teaching styles in PE in secondary school. The survey has been conducted on 100 PE teachers with a digitalized version of questionnaire asking how many times did the use each teaching styles during the last month. Results showed that academic training but not seniority were associated with the use of production teaching styles, while command and practice styles were most used regardless of seniority and academic training. Considering the close relationship between teaching methods and ways of learning, the analysis of the perception of teaching styles is a key element in designing training courses for teachers and developing metacognitive and reflexive competences in physical education. Moreover, from the perspective of the PE teachers, the Reflective Practitioner Model presupposes the improvement of their own knowledge through thoughts and reflections on planned and unplanned actions and the analysis of the advantages and disadvantages in action (when a certain event happens) and on action (after the event happened) to improve personal teaching methods. Future research will investigate the effect of experimental interventions based on the variation of teaching styles on the quality, intentionality, and inclusivity of teaching in PE.

**Keywords:** teaching styles; student-teacher relation; teacher's behavior

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# INNOVATIVE APPROACHES TO ENHANCING ORAL LANGUAGE SKILLS IN CHILDREN WITH INTELLECTUAL DEVELOPMENT DISORDER: A SYNTACTIC PRIMING PARADIGM-BASED EDUCATIONAL INTERVENTION

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This project is part of the Territories of Educational Innovation initiative, within the Program of Investments for the Future (PIA3 100% IDT) led by the University of Picardy Jules Verne. Collaborating with BAUHAUS4EU and other institutions, the goal is to advance sustainable, inclusive educational policies and resources, benefitting all students across diverse contexts.

Our research addresses the pressing need for effective educational tools supporting language development in students with Intellectual Developmental Disorder (IDD), ultimately enhancing their inclusion in classrooms. Despite the complex language challenges of children with IDD (Abbeduto et al., 2016), existing interventions are scarce and struggle to maintain and generalize taught language skills, particularly using explicit methods (Hreich et al., submitted), often hindered by cognitive constraints such as verbal short-term memory.

To overcome these limitations, we suggest exploring implicit learning methods, less reliant on age and intellectual skills (see Vinter & Detable, 2003). Specifically, our study investigates the efficacy of a tool structured as a picture-matching game, developed in collaboration with educators. This tool leverages implicit learning mechanisms (see Bock & Griffin, 2000) rooted in the syntactic priming paradigm (Bock, 1986). Although syntactic priming has demonstrated success in various populations, including young children (Branigan & McLean, 2016), and those with language disorders (Garraffa et al., 2018), its application in children with IDD remains unexplored due to their unique cognitive challenges (Kidd, 2012).

The preliminary testing phase of the tool involved two experimental tasks conducted with typically-developing kindergarten students and adults to assess its effectiveness. The first task aimed to prime the production of gradually complex syntactic structures in young children, while the second task evaluated facilitating measures designed to enhance the syntactic priming effect. Results from these tasks will be discussed, guiding future adjustments before evaluating the tool with IDD students over an academic year.

**Keywords:** Intellectual Development Disorder (IDD); syntactic priming paradigm; inclusive education

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## **Parallel session n. 2**

**Day 3** // Morning / Friday, 31st May 2024

### **B.7. Inclusion in teaching and learning processes and school improvement (2)**

# HOW CAN I SUPERVISE STUDENTS TO GO DEEPER IN EXPLORATORY AND CREATIVE AESTHETIC PROCESSES?

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The educational development project “explore – create – experience” has as its purpose to make students more motivated for deeper aesthetic, exploratory and creative processes. The aim is to motivate students for deeper learning through a strong bodily and sensory experience in exploratory aesthetic multidisciplinary approach. The development project was carried out in autumn 2021 and spring 2022 at various university courses in music pedagogy. I teach art subjects and aesthetic learning processes. Learning in my teaching is largely based on student activities and the students are given exploratory, creative, physical and sensory tasks to work with, often in groups. Several times I find that the students quickly finish their exploratory, creative processes and I am surprised that they do not use all the time allotted to them for the given exercise to go deeper into the process. I also, constantly experience that the verbal rather than the physical is focused more in the student group's process. They then use much of the time to talk about how to carry out the aesthetic expression instead of exploring and creating physically. There is learning in creating an aesthetic expression and there is learning in experiencing and recognizing an aesthetic experience (Merleau-Ponty, 1945/2012; Dewey, 2008). My problem is therefore as follows: How can I guide the students to go deeper in exploratory and creative aesthetic processes? To find out this I have carried out research in several phases. I operate with a research design consisting of several methodological approaches such as action research, questionnaires, and reflexive thematic analysis. I find this appropriate in relation to my choice of data collection, which together with analysis, theoretical approach and research takes place in the same time. The background for the study is, among other things, that Norway received new curricula in 2020 that promote aesthetic learning processes in all subjects. The study is therefore interesting in an art pedagogical perspective but also in a general educational practice.

**Keywords:** aesthetic learning processes; teacher training; art subjects

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## LIFE DESIGNING AND INCLUSIVE PROSPECTS AT SCHOOL

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The Life Designing paradigm (Savickas, 2005; Guichard, 2005) emerges like a revolutionary prospect in school and career orientation by focusing on the construction of each and every individual's Life Project (Giacconi, 2015; Ianes & Cramerotti, 2009; Friso & Caldin, 2022). Life Designing derives from Savickas' Career Construction (2005) and Guichard's Self-Construction (2005) paradigms and stresses the importance of narrative devices to develop personal and professional designs. Narrative devices like self-ethnography (McIlveen, 2008) identity narration meticulously describe the forms and modes of use of the narration as an inclusive orientational tool (Young & Valach, 2004; Savickas, 2005; Cunti & Priore, 2020; Bruner, 1997; Zannini, 2014). The present paper analyzes the educational opportunities and challenges of inclusion and orientation and proposes a holistic pedagogic approach to personal Life Project designing. Its theoretical contribution is a specific critical analysis of the Life Designing paradigm which develops through our attempt to possibly apply it at school. Its central aim is promoting an educational approach whereby the Life Designing paradigm could be our strategic ally in the construction of an inclusive school that valorizes diversity.

**Keywords:** inclusion; Life Designing, school

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# PROMOTING INCLUSION IN MATHEMATICS EDUCATION: THE ROLE OF STUDENT SELF-DETERMINATION

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In recent decades educators have witnessed a growing national and international debate on inclusion and inclusive education (Ainscow, 2020; UNESCO, 2005; Demo, 2016). This discussion has led to a deeper understanding and redefinition of inclusion within legislative and pedagogical frameworks, aiming to create a school system that promotes the participation and learning of every student. However, this shift in paradigm presents a challenge: finding a balance between equity, achieved through didactical differentiation (Tomlinson, 2014), providing specific support for certain students, while avoiding the risk of potential stigmatization (Norwich, 2008).

In the field of disciplinary teaching, and particularly in mathematics education, there is an urgent need to articulate what an inclusive learning environment entails (Roos, 2019; Demo et al., 2021). This involves balancing disciplinary learning, participation in the learning community and student self-determination. This paper specifically addresses the role of student self-determination within the context of mathematics education, responding to the research question “What approaches recognize and nurture self-determination during mathematical activities?”

For this purpose, the present work reviews theories on self-determination and introduces a new framework designed specifically for the mathematics classroom. Wehmeyer's (1999) theory of causal agency highlights self-determination as a dispositional trait that empowers individuals to be causal agents in their lives, pursuing goals through self-direction and self-regulation. This concept, introduced in Italy by Cottini (2016), was first developed in the context of disability and later has expanded to include all students (Shogren et al., 2015). Cottini, consistently with the presented framework, identifies four essential components of self-determination: autonomy, self-regulation, empowerment, and self-realization. This contribution will illustrate how the introduced concept of self-determination can be adapted and applied within the classroom, particularly in mathematics education. It explores methods to observe student work and create pathways that enhance autonomy, contributing to a more inclusive and empowering educational environment.

**Keywords:** inclusive mathematics education; self-determination; inclusion

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# PROMOTING EFFECTIVE COGNITIVE APPRENTICESHIP IN TEACHING COMPLEX VISUAL TASKS IN HEALTH SCIENCES EDUCATION

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In health sciences education, complex visual tasks (CVTs) such as assessing retinal photographs in optometry, are often taught through one-on-one teacher-student interactions. Here, teachers are domain experts who are primarily engaged in clinical practice, usually lacking didactical training. Therefore, mandatory teacher training programs have been implemented in several European countries. However, these programs do not provide training for one-on-one teaching of CVTs, while it is widely established that the Cognitive Apprenticeship (CA) framework is an effective approach for teaching in one-on-one interaction. CA aims to make the teacher's thinking process explicit by utilizing specific instructional 'CA-methods.' However, little knowledge is available on what constitutes effective interactions when teaching CVTs, and when it comes to teaching CVTs, there are some gaps in the CA principles.

Firstly, it is an open question to what extent teachers are aware of their visual processes during CVT performance, which is a prerequisite for being able to verbalize them during instruction. Therefore, we will investigate the extent to which teachers' mental representation of how CVTs should be performed, reflects their actual performance. Secondly, joint attention (the student focuses on the information the teacher is looking at) is crucial in teaching as it helps create a mental representation of the task. Teachers often use attentional cues to establish joint attention, but it is unknown, what cues teachers apply and how this affects joint attention while training CVTs.

Four studies are designed to investigate how the effectiveness of teaching CVTs in health sciences education can be improved through refining CA-methods. Research techniques utilized include observing the performance and teaching of CVTs, retrospective cued reporting, and dual eye-tracking methodology with teacher-student dyads. Besides informing current studies, this project's findings can potentially inform educational research in other visual-oriented domains, such as interpreting complex visualizations in information technology, aviation, or meteorology.

**Keywords:** instructional guidelines; cognitive apprenticeship; complex visual tasks

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## THEATER EDUCATION PRACTICES FOR INCLUSION

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A school can be really inclusive if collaborative practices in it are implemented and difference is not seen with diffidence but, rather, a resource for everyone identity. The inclusive school welcomes differences: explores and enhances them, making them “protagonist of the scene” as a unique and unrepeatable condition of life.

An extensive scientific literature demonstrates that theater at school promotes inclusion, it can challenge phenomena of discomfort, social exclusion, and school dropout. Theater is par excellence the place of non-judgment and as an art form it offers a multimodal language capable of reinventing new grammars for empathetic communication without limits of comprehensibility.

This paper intends to explore the socio-pedagogical potential of theater at school to create educational and learning contexts in an inclusive perspective. In a socio-cultural context where interpersonal relationships are increasingly hard and oftend spaced by technological tools, theater at school can be a way to bring bodies closer together, to promote perspective-taking that is, the development of the so called “soft-skills” that allow one to accept thoughts, feelings and emotions: one own beliefs and those of others. Furthermore: given that theater as a performing art has an inclusive educational potential, reflecting on how theatrically mediated practices can overcome forms of occasionality, fragmentation, extemporaneousness and become active methodologies structured within ordinary teaching and in teachers teaching, a continuous educational experience integrated into the school curriculum; and again: which structural and ideological obstacles to remove, which organizational settings to set up so that they are educational and inclusive, which methodological approaches to follow to practice educational theater at school that creates a mental and physical space, a place without barriers and borders where diversity is freedom and right to be authentically yourself.

**Keywords:** diversity; inclusion; theatre education.

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## DIFFERENTIATION IN PRESCHOOL. PEDAGOGICAL ISSUES AND BEST PRACTICES

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It now seems inevitable that teaching today, from early childhood onward, needs to adapt to the characteristics of pupils in order to be truly inclusive and to develop everyone's talents and potential. Differentiation offers interesting insights for thought on how to manage teaching, as well as the possibility of activating educational experiences in which children are real protagonists of their own learning.

The study aims to intersect the most current ideas of work on 0-6 with the methodological perspective of Differentiation, through the analysis of the experience carried out within a school in Brescia that has a lot of pupils with disabilities, especially deafness.

Beginning with the input offered by differentiation, teachers design activities to identify and foster an increasingly in-depth knowledge of children's interests, learning profiles and degrees of readiness, thus fostering everyone's participation and active involvement in processes of acquiring learning modalities that are then useful for the transition to elementary school. The practices activated allow teachers to become researchers not only of practices, but above all of thoughts and working hypotheses, able on the one hand to focus increasingly on the needs of individuals, and on the other hand to also pay attention to the instances and dynamics of the class group, favoring truly inclusive educational and didactic paths, starting with the spaces and materials used. The experience at the school offered the opportunity for the researchers involved to be able to measure themselves against a practice that has gradually been corroborated with references to differentiation and that has found in this methodological perspective a valid support for teaching with characteristics of equity and justice.

This paper, therefore, aims to offer a reflection on the opportunities offered by differentiation as early as kindergarten, preparing avenues of thought and action capable of linking legislative instances, pedagogical perspectives and teaching practice.

**Keywords:** inclusion; differentiation; preschool

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## BETWEEN DIFFERENTIATED INSTRUCTION AND OPEN EDUCATION: THE WORK PLAN (PLAN DE TRAVAIL) AS AN EDUCATIONAL DEVICE TO ADDRESS EVERYONE'S NEEDS. A SURVEY OF TEACHERS' AND PUPILS' PERSPECTIVES

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The work plan is an educational tool from Freinet's institutional pedagogy (1962), now actualized by the Movement for Cooperation in Education (MCE) in Italy. It consists of a list of personalized, differentiated and multidisciplinary tasks that must be completed independently or with peers within a specified time frame (Connac, 2009). The device traces back to the investigation of universality and speciality in the teaching-learning process. That involves, on the one side, according to Vermeë (2010) and Demo & Seitz (2021), respecting and valuing everyone's differences and needs, personalizing learning, and, on the other, facilitating participation and a sense of belonging for all, as elaborated by lanes & Demo (2023). This paper is part of a broader research framework that has developed two important theoretical constructs: the Differentiated Instruction (Tomlinson, 1999; 2006; 2022), a way of designing the teaching process that offers different ways, contents and timings to answer to the needs of the pupils, and the Open Education (Demo, 2016), that allows for student initiatives, enabling them to choose, self-organize, self-regulate, self-determine and fully participate. The research involved teachers, who proposed the work plan to three classes of fourth-grade primary school over a period of four months. The aim of the research was to support teachers in a process of didactic innovation; during this presentation, the results from the process of recording and analysing the experimentation of the tool will be presented in terms of the satisfaction of the teachers and pupils involved, the effectiveness on learning and on the development of transversal skills. The presentation will propose an analysis, in the light of the data collected through interviews and questionnaires, on the increase in pupils' organisational skills and autonomy, their development of awareness of their own learning styles and the ability acquired by teachers to reflect on their teaching choices, with particular attention to the inclusive dimension.

**Keywords:** universality/speciality; plan de travail; inclusion.

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## SCHOOL INCLUSION WORK IN PROGRESS

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The concept of inclusion outlined in the Presidential Decree Guidelines 122/2009 provides that the specialized teacher for support activities is conceived as a system resource for an "inclusive school", offering the guarantee that all teachers are well trained and feel capable of taking responsibility for all students, whatever their personal needs. In school we realize every day how special students also have "normal needs" and that normal students may have "special educational needs". The skills required of a teacher are increasingly complex and many years of preparation and continuous updating are essential since the school has a great responsibility towards its students and society. With the subsequent Ministerial Directive of 2012 which was followed by Ministerial Circular no. 8 of 2013, teaching today means relating the complexity of new ways of learning with a daily work of guidance, attentive to the method, to the new media and multidimensional research. Teaching professionalism is enriched through collaborative work, continuous in-service training and reflection on teaching practice. As the Center for Studies on Inclusive Education points out, inclusion is what happens when everyone feels that they are appreciated and that their participation is welcome. Thus the Index for Inclusion is inserted with the idea of inclusion as a terrain for comparison with the plurality of differences present in schools today and leads us directly to one of the choices that characterize the epistemological approach of the Index compared to previous proposals. It thus becomes interesting to address the topic of co-teaching based on the creation of a common plan made by curricular and special teachers for all pupils, in order to collaborate by sharing objectives and projects that involve all pupils.

**Keywords:** inclusion; education; teaching

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## CULTIVATING INCLUSIVE EDUCATION: A COLLABORATIVE JOURNEY OF SECONDARY SCHOOL TEACHERS IN PROMOTING COGNITIVE AND LINGUISTIC ACCESSIBILITY THROUGH PICTURE BOOKS AND AAC

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This contribution narrates a research and self-training endeavor undertaken by secondary school teachers. They established a territorial network with the objective of addressing a pressing need stemming from educational practice. Confronted with students presenting complex communication needs, the teachers grappled with the challenge of ensuring these students' right to access cultural life, as stipulated in Article 30 of the UN Convention on the Rights of Persons with Disabilities.

Within secondary schools, educational content often possesses a language and structure that renders it entirely inaccessible to certain students. There is a tendency to resort to materials designed for pre-school or primary school students, yet this practice violates their rights, infantilizes them, and denies them the opportunity to engage with cultural content alongside their peers.

Embarking on a literature review regarding the concepts of cognitive and linguistic accessibility, the teachers, along with the research group formed around the project, embarked on the creation of a picture book tailored for secondary school students. The narrative centers around the story of Telemachus, the son of Ulysses, as conveyed in the *Odyssey*.

The project enlisted the collaboration of professionals from MUSLI, Turin's Museum of School and Children's Books, the Bottega Editoriale of the Paideia Foundation, with its symbol translation workshop involving a network of library professionals, the ASL's Child Neuropsychiatry Services, the University, and other organizations. Furthermore, teachers and students from a local secondary school specializing in book design actively participated.

The project's inception and the attained results open up significant perspectives on the importance of addressing the training needs of teachers by engaging them as active participants in the learning and research process, rather than mere consumers of pre-established training courses.

**Keywords:** cultural accessibility; complex communication needs; self-training

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## HOW IS THE AMBIVALENT ROLE OF IEPs DEALT WITH IN PRACTICE? A MULTIPLE-CASE STUDY ON THE RELATIONSHIP BETWEEN CLASS AND INDIVIDUALISED PLANNING IN PRIMARY SCHOOLS

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Individual Educational Plans (IEPs) embody in many countries the key-element for the realization of individualized planning and the provision of additional support for students with disabilities/Special Educational Needs (SEN) within general education settings (Alves, 2018). Despite such undeniable role, their conceptualization and implementation are not without challenges or criticisms (Auer et al., 2023). These can be ascribed to the dilemmatic character of IEPs which oscillate between the risk of exerting a “normalizing” thrust whenever they insist to ensure access for all learners to the same learning activities – thus legitimizing a certain “ideal pupil” – and leading to the formalization of separate paths when used to respond to the needs of students with disabilities/SEN (Andreasson et al., 2013; Norwich, 2013). To further explore how teachers deal with this ambivalence in practice and if and how they connect class and individualized planning, we report the results of a multiple-case study conducted in 17 Italian primary school classes with at least one student with an IEP. Qualitative semi-structured interviews were conducted with (1) a class teacher, (2) the support teacher, and (3) one parent of the child with the IEP and analyzed through Qualitative Content Analysis (Schreier, 2013). To triangulate data, a document analysis of the IEPs was also carried out (Bowen, 2009). The results allowed to further characterize the “normalizing” and “separatist” thrusts described in the literature. Moreover, they showed that IEPs can become an opportunity for differentiation for all pupils. These findings have several implications for teacher education. Overall, the need for a greater connection between knowledge of special/inclusive pedagogy and general/disciplinary didactics, by foreseeing in primary teacher education programs courses integrating contents from the different disciplines (general and special) instead of a separate offer. In specialization programs for support teachers, this implies embedding IEP-related courses in the idea of inclusive planning.

**Keywords:** Individual Educational Plan; class planning; inclusion

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## IMPLEMENTING THE PRINCIPLES OF UNIVERSAL DESIGN FOR LEARNING IN LESSON PLANNING: A 'TRAINING AND ACTION' RESEARCH WITH IN-SERVICE PRIMARY AND LOWER SECONDARY SCHOOL TEACHERS

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Universal Design for Learning (UDL) represents a pivotal framework to guide lesson design and implementation (CAST, 2018): its detailed guidelines, suitable for all aspects of teaching and learning processes, may foster inclusive practices when knowingly and intentionally applied. In light of previous research emphasizing the benefits of in-service professional development programs on UDL for the creation of accessible and diversity-valuing learning environments for all (Rusconi & Squillaci, 2023), we initiated a two-year 'training-and-action' research project on the topic in an Italian school institute (grades 1-8). This research approach (Asquini, 2018) envisages a recursive relationship (a) between theory and practice, through training activities and self-improvement practices, and (b) between research and practice, enhancing innovation on the one hand and, on the other, documenting, informing, and reframing empirical data by connecting it to the theoretical reflection. Specifically, the training aims to provide teachers with a deep understanding of the UDL framework and co-design learning units that reflect its key principles. To this end, the first year (2023-2024) foresees 3 theoretical-oriented collective meetings, 6 practice-oriented workshops in smaller groups according to school level, and 3 co-design meetings with individual teams. Following a convergent mixed method design, several phases of data collection with different actors (teachers, students, etc.) are implemented alongside the training, planning and implementation activities, to evaluate their impact on teachers' inclusive attitudes and practices. In this contribution, we focus on teachers and report the results of (1) the baseline questionnaire administered at the beginning of the training collecting information on teachers' attitudes, self-efficacy and current inclusive practices based on the Teacher Self Efficacy Scale (Biasi et al., 2014) and the Inclusive Teaching Practices Scale (Schwab & Alnahdi, 2020), and (2) self-rating scales (e.g., UDL Fidelity Tool; Johnson-Harris, 2014) and structured reciprocal observations by teachers monitoring the implemented practices throughout the training.

**Keywords:** action-research; in-service teacher training; universal design for learning

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## DESIGNING AND IMPLEMENTING UDL-BASED TEACHER TRAINING IN HIGHER EDUCATION: A MAPPING REVIEW

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Universal Design for Learning is a framework for designing and implementing teaching strategies in all educational settings, including higher education (CAST, 2018). UDL-based teacher training seems to positively affect both students' skills and quality of teaching (Rusconi & Squillaci, 2023).

Although there exist synthesis studies on UDL at university level (Cumming & Rose, 2021; Roberts et al., 2011) and its application in teacher training (Rusconi & Squillaci, 2023), there is a lack of reviews that consider these two elements jointly.

To fill this gap, a mapping review was planned to respond to the following questions: what kind of studies have been carried out at University level on teacher professional development with UDL? what benefits do these programmes or trainings generate in terms of teaching skills and practices?

A mapping review serves to select the existing literature in a specific niche of interest, offering insights on the main trends and gaps in study design and themes (Grant & Booth, 2009).

A list of eligibility criteria was adopted to select relevant studies for this mapping review:

- Study Design: qualitative, quantitative, mixed-method or multi-method studies;
- Language: studies carried out in any country, but published in English;
- Publication time frame: 2014-2023;
- Setting: studies need to present the results of a professional development programme or teacher training on UDL conducted in higher or tertiary education;
- Outcomes: studies investigate the impact of training or interventions on teachers' knowledge and skills to design and implement inclusive teaching strategies.

Relevant works were searched electronically through general and educational databases (SCOPUS, Web of Science, ERIC, PsycInfo) using a combination of keywords. The studies selected were coded independently by two researchers, with a shared table containing a list of aspects (e.g. setting, type of training on UDL, participants, method, etc.).

The results of the review highlight trends and future directions in the field.

**Keywords:** universal design for learning; higher education; teacher professional development

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## PREVENTING EARLY SCHOOL LEAVING. PERSPECTIVES OF INTERVENTION RESEARCH BETWEEN SCHOOL AND TERRITORY

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The definition of early school leaving is not clear. The phenomenon has become a social concern in Italy with the unification of the state, with the advent of mass schooling, at the centre of political and social debate, and became an essential point at the European level with the Lisbon Strategy (2000). From an initial exploratory analysis of scientific literature, ministerial documents and foundations from 2000 to 2023, 25 pedagogical, sociological, economic, legal and statistical definitions were extrapolated. From the systematic analysis of the definitions using the criterion of similarity and difference, four main semantic macro-categories were identified: explicit dropout, implicit dropout, recognition of the complexity of the phenomenon and consequences of the phenomenon. At the level of formulating macro-territorial and systemic policies to combat early school leaving, it is useful to keep in mind the full complexity of the problem to avoid partial and reductive approaches that would not allow congruent and effective guidelines to be provided. However, at the level of defining effective lines of intervention and projects, it is necessary to identify the target group more precisely, according to well-defined characteristics. The in-depth analysis and profiling of the target group is a central point for the design of educational interventions for prevention and counteraction, in the awareness that education alone cannot reduce social inequalities and that it is the latter that negatively affects the learning levels of the most disadvantaged classes (Giancola, Salmieri, 2023). In this perspective, we propose to develop a research-intervention project aimed at preventing the emergence of early school leaving situations, taking into account, in a given territorial context, school and territorial data on primary and lower secondary school pupils, and proposing strategies and operational tools for integrated work between schools, local authorities and associations.

**Keywords:** dropout; school; young people

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## **Parallel session n. 2**

**Day 3** // Morning / Friday, 31st May 2024

### **B.8. Inclusion in teaching and learning processes and school improvement (3)**

## THE ROLE OF TECHNOLOGY IN ENHANCING PHYSICAL EDUCATION TEACHING

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The evolution of technology within physical education (PE) domain has emerged as pivotal in enhancing the physical experience and assimilating it into a broader educational framework. While numerous university courses provide instruction on sports technologies, postgraduate programs often emphasize the technical aspects. Nevertheless, research in educational and didactic practices regarding technological utilization in PE remains limited, with few studies delving into novel epistemological approaches and innovative pedagogical methodologies.

We introduce a custom-designed educational strategy for future PE teachers, which seamlessly integrates theoretical knowledge with practical application using technology. The primary focus of this course was on performance analysis, both with and without technological aids, with the objective of equipping students with the necessary tools to enhance their teaching abilities by measuring and interpreting movement outcomes.

Two cohorts of students were engaged 63 students across six practical sessions conducted within a sports facility. Students were grouped into homogeneous clusters and cycled through diverse motor function assessment experiences. Each session employed a practical learning paradigm based on "Learning by Doing" guided by tutors, encompassing practical exercises both conventional and technologically, culminating in collaborative group data analysis sessions.

Finally, students were asked to complete a questionnaire to evaluate their perception of the effectiveness of the course and the feasibility of applying the skills acquired in their future professional endeavors. Students evaluated positively the understanding teaching theories and improving observation skills. However, a minority expressed concerns about the accessibility of technology resources.

In conclusion, the integration of technology offers a wealth of opportunities to enhance sport science students' educational journey and bolster their readiness for the professional world. However, it is crucial to tackle the challenges related to the accessibility of technological infrastructure to guarantee the incorporation and utilization of these skills in PE classes.

**Keywords:** physical education; technology; teaching skills

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## THE USE OF PADLET TO OVERCOME NATIONAL BORDERS IN THE MATHEMATICAL DISCUSSION

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The role of mathematical discussion, defined by Pirie and Schwarzenberger as a "purposeful talk on a mathematical subject in which there are genuine pupil contributions and interactions" (1988, p.461), is crucial in teaching and learning processes at all levels of schooling. For instance, during a problem-solving activity, promoting a rich and fertile discussion requires for a teacher to compare and contrast different strategies possibly emerging from the students. This is a challenging process for teachers, but allows the development of a deeper relational understanding of mathematics for students (Richland et al., 2017). It is then important to provide teachers with supporting tools to orchestrate mathematical discussion and to understand their needs, thereby fostering their development through the acquisition of relevant skills. The project "Fostering mathematical discussion beyond the borders", supported by the IGPME in 2023, involves researchers and teachers from Italy, Canada, Argentina, and Israel with the aim of investigating how the mathematical discussion develops if students from different countries have the possibility to comment on each other hypotheses through a digital platform, Padlet.

The strong collaboration between teachers and researchers from different countries and backgrounds within the project, the organization of two experiments, and the combined analysis of data from different contexts allowed a deeper understanding of the challenges faced by teachers in orchestrating a mathematical discussion in the classroom and a reflection on the role of digital technologies in supporting them. In this context, Padlet makes this discussion beyond the borders possible and helps teachers and students overcome obstacles due to the social norms of each class. Furthermore, teachers and researchers have the opportunity to define together principles and guidelines, taking into account the peculiarities of each educational setting, that could be shared with other teachers to support them in promoting similar activities.

**Keywords:** digital technologies; mathematics education; mathematical discussion

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## INVESTIGATING DISTANCE EDUCATION IMPLEMENTATION IN NORTH ITALY SCHOOLS AMIDST THE COVID-19 PANDEMIC

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This study focuses on the technologies and methodologies employed for distance education in North Italy schools during the health emergency period (2020-21). The primary goal is to identify and examine critical aspects associated with the existing infrastructure in schools. Additionally, the research aims to investigate challenges encountered in adopting technological tools, along with the efforts invested in redesigning educational content.

By administering surveys to teachers and students, we obtained insights into the overall readiness and capacity of educational institutions to adapt to distance learning modalities during the COVID-19 lockdown (Pozo et al., 2021). This evaluation encompasses aspects such as network stability, device accessibility, and the overall technological preparedness of the schools (Beaunoyer et al., 2020, Ramsetty. and Adams, 2020). Furthermore, the data collected delve into the specific challenges faced by students and, in particular, educators in adapting to and utilizing digital tools for educational purposes. A comprehensive understanding of these difficulties is crucial, whether it be issues related to the learning curve associated with new technologies or obstacles to integrating these tools seamlessly into the teaching and learning processes. Exploring the proactive measures taken to redesign educational content for remote learning is a critical aspect that emerged from our investigation. This includes how educators have (or have not) modified their teaching methodologies to align with the digital environment, whether there have been innovations in content delivery to enhance engagement and comprehension during the emergency period, and whether changes are observed after the end of this period.

Furthermore, the analysis of the results shows the critical aspects regarding the skills and digital competencies acquired during the emergency, emphasizing their potential for future use. Indeed, identifying transferable skills could provide valuable information related to educational strategies and enhance preparedness for future challenges in the educational context.

**Keywords:** digital technologies, distance learning, teaching and learning challenges

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## **“IT IS ALL ABOUT HOW YOU PORTRAY A CULTURE THAT IS NOT YOUR OWN, HOW WE TALK ABOUT US AND THEM”. AN INVESTIGATION OF LONG-TERM IMPACTS OF AN INTERNATIONAL PRACTICUM**

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Study abroad programs are considered an effective way of developing intercultural competence and global awareness among students. A typical strategy for internationalization of teacher education is to send students on different types of exchange programs or practicum arenas abroad. According to Parr and Chan (2015), many studies on international teaching practices and other study programs abroad concludes that it helps students to develop a deeper understanding and appreciation of cultural differences. However, most of these studies are based on interviews with the students during and/or just after the international experience, while there are few studies on the long-term impacts of the teaching abroad experience. In this study we have interviewed Norwegian teachers that had an international experience in Zambia during their teacher training, five to ten years back in time. We wanted to investigate the possible long-term impacts of an international practicum, and whether it had any lasting effects on teacher identity, professionalism and global awareness. Overall, we found that the teachers emphasized personal growth and professional development as main outputs. We also found that instead of focusing on the differences between the home culture and the culture abroad, the participants tended to focus more on the similarities between people from the global North and the global South. The findings were analyzed using an expanded version of Wilsons (1993) model where the categories 'global perspective' and 'developing self and relationships' is developed further by adding professional development to the analytical model. The findings are discussed considering post-colonial theory, more specifically Pratts (2007) contact zone theory and Bhabhas (1993) concepts of third space and hybrid theory.

**Keywords:** study abroad; global awareness; professional development

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# FACILITATING VIDEO-BASED DISCUSSION TO SUPPORT THE TRANSFER OF KNOWLEDGE INTO PRACTICE IN TEACHER EDUCATION

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Interpretation and decision-making describe the skills of using existing knowledge in making sense of the perceived classroom instances and connecting them to theoretical knowledge and making decisions based on thereof (Alwast & Vorhölter, 2022). Studies in the field of teachers' PID-skills have shown that teachers lack the ability to base their interpretations and decisions on theoretical foundations (e.g Georg & Poom-Valickis, 2023), however, PID-skills are crucial for high quality teaching ((Stahnke & Blömeke, 2021). Thereby, finding ways to support the development of teachers' interpretation and decision-making skills is essential.

The goal of this study was to discover ways to facilitate video-based discussion in a lecture setting, which would support the development of student teachers' interpretation and decision-making skills. We sought answers to the following research questions: 1. What are the levels of interpretation and decision-making skills before and after video-reflection activities in the lecture? 2. What are the connections between student interpretation and decision-making skills and their knowledge of need-supportive teaching strategies at the end of the course? The study was carried out with 1st year Master level teacher education students (N=45). Pre- and post-intervention assessment was carried out to assess PID-skills in the context of need-supportive teaching, using procedure and analysis instruments created based on previously validated instruments (Kersting, 2008; van Es, 2011; Alwast & Vorhölter, 2022; Chan & Yau, 2021). During 5 seminars, students watched authentic classroom video-clips and reflected on the videos on their own and in small groups. Each task was followed by a feedback and discussion session with the lecturer with the emphasis on highlighting the most important aspects of the video-clip and providing theoretical insight into the interpretations and decisions. In the presentation, we will share the results of the study and discuss the possibilities of using video in the development of PID- skills in teacher education.

**Keywords:** video-based discussion; teacher education; situatuon-specific skills

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## USING SMARTPHONES AT SCHOOL: THE TEACHERS' PERSPECTIVE

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The contribution presents a study that involved 159 Italian teachers and investigated their perspective on the use of smartphones in school. The study analyzes, both by age groups and by school level (primary, lower secondary, upper secondary): for which educational activities teachers use smartphones; how often they believe teachers should use smartphones during lessons for targeted educational activities; to what extent they believe teachers should prohibit students from using smartphones during lessons.

Overall, teachers reported using smartphones primarily for online research in class, interactive questions, and group work in class. Differences were also found depending on the school level. For instance, the educational activity for which teachers most commonly use smartphones is online research in class for both lower and upper secondary levels, while it is out-of-class activities in the field concerning primary school. 50% of teachers, both overall and at each school level, believe that teachers should use smartphones occasionally for targeted educational activities during lessons, between 35% and 40% never or rarely, and approximately 10% often or always. Most teachers, both overall and at each school level, believe that smartphone use should always be prohibited for students during lessons. This statement is shared by 40% of teachers overall, and in particular, by 57% of primary teachers, 41% of lower secondary teachers, and 36% of upper secondary teachers. The results will be discussed in light of recent research on the educational use of smartphones.

**Keywords:** teachers; smartphones; students

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## MATHEMATICS TEACHER PROFESSIONAL DEVELOPMENT IN PRISON: FIRST REFLECTIONS FROM THE LEMP PROJECT

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Learning Math in Prison is an interventionist “educational design research” project (McKenney & Reeves, 2018). Its aim is twofold, both theoretical and practical. Learning Math in Prison responds to the needs expressed by mathematics teachers in prison to have adequate training and to have teaching materials suitable for the context in which they are working.

A response to such needs requires theoretical elaboration since research about the teaching/learning of mathematics in prison is very scarce at the international level and almost nonexistent in Italy (Maffia & Decembrotto, 2022). First, descriptive research is needed to frame the specificity of the development of mathematical literacy within the context of Italian prisons. Then, design principles and recommendations for an inclusive education still need to be developed and tested on the field (Lizzola et al., 2017).

Within Learning Math in Prison, organized sets of mathematical tasks are co-constructed by researchers and teachers collaborating together. Researchers will inform teachers about possible solutions available in literature, such as UDL (e.g. Meyer et al., 2014); teachers will contribute with their experience of teaching mathematics in the specific context of prisons. Along the process of design, the researchers will develop design principles to be used for the production of further materials and for teachers training.

Through the repetition of several cycles of context-analysis, design, and evaluation of products, the project will provide design principles for mathematics education in the prison context (as theoretical outcome) and examples of such principles in various learning units (as practical outcome).

In this contribution, we present the project and we report the preliminary results of the first cycle, particularly regarding the context-analysis conducted giving voice directly to the teachers working in the prison context.

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**Keywords:** mathematics education; prison school; teacher professional development.

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## STUDENT VOICES IN PRACTICE TEACHER TRAINING. - FOCUS GROUP RESEARCH IN NORWEGIAN RESEARCH CONTEXT; HOW TO UNDERSTAND THE NORWEGIAN CONTEXT USING FOCUS GROUP INTERVIEW COMPARED TO INTERNATIONAL RESEARCH.

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In this talk I will question and discuss how and why it can be interesting and useful to use focus group interviews to highlight the student voices in practical teacher training. This specific research is based upon and done as a part of a bigger project: Cultural formation of Identity of School based Teacher Educators as Teacher Educators. This research project involved five main informants, and their student groups, semi-structured interviews, one in autumn semester, one in spring semester. Then observation of counseling sessions done by the main informants including the student group during the internship period, one observation per one semi-structured interview. After these sequences the focus group interviews took place. The focus group interview was strongly connected to the observation of the counseling sessions.

There has been an analyze of interviews, observations, and group interviews, -focus groups. The analyses are concerning how school-based teacher educators (practice-teacher) see themselves as teacher educators, how they care about the role and mandate. Through this different material there is gathered a great deal of information that tells us how their Identity as Teacher Educators has been culturally formatted/ constructed.

In the talk we will shade a light on how focus group interviews are used in a Norwegian context, and how it is used and understood in similar research environment in international context.

Further we will examine how this kind of research methods can strengthen, but also challenge a research project based on semi-structured interviews and observations.

**Keywords:** practice teacher training; student voices; focus group research

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## LIVING ENVIRONMENTS OF APPRENTICES IN THE LIGHT OF VET SCHOOL TEACHERS

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Existing youth studies mainly refer to youth in general and the perception by young people. Research rarely focuses on youth embedded in an apprenticeship. Moreover, the perspective of VET school teachers has seldomly been addressed in research so far. Referring to the outlined lack of research, we intend to depict how VET school teachers reflect on and cope with several circumstances described in youth studies.

24 VET school teachers in Switzerland were asked to fill in an online questionnaire. The questionnaire focused on (less) surprising results of a youth study concerning the living environments of their apprentices (e.g., value orientations, occupational preferences, stresses, and risk behaviour). Furthermore, consequences that VET school teachers drew from the empirical findings were examined. Additionally, eight VET school teachers took part in a guided interview to complement the results obtained from the questionnaire.

Due to the large number of results, we only present some examples. Considering the survey analysis, VET school teachers are not surprised about the findings concerning value orientations and occupational preferences. In the interviews, teachers explain the low importance of political engagement of youth with good economic and societal conditions that young people experience in Switzerland. VET school teachers believe that since apprentices with a migrant background are more likely to experience poverty and low wages in their families, they seem to strive for career opportunities and high incomes to a larger extent than their peers who don't have a migrant background. Analysis of the survey data of VET school teachers reveals that all of them overestimate the stress experienced by their apprentices. They report that apprentices often complain about stress, perhaps with the intention to avoid work. In response to these findings, teachers state that they intend to examine the stress of their apprentices in more detail in the future.

**Keywords:** vocational education and training (VET); VET school teachers; apprentices

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## RELEVANCE OF STANDARDIZED TEST RESULTS TO VET PROFESSIONALS IN THE CONTEXT OF SELECTING APPRENTICES

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Our contribution focuses on VET professionals and their approach to selecting apprentices after completion of compulsory schooling. Regarding this, we aim to illuminate how VET professionals interpret and use apprentices' results from standardized competence tests. While there has been a range of research on the interpretation and use of test results by teachers in primary and secondary school, little evidence is available with respect to VET professionals' practices.

We intend to answer the following research questions.

(1) To what extent are test results taken into account by VET professionals when selecting apprentices?

(2) Do VET professionals interpret standardized test results correctly?

(3) To what extent does the correct interpretation of test results by VET professionals differ depending on the importance they attribute to them?

To answer these research questions, 430 VET professionals in the German-speaking part of Switzerland were surveyed. The survey referred to the "Stellwerk" tests in core subjects, which are mandatory for students in 8th and 9th grade.

Of the VET professionals surveyed, 60% reported taking test results into account in the selection of apprentices. Of these, almost three quarters (72.8%) stated that test results have a comparatively high importance in this process ( $\geq 6$  on a scale of 1-10). However, less than half of the respondents solved three multiple-choice tasks on the interpretation of the test results correctly (solution rates: 38.2%, 49.2%, 46.8%). Hardly any differences were found with respect to this performance between VET professionals that consider test results in the selection of apprentices and those that do not.

Given the reported great importance of test results in the selection of apprentices on the one hand and the frequent misinterpretation of them on the other hand, we conclude that there is a need for programmes that train VET professionals in the interpretation of test results.

**Keywords:** VET professionals; data literacy; standardized competence tests

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## DESIGNING EMERGING AND RESPONSIVE TEACHER EDUCATION

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This proposed presentation will focus on a professional development (PD) workshop developed with and for early childhood teachers to promote STEAM (interdisciplinary teaching/learning of science, technology, engineering, arts, math) competencies. The workshop was co-generated and co-taught five times during 2023 by a team of six in-service teachers and six researchers at the SciTeach Center (University of Luxembourg).

The aim of this research is to examine the emerging structure of the PD workshop. We use researcher's observation notes, post-workshop questionnaires, and interviews with co-teachers of the workshop as research data and approach its analysis through critical ethnography and event-oriented inquiry to explore how the workshop evolved over time and what resulted from it.

Following the analysis, we conclude that the evolution of the workshop was influenced by 1. The team of co-teachers, 2. The responses of the participants, 3. The outcomes of the previous workshops, 4. The available resources and materials. These influenced the workshop in a contextually-responsive way that connected it to the needs of the field, and we will detail these findings to argue that due to (and not despite of) these influences and changes the workshop's goals of promoting STEAM competencies had been consistently achieved.

Overall, we argue that a clear yet open emerging structural foundation supports contextually-responsive PD workshops that are both teacher-centered (embracing the plurality of co-teachers' experiences) and learner-centered (embracing the diverse groups and their needs), while being deeply rooted in educational and national contexts.

**Keywords:** professional development; contextually-responsive; teacher education

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## **Parallel session n. 3**

**Day 3** // Afternoon / Friday, 31st May 2024

### **C.1. Teacher education and pedagogical perspective in uncertain times: history, theory, policies and practices (1)**

## TEACHER EDUCATION AND IDENTITY PATHS IN THE LITERARY WORKS OF CLARICE TARTUFARI

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The study aims to investigate the teacher training processes described in two novels published in Italy by Clarice Tartufari (1868-1933), who was, as well as a writer, a teacher, in the late 19th and early 20th century: *Maestra* (1887) and *Ebe* (1902).

The novels portray the universality of the condition in which Italian women found themselves in that period, in which they received a traditional and immobile education that marginalised them to exclusively female roles as wives, housewives and mothers. In contrast, the protagonists of Tartufari aspire to devote themselves to one of the few professions that allow women to enjoy a certain economic emancipation. The two novels represent this process of women's acquisition of their rights as individuals and citizens and the human, moral, social and educational path, of formal and informal learning, that the protagonists have to undertake to become teachers. The two works can thus be read as apprenticeship or education novels because they present the characters-teachers in different circumstances, school and non-school, and allow us to identify the complex processes that build their personal and professional identities.

In the novels, the path to becoming a teacher is exalted as a vocation to be dedicated body and soul, a way to a profession with a high duty of responsibility towards children, families and the state, but also towards oneself. In fact, the author shows that the paid activity of a teacher is a means of redeeming oneself from unbearable emotional situations and disheartening pains, but it also serves as a means of not allowing oneself to be subjugated to the power of anyone, because it guarantees the defence of autonomy, integrity and dignity. The distinctive traits of Tartufari's heroines, represented in this teacher education process, are, in fact, tenacity and will, the search for moral freedom, and respect for one's own incorruptibility: elements held together by a spirit devoted to self-determination and independence.

**Keywords:** teacher; literature; women's emancipation

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## LIFELONG LEARNING FOR MONGOLIA: OCCUPATIONAL HEALTH & SAFETY PROJECT (3L4MHOS)

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Lifelong Learning for Mongolia: Occupational Health & Safety project (3L4MOHS) project aims at strengthening and enhancing the role of higher education institutes and universities in capacity building, know-how and technological transfer to significantly improve, enhance and multiply the country's overall training capacities of its industrial workforce. In addition, it seeks expand and improve specific critical Health & Safety matters. In this context, the 3L4MOHS project targets at contributing to the overall Occupational Health and Safety training capacities of Mongolian HEIs with the establishment of dedicated, fully equipped Centers in four Universities in Mongolia. Mongolian teaching resources (professors/lecturers and admin staff) must be trained and led by experts and researchers in the field. To achieve this objective, the project is divided in six workpackages (WP). Our main focus will be on WP2. WP2 targets the training of Mongolian teaching staff to have a long-term quality impact on their education system. The tasks will focus on:

- identifying best practices in establishing HE Lifelong Learning Centers for the training of Mongolian teaching staff;
- co-designing digital tools for effective e-learning training for the digital transformation and digitization of the learning and teaching delivery methods of the curricula (including video/moving training materials, Augmented and/or Virtual Reality), ensuring not only the modernization of the respective curriculum, but also ensure accessibility and equitable access to Lifelong education for a large number of the beneficiaries;
- identifying innovative pedagogical methods in relation to the needs of the Mongolian community.

Through these actions, we expect to enhance the teaching, assessment mechanisms for HEI staff and students, quality assurance, management, governance, inclusion, innovation, knowledge base, digitalization and internationalization of HEIs in Mongolia.

**Keywords:** digital transformation; lifelong learning for Mongolian; teacher training

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## SERVICE LEARNING IN TEACHER EDUCATION FOR SOFT SKILLS DEVELOPMENT

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It's essential today that teachers have a wide range of soft skills (SS) which are fundamental for personal growth. SS have a transversal nature and allow to improve performance in studies and in the world of work. In this perspective, Service Learning (SL) can improve learning process and the development of SS. Thanks to different SL projects, we've attempted to explore how this approach can contribute to enhancing responsible student learning and developing a wide range of skills required for teacher training. Here are three projects started into the degree course in Primary Education Sciences (LM85bis):

- 2020/2022: Service e-learning project "No one is left behind", to design and implement educational and enhancement courses for primary school pupils in Palermo. 869 students attending to LM85bis course were involved with the aim of creating educational paths for vulnerable students in Palermo. In total we provided 60,000 hours of distance learning, and all the activities favored cognitive stimulation and learning motivation.
- 2022/2023: [PR]A.S.S.I. "Learning helps, serving teaches": aimed at promoting educational and training activities aimed at minors in Ballarò – Albergheria district of Palermo. There was initial distance learning (16 hours in total), thanks to which students learned operational models and developed relational, metacognitive and research skills.
- 2023/2024: we introduced 2 cfu of SL activities for approximately 400 first-year students. The "SL in Sicily" project aims at promoting the design and implementation of educational and enhancement courses for pupils of Sicilian primary schools.

Finally, we present the results collected from the self-assessments of the participant university students; their perceptions and feedback about skills they acquired during the SL course. We used the self-evaluation tool SS-SL-I Questionnaire (Soft Skills Service Learning Inventory) (La Marca & Falzone, 2023) for the teacher's organizational-managerial and relational skills.

**Keywords:** service learning; soft skills; teacher education

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## TEACHERS AND ARTIFICIAL INTELLIGENCE: DEVELOPING DIGITAL CITIZENSHIP SKILLS

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Recent studies and discoveries in Artificial Intelligence (AI) field have built new advanced technologies which are nearly capable of replacing human activities. The AI represents the arrival point, the pinnacle of a series of tools dedicated to the conservation and transmission of thought and communication.

In this context, the development of pedagogical and digital citizenship skills in teachers is really crucial.

Teachers nowadays are challenged to master learning design, using AI to create personalized learning activities. Our work was born from the state of the art on teaching of Artificial Intelligence and from a deep analysis of free tools for using it. Subsequently we present a study, conducted on a sample of 1,200 Sicilian teachers and the study itself allowed them to reflect on the use of AI in teaching.

These activities aim at bringing teachers closer to the world of AI by guiding them in the creation of AI systems. This study, starting from a deep analysis on all the free tools available, allowed teachers to analyze the potential of AI, to start a self-assessment process and understand how to develop all the required skills for using this AI. These skills allow to use AI in:

- Learning design and personalized educational activities based on students' needs;
- Monitoring and evaluating student learning results and using these data to improve the teaching process;
- Developing essential digital skills such as problem solving, creativity and critical thinking;
- Creating interactive and engaging learning environments that encourage students to learn independently.

**Keywords:** artificial Intelligence; digital citizenship; digital skills

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## GENDER-RESPONSIVE TEACHING: WHAT STRATEGIES ARE TEACHER EDUCATORS USING?

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Gender equality (GE) is a fundamental right in today's globalized world. It appears as one of the focal points among the principles and values of the United Nations international law, as well as on the European Union's jurisdiction and other regions of the world. Since the 1970s, achieving GE has become a global priority and education has been seen as a main driver of development by the Beijing Declaration and Platform for Action (UN, 1995), the Education for All (EFA) movement (UNESCO, 2000), and the Agenda 2030 for Sustainable Development (UN, 2015). As a result, universities have been forced to align their mission with GE policy commitments by incorporating gender and social justice principles into their basic activities of teaching, research, and innovation. However, gender mainstreaming implementation has been accompanied by multiple impediments, the most common being resistance to change (Verge et al., 2018), vagueness in implementation and enforcement of GE policies [Cavaghan, (2017; UN Women, 2022], and androcentrism still being strongly entrenched in institutions (Walby, 2005). In the field of initial teacher education, a number of studies (Miralles-Cardona et al., 2020; Rodríguez-Jaume & Gil-González, 2021) provide evidence of the absence of a gender-responsive approach in undergraduate and postgraduate studies, confirming that GE training is scarce. Despite existing policies for teaching with a gender perspective, there is a lack of clarity, absence of guidelines, inadequate resources, and poor implementation, monitoring, and evaluation (Engeli & Mazur, 2018). Considering such evidence, the purpose of this study was to design an index with indicators that reflected the state of education for sustainable development (ESD) of gender equality at the institutional and curricular level and that, at the same time, made it possible to guide the education and monitoring of progress in incorporating ESD in achieving the SDG 5 and SDG 4.7 goals.

**Keywords:** initial teacher education; gender equality; gender-sensitive pedagogy

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*C.1. Teacher education and pedagogical perspective in uncertain times: history, theory, policies and practices (1)*

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## DIGEDUCATI PROJECT: A NEW ALLIANCE BETWEEN FAMILIES, STUDENTS, SCHOOLS AND THIRD SECTOR ORGANIZATIONS FOR THE DEVELOPMENT OF DIGITAL SKILLS

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The DigEducati project (2021-2024), promoted by the Fondazione Comunità Bergamasca, in which the University of Bergamo is a partner, aims to increase the digital literacy of children between the ages of 6 and 13 and their families in the territory of the province of Bergamo.

The project aims to foster the increase of awareness and skills in the use of digital tools by families and students, with the support of educators whose task is not just to focus on a purely technical approach, but to privilege the educational-relational dimension, emphasizing the perils and potential of the technological medium.

To achieve this goal, during the first 2 years of its activity, the project has activated and involved:

- A network of more than 35 digital educators;
- 42 “community points”, basic meeting places close to families and students, located mainly in public libraries

and other spaces made available by municipalities;

- More than 1,600 students;
- 40 training days for teachers and parents;
- 18 social cooperatives involved in the project;
- An online educational platform, DigEducati.

The project is also characterized as a bridge between the different institutions involved: schools, the university as a scientific committee, local associations, municipalities, and libraries.

The reference horizon for the training of the “DigEducator” is that defined by DigCompEdu, the Digital Competence Framework for Educators developed by the European Commission to define the areas of digital competence that those working in education and training should possess. The training activity took place both through the DigEducati online platform and through specific training days involving experts from the educational and digital worlds.

The activity is developed on several levels, involving schools (meetings with principals and teachers, with students and in support of school activities); an area-wide information desk to provide essential information to families, teachers and students; a communication and dissemination activity of the project, as well as the expansion of the network between educators, teachers and families.

Among the strengths of the project, in addition to this dimension of inter-institutional collaboration, are those of developing creativity, problem solving, dialogue and empathy among project participants.

**Keywords:** digital literacy; educators; families; schools; communities.

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*C.1. Teacher education and pedagogical perspective in uncertain times: history, theory, policies and practices (1)*

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## THE IMPACT OF HEALTH, CLIMATE CHANGE AND ENVIRONMENTAL CHALLENGES ON TEACHER PRACTICE: A CROSS-COUNTRY COMPARISON

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**Aim:** The last few years have seen global turmoil in various areas of life, such as climate change and the environment and the health of populations (UN, 2023). This research is twofold and will investigate 1) teacher's emotional wellbeing and how this affects teaching practice as well as an investigation of 2) the policy reach and educational integration on the subject of climate change and how this affects teaching practice. This collaborative research takes part in different world regions under the belief that the time is eminent to gather a profound understanding and evidence on how country specific characteristics (Coombs & Laufer, 2018) influence the wellbeing of teachers and teachers' engagement with climate change and environmental education. As part of the ATEE RDC Health Environment and Sustainability Education this cross-country comparative research reflects a collaboration of researchers and educators between countries situated in Europe, the Caribbean, South-America and Asia.

**Method:** First, an in-depth analysis of the literature will be undertaken and presented. Conducting this in-depth review of the literature will serve as the foundation of the research (Maggio et al., 2016). Having reviewed relevant literature on the subjects of teacher wellbeing and climate change education will help; shape a comprehensive understanding of the different contexts, identify the appropriate methodologies for investigation, identify the appropriate platforms and channels to disseminate findings, while collectively keep generating ideas and use reflective critique to enhance the research and teacher practice (Maggio et al., 2016). The second stage as the research is twofold occurs conjointly. Policy analysis (Weimer & Vinning, 2017) will be conducted on climate change and the environment at global scale and analysed alongside country specific contexts. Primary research (Creswell & Creswell, 2022) will be undertaken to explore teachers' wellbeing alongside country specific contexts allowing for cross-country comparison and findings.

**Findings:** The findings from the literature review will address the insufficiently areas researched on teachers' wellbeing as well as the integration of climate and environmental education into teaching practice. The findings from both the policy analysis and primary data collection will provide detailed country specific information in those two areas. Moreover, a cross-country comparison will highlight the differences and similarities and open up avenues and opportunities where teachers, educators and policymakers will be able to learn to enhance teaching practices.

**Conclusion:** This cross-country research commenced end of 2023 and is expected to have the first results mid-2024.

**Keywords:** wellbeing; health; teachers; climate change; environment; challenges; policy

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# POTENTIALITIES OF PEER-TO-PEER PEDAGOGICAL SUPERVISION AND COMMUNITIES OF PRACTICE IN IN-SERVICE TEACHER TRAINING ON HEALTH AND WELLBEING EDUCATION

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This research is based on the critical health education approach [1,2], the characteristics for education for sustainable development (e.g., deals with the well-being of all four dimensions of sustainability – environment, society, culture and economy; is interdisciplinary and holistic; promotes critical thinking, problem solving and participatory decision-making), the participatory and action-oriented sustainability education approach [3,4,5,6,7], and the whole school approach [8,9]. Against this background, this research aims to analyze the effects of integrating a module on peer-to-peer pedagogical supervision and communities of practice (CoP) into a health and wellbeing education training workshop for teachers (50 hours). This Workshop was developed in Portugal as part of the School for Health in Europe project for Active and Healthy Aging, an ERASMUS+ Project (2021-1-DK01-KA220-SCH-000032766) involving Denmark, France, Iceland, Portugal and Slovenia to answer four research questions: i) what are the effects of a training workshop on the creation and management of CoP in school contexts?; ii) how do the created CoP develop processes of collaborative supervision?; iii) what are the facilitating factors and how barriers that participants in CoP encounter in their functioning and sustainability are overcome?; iv) what is the impact of these CoP on the development of student action competence to promote health and environmental sustainability in the school and community? Designed as a multiple case study (three preparatory and secondary schools; 22 teachers and school staff) with exploratory aims, observation, focus group, and contents of the project website were used for data collection. Cross-case analysis was carried out following single case analyses. Results shown that all schools were able to initiate participatory and action-oriented wellbeing co-creation projects involving health and environmental sustainability education in their institutions, organize themselves into CoP per institution and consider the dissemination of the products as an added value for the sustainability of the project.

**Keywords:** Peer-to-peer Pedagogical Supervision; Communities of Practice; Health and Wellbeing education

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## TEACHER TRAPPED BY THE SYSTEM: FLUID TIMES, CONCRETE CORE CURRICULUM

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The contemporary world is torn with many crises, among which the most serious is related to the environmental and climate crisis (Global Risks Report 2023, n.d.; Reports - IPCC, n.d.). An additional perspective on the perception of modernity was provided by Zygmunt Baumann (2000), describing it as a “liquid modernity” in which uncertainty and permanent change dominate. The education system should take into account these features of modernity in the core curriculum and teacher training system.

However, the study of environmental and climate education in the Polish core curriculum showed that its content does not take into account major environmental challenges. The terms ecological crisis, climate change, do not appear in it even once, except in the expanded geography for secondary schools, where 4 mentions of climate change were found (Bokwa et al., 2023; Kozłowska, 2021a, 2021c, 2021b). This content meets Eisner's (1985) criteria for a null curriculum, as it is the result of decisions made by those responsible for the document (Kozłowska, 2024). The lack of important topics in the core curriculum is a serious constraint for teachers who, on the one hand, are obliged to educate students to live in a changing world, and on the other hand, have to implement a core curriculum that does not include these issues in its content or includes them marginally.

Such a situation creates a space for scientific exploration related to the autonomy of teachers, who must find strategies to escape the trap created by the conflicting expectations of the system. Based on examples of teachers' reactions in Poland, the following strategies were identified: overt opposition combined with street protests; official legislative lobbying; implementing one's program to supplement the missing elements of the core curriculum; and passivity or leaving the profession.

These observations open new perspectives for research on the integration of climate education into the school system in connection with the study of teacher autonomy. They should take into account such teacher characteristics as subject knowledge, sense of agency, and civic engagement since it is known from research on outdoor education that teachers are more likely to take on challenging educational tasks when their subject competence and sense of agency are higher (Dean, 2022; Glackin, 2019; Rickinson et al., 2004).

**Keywords:** climate change; null curriculum; teachers' autonomy

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# THE EVALUATION OF CONSTRUCTIVIST INTERVENTIONS IN THE INITIAL TEACHER EDUCATION CURRICULUM AND THEIR IMPACT ON THE FORMATION OF STUDENTS' PROFESSIONAL SELF-CONCEPT

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The cognitive turn in educational psychology, specifically the conceptualization of student learning as learner-centred, along with challenges in implementing curricular reforms, has led to a recent shift in research focus. Over the past decades, there has been a growing emphasis on studying the inner world of teachers, including their professional identity, their self-concept in the role of teacher, values, attitudes, and beliefs to identify whether and how they can be developed and transformed. The period of initial teacher education is considered a pivotal stage in the formation of a professional self-concept.

The aim of this paper is to present the results of research aimed at exploring the influence of selected constructivist interventions on the professional development of student English language teachers, particularly on the formation of their professional self-concept. Among the five research-verified interventions (reflective writing – essays, video recording of teaching and its analysis, self-assessment based on the Competence Profile of English, portfolio), this study explores the potential of the role of reflective writing and action research in supporting student English teachers' shaping of their professional self-concept and, in particular, their theoretically and empirically grounded conception of teaching.

The results of qualitative research, based on inductive analysis of essays and deductive analysis of student action research reports will be presented within the context of an innovative clinically and reflectively focused concept of initial teacher education at a Czech university. These findings will be discussed in comparison with relevant research in this area, focusing on the evaluation of interventions and their impact on students' professional self-concept. The discussion will also explore the implications for the preparation of future teachers.

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## **Parallel session n. 3**

**Day 3** // Afternoon / Friday, 31st May 2024

### **C.2. Teaching and learning challenges and professional development (1)**



# TEACHERS' PERSPECTIVES ON TEACHING AND LEARNING MATHEMATICS AT THE TRANSITION FROM PRIMARY TO SECOND-LEVEL: CONSIDERATIONS FOR PROFESSIONAL DEVELOPMENT

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The transition from primary to second-level marks a significant educational milestone in the lives of students. Evaluations of academic achievement following this transition have identified a subsequent decline in performance across a range of subject areas, with mathematics being one of the most negatively impacted. With a new Primary Mathematics Curriculum to be embedded in schools in the Republic of Ireland (RoI) from September 2024, this paper reports on the reanalysis of historical data from a 2016/2017 comparative questionnaire study of 471 teachers from the RoI and 205 from Northern Ireland (NI). The purpose of this is to ascertain what insights can be garnered from the perceived challenges of teaching and learning mathematics at this key period of transition and to identify considerations for professional development (PD). Broad findings revealed that PD would need to focus on curriculum and pedagogical practices at both levels to ensure continuity of learning experience. Primary teachers reported a lack of knowledge of the content that students engage with in second-level (54.1% RoI; 64.8% NI) and even higher levels of lack of pedagogical knowledge (72.4% RoI; 70.3% NI). Second-level teachers also reported high levels of unfamiliarity of teaching practices employed in primary school (76.3% RoI; 50.6% NI). More specifically, in both jurisdictions, primary teachers were statistically not as Highly Confident in teaching Algebra as Number ( $p < .001$ ) with Algebra identified by second-level teachers as an area that students are particularly underprepared in (91.2% RoI; 83.8% NI). Furthermore, primary teachers in RoI were statistically not as Highly Confident in teaching Shape and space ( $p < .001$ ), and Measures ( $p < .05$ ), as Number. Teachers reported that effective PD would provide adequate time for collaboration between teachers at both levels and focus specifically on managing the transition in mathematics education.

**Keywords:** transition in mathematics education from primary to second-level; teachers' perspectives; professional development

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## ENHANCING STEM TEACHER LEADERSHIP IN PRIMARY INITIAL TEACHER EDUCATION: INSIGHTS FROM AN ISTEM INITIATIVE

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Despite the significance ascribed to Science, Technology, Engineering, and Mathematics (STEM) education in recent policy and curricula, ambiguity prevails regarding how Initial Teacher Education (ITE) can support future primary STEM teacher leaders to develop their knowledge and leadership capacities. In response, this Design Based Research initiative involved 79 final-year pre-service primary teachers' (PSPTs) who had chosen a mathematics, science, or Digital Learning (DL) subject leadership module in an intensive four-week sustainability-themed integrated STEM (iSTEM) project. The PSPTs were assigned to peer triads comprising a mathematics, science, and DL specialist. Analysis of PSPTs' post-initiative reflections involved the deductive lens of Poekert et al.'s (2016) four growth components (as teacher, person, leader and researcher). PSPTs noted that the initiative motivated them to pursue further opportunities to integrate STEM within their future practice, while drawing from existing research when articulating the benefits of taking such approaches for learners. Potential challenges anticipated within their future school contexts included logistical matters such as resourcing; and difficulties attached to developing their future colleagues' knowledge and confidence in iSTEM pedagogies. Findings showed significant divergence in PSPTs understanding of iSTEM. Science PSPTs were particularly confident in identifying connections between process skills across the individual STEM subject domains. Mathematics specialist PSPTs struggled to identify meaningful mathematical content within the workshop activities. In contrast, while DL PSPTs readily identified ways that iSTEM activities within the workshops could develop science and mathematics content knowledge and skills, examples they provided were somewhat superficial and lacked specificity. The findings have important implications for STEM teacher education practitioners and policymakers. The initiative serves as an example of a preparatory STEM leadership experience for PSPTs, demonstrating the use of an iSTEM approach that is suitable for the ITE context. The study further outlines recommendations that future primary ITE STEM leadership initiatives should address.

**Keywords:** integrated science; technology, engineering, and mathematics (iSTEM); primary initial teacher education; STEM leadership capacity

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*C.2. Teaching and learning challenges and professional development (1)*

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# ATTITUDES OF LITHUANIAN TEACHERS AND SCHOOL PRINCIPALS TOWARDS THE PROFESSIONAL DEVELOPMENT AND SATISFACTION OF EDUCATORS: THE RESULTS OF POPULATION SURVEYS

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The results of two surveys are presented. The theoretical foundation is based on the following concepts: 1) career and professional development; 2) satisfaction with the profession. A single-item approach is used. A good response to anonymous online questionnaires was achieved through short questionnaires. Considerable samples were formed, and from a geographical point of view, all regions of the country and types of schools are represented.

1st study. Sample: teachers (N=2588). Indicators: 1) level of salary; 2) creative holiday; 3) early retirement; 4) career satisfaction; 5) burnout; 6) quality of curriculum; 7) evaluation of the teacher's continuing education system; 8) optimal number of students in a class; 9) extension of the school year.

Results. Teachers want a salary of 150% of the national average. The rewards were below average at the time of measurement. Support for the legalization of one-year creative leave is 89%, and support for early retirement is 94%. The optimal number of students per class is 20. The quality of the school curriculum and the teacher's continuing education system are rated as average. An extension of the school year at the expense of the school holidays is viewed extremely negatively by 97.4%. The quality of the curriculum and the continuing education system are rated as average.

2nd study. Sample: teachers, school principals, teaching assistants (N=1343). Indicators: 1) the requirement to obtain a master's degree; 2) the possibility of accumulating credits at the university; 3) evaluation of the teacher's continuing education system.

Results. 41.6% agree that teachers should obtain a master's degree during their career. 57.3% of respondents rated the opportunity to acquire university credits, obtain a master's degree as positive. The current system of further training for teachers is rated positively by 61.0%.

The results stimulate the discussion about the reform of teachers' professional activities in Lithuania.

**Keywords:** teachers survey; professional development; professional satisfaction

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# INTEGRATED STEM: PRACTICES AND PERSPECTIVES FROM THE ISLAND OF IRELAND

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Science, Technology, Engineering and Mathematics (STEM) education remains the focus of much attention, as reflected in recent policy discourse in both the Republic of Ireland (ROI) and Northern Ireland (NI), which has highlighted the importance of quality STEM education provision. Given the instrumental role they play in influencing outcomes for young STEM learners, primary teachers' perceptions and practices in relation to integrated STEM are important to understand. This paper presents preliminary findings from a cross-border scoping survey, which aimed to capture the views and lived experiences of primary teachers regarding their integrated STEM practices. The survey was administered to a convenience sample of primary teachers in ROI and NI (n=100), who were invited to share their current integrated STEM understandings and practices. Respondents were invited to indicate their level of confidence with enacting integrated STEM practices and to identify any perceived barriers to their implementation of integrated STEM teaching and learning experiences. Where barriers were identified, respondents were asked to provide suggestions for what supports they would need to address these. Despite operating different primary curricula, survey findings revealed similar opportunities and challenges in both jurisdictions in relation to integrated STEM. Respondents reported that they felt relatively confident in their pedagogical practices and positively acknowledged the affordances of integrated STEM to nurture curiosity amongst primary learners and to make connections between separate STEM subjects. While respondents noted a desire to use integrated STEM pedagogical approaches more frequently, other competing curricular and assessment priorities hampered their efforts, with concerns were raised around planning, assessment and leadership in STEM. Findings offer important insights for STEM education policymakers and professional development providers, and underline the need for further provisions to be made available for primary teachers in support of their efforts to enact integrated STEM practices.

**Keywords:** STEM education; teacher professional development; cross-border research

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## THE GUIDANCE FUNCTION OF THE TEACHER BETWEEN SELF-AWARENESS AND REFLEXIVITY

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The latest legislative provisions, approved in Ministerial Decree 328/2022, emphasise the priority role of guidance in school contexts, not only in the periods extremely close to choices (educational and professional) but throughout the school career. In fact, the above-mentioned guidelines for guidance propose this theme as one of the priorities to be pursued in teacher training, so that they can promote the development of guidance skills in students through interventions of various kinds. Among the various methods foreseen by the regulations, the teacher is also called upon to integrate his or her orientation function through his or her discipline. We speak, in fact, of orientation teaching as a strategic tool for overcoming the mere transmissive dimension of knowledge that can make each discipline a lens for observing the world and building possible futures.

In light of these considerations, it is crucial to recover and deepen the pedagogical debate concerning the guidance function of the teacher, which cannot disregard the enhancement of the permanent dimension of guidance. In order for didactic activity to promote the acquisition of guidance skills, such as career management skills, teacher training cannot disregard the dimension of personal and professional development of each individual. In this sense, it becomes fundamental to provide teachers with a space and time "for themselves" with the aim of promoting self-orientation skills and professional reflexivity. In other words, to allow teachers the opportunity to reflect, through the preparation of specific paths, on personal representations of the role they play, of the discipline they teach, of the link between the discipline and today's world as well as the relationship with the world of work and the professions.

**Keywords:** formazione docenti; didattica orientativa; riflessività professionale

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## RETHINKING DIGITAL COMPETENCES FOR TEACHING IN THE POST-COVID ERA: A PARTICIPATORY APPROACH

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The current definition of digital competence of teachers surpasses a technocentric view and includes more complex dimensions related to cognitive, critical and ethical factors (Ranieri, 2022). Among these, the socio-relational dimension has emerged as essential during the experience of Emergency Remote Teaching (ERT). In this scenario, the ability to support teaching through strategies aimed at enhancing the motivation and commitment of all students and impactful communication has emerged as pivotal for benefiting from distance education (OECD, 2021; Carretero et al., 2021).

The present contribution focuses on the socio-affective and relational components of digital competence for teaching. It is situated within the context of the Erasmus+ project D-Paideia, aiming to empower educators to proficiently leverage digital technology in support of inclusive and high-quality education. A review of the current literature and models addressing teachers' digital competences revealed crucial aspects related to social and emotional learning, digital well-being and mental health that deserved appropriate attention. As a result, a draft of the Qualification Framework was developed, on the basis of the DigCompEdu (Redecker, 2017), integrating new elements in the professional and pedagogical dimensions (Gabbi, Ancillotti & Ranieri, 2023). The study adopted a mixed-methods approach to assess the relevance of the Qualifications Framework among European teachers (Creswell & Plano Clark, 2011). The validation process involved educators through online workshops and in-person events. Data were collected by a questionnaire including 12 items on a Likert scale and an open-ended question, aimed at analyzing perspectives on the diverse components of digital competence in teaching. Quantitative and qualitative analyses of the data were carried out, using statistical and content analysis, respectively.

The results focus on the participants' (n=179) perception of the importance of specific aspects of digital competence for teaching, with increased acceptance of digital well-being, awareness of local ICT policies and training on digital teaching self-efficacy. The data reflects a high level of agreement among participants regarding various competences proposed for the updating of DigCompEdu. In conclusion, the participatory approach allowed the research team to explore the perceived relevance of the relational and socio-affective components of learning-teaching processes with digital technology. Moreover, it claims for an integrated training approach to address the professional needs of teachers in different school contexts and adapt the reference models to the current socio-technological context.

**Keywords:** teacher professional development; digital competence of educators; post-Covid education

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## OPENING THE BLACK BOX OF WRITING TEACHING: THE IN-SERVICE EXPERIENCES OF ITALIAN SECONDARY SCHOOL TEACHERS

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One of the many challenges facing secondary school teachers today is the teaching of written production: in the face of the digital revolution and AI text generation, teaching writing is becoming increasingly difficult and may even seem pointless. Moreover, in Italy there is no specific training to help teachers better prepare for this difficult task: One of the many reasons for this is there are few studies in Italy dealing with the teaching of written production in secondary school; studies on teaching processes and dimensions related to the teaching of written production (teachers' sense of self-efficacy, students' motivation to write, assessment practices ) have been conducted by Boscolo & Zuin (2015) and Rossi (2019).

To fill this gap, based on the work of Graham and colleagues (2001, 2002), a semi-structured interview was conducted with 20 secondary school teachers to explore didactic practice and gain a deeper understanding of how teachers address deficits in theoretical preparation with their fieldwork experience. Interviews were conducted from August to December 2023 through a snowball sampling and analysed using the work of Braun and Clarke (2006). Sampling was made based on the common training pathway for secondary teachers (middle and high school teachers).

The thematic analysis highlights the strengths of writing instruction and examines the processes carried out in the classroom to improve students' writing skills; it also analyses teachers' sense of self-efficacy, their perceptions of students' writing motivation, and evaluation practices. The aim of the qualitative analysis of the interviews is to describe the practices that take place in the classrooms of Italian secondary school teachers in the city of Turin in order to map the real world in the classroom so that curriculum developers can consider what needs to be taught in pre-service training and what can be learned from in-service experience.

**Keywords:** teachers' practices; written composition; interviews

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# TRANSITION INTO INTERDISCIPLINARY KNOWLEDGE AREAS – CHALLENGES AND OPPORTUNITIES IN A NEW KINDERGARTEN TEACHER EDUCATION IN NORWAY

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The Norwegian ECEC sector has been under much pressure over the last decade. Several changes, like the right for every child to attend kindergarten and increased political interest in quality content, have led to reforms for the ECEC institutions and kindergarten teacher education. As a result, a new kindergarten teacher training program saw the light of day in 2012. The most significant change was a transition into interdisciplinary knowledge areas as the organizing principle for the education. The national curriculum for kindergarten teacher education now consists of six knowledge areas, all building on two or several disciplines. This does not mean that the employees have not worked interdisciplinary before; however, in the past, it has been up to the institutions and the individuals to create such collaboration.

This article aims to look at how those employed in education have experienced the implementation of the new knowledge areas through the theoretical lenses of implementation theory. The study is based on qualitative interviews with employees and management at various institutions offering kindergarten teacher education. The employees have been asked how they view the knowledge area and how they organize themselves and work with and in the knowledge area.

Findings indicate that the knowledge areas offer both opportunities and challenges. Amongst the challenges mentioned is that each knowledge area's disciplines could be better linked and organized. Most informants think it is frustrating that they cannot collaborate with and connect fields that naturally correlate well because they are now placed in different knowledge areas. On the other hand, informants also report that the new knowledge areas create a form of closeness to practice in the ECEC institutions by connecting the theoretical teaching on campus to the interdisciplinary everyday life in the ECEC institutions.

**Keywords:** kindergarten teacher education

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## MEETING THE CHALLENGE: STUDENTS AND ACADEMICS CO-CREATING AN EMPLOYMENT BASED FRAMEWORK

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 Brendan Hyde, *Deakin University, Australia*  
 Edwina ElHachem, *Deakin University, Australia*

While the challenge of staffing schools has been a consistent problem for rural and remote schools across Australia, post Covid19 pandemic, the issue of teacher shortages, particularly in Victoria, Australia, has risen impacting urban schools (Paul, 2023); increasingly the pressure is on Teacher Education providers/ universities and preservice teachers (PST's) to help 'fill the gap' and 'fix the problem.'

In Victoria schools have been utilizing the Victorian Institute of Teaching's (VIT) Permission to Teach (PTT) registration category to employ PSTs in their final year of study as a short-term solution to the teacher work force shortages. Increasing numbers of PSTs in the Bachelor of Education (B.Ed, Primary) course at Deakin University, Victoria, Australia, have been employed under PTT.

This paper reports on a small-scale Australian study where we as academics worked alongside students as partners (Dai & Matthews, 2023; McConnell, 2023; Mihans et. al., 2008) to i) investigate the complexities and needs of our students in balancing the requirements of their course alongside PTT and, ii) co-design an authentic and engaging framework for the BEd (Primary) course.

Focus groups with PSTs were conducted to investigate (1) the challenges of balancing course work with PTT, and (2) revisioning aspects of the course to enable them to undertake PTT. We use cultural-historical activity theory (CHAT) (Roth, 2007; Vygotsky, 1978) as a lens to analyse the data. Findings from this study highlight PSTs struggle to balance the complexities of PPT and their course work, all the while feeling pressured to prioritise PTT.

From this exploration some lessons were learnt that have allowed us to significantly rethink and carefully remodel the course provisions for our final year students so that on campus and online experiences are purposeful, inclusive, and create flexibility in academic studies to accommodate PTT, strengthening our program to deliver confident, effective, classroom ready graduates.

**Keywords:** teacher education; codesign; student partners

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## 'GOING BUSH': PRESERVICE TEACHERS IN RURAL SCHOOLS, REFLECTIONS, MOTIVATIONS AND ASPIRATIONS

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The shortage of teachers in rural and low socioeconomic schools (SES) in Victoria, Australia is a pressing issue affecting the quality of education (Cuervo, 2016; White, Lock, Hastings et al., 2011; Commonwealth of Australia 2018). The recent wave of teacher shortages exacerbated by the Covid-19 pandemic has put unprecedented pressure on schools and teachers with more teachers leaving the profession than ever before (Precel, 2023; Fray, Jaremus & Gore, 2023; AEU, 2023).

It has been recognised that partnerships between universities, local communities and government can impact teacher education and recruitment (Kline, White, Lock, 2013; DEECD, 2010) and strengthening these partnerships provides a strong basis for improving rural student outcomes (DEECD, 2010).

This longitudinal study aims to capture the perspectives of pre-service teachers (PSTs) at Deakin University, Victoria, Australia, who have completed their final professional placements in rural and low SES schools, along with graduate teachers committed to working in regional Victoria. We are interested in the trajectory and professional development of these graduate teachers who 'go bush' and what keeps them in these communities.

The study employs a mixed-method approach (Tashakkori, Johnson and Teddlie, 2020) using semi-structured interviews and surveys to explore the motives, influences, and perspectives of PSTs who select these placements.

In this paper we report on initial findings highlighting the experiences, challenges, and enablers encountered by PSTs in rural schools and present the key themes emerging from the interview and survey data in the first phase of the study (Year 1): relationships, community, social justice, resources, and wellbeing.

The research will contribute to understanding the unique circumstances and challenges faced by teachers in these settings and inform Initial Teacher Education (ITE) programs, specifically in the preparation of graduate teachers for working in rural and low SES schools, addressing the critical issue of teacher shortages in these areas.

**Keywords:** rural and low SES education; preservice teachers; teacher workforce

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*C.2. Teaching and learning challenges and professional development (1)*

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## **Parallel session n. 3**

**Day 3** // Afternoon / Friday, 31st May 2024

### **C.3. Digital innovation and artificial intelligence (AI): schools, teachers and students between real and virtual world**



## ENHANCING DESCRIPTIVE ASSESSMENT IN PRIMARY EDUCATION THROUGH GENERATIVE ARTIFICIAL INTELLIGENCE

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This study explores the use of generative Artificial Intelligence (AI), particularly Large Language Models (LLMs) like Chat GPT, in improving assessment practices in primary schools, in line with O.M. 172/2020. Descriptive assessment allows teachers to monitor and guide student learning based on a deep understanding of their abilities and personal challenges; however, it requires specific design of assessment to triangulate evidence from different sources and can be time-consuming and prone to biases due to its subjective nature. Generative AI has the potential to redefine assessment by assisting teachers to provide timely, effective and personalized feedback to students, promoting continuous assessment, and help monitoring through learning analytics; AI can suggest alternative assessment methods and handle various types of data to garner evidence and support a representative descriptive evaluation of student complexity. Still, this tantalizing potential is coupled with serious challenges, including concerns about the validity and reliability of AI-based assessment, which can lead to misinterpretations and distortions, as well as ethical and privacy issues. This contribution focuses on the role of electronic registers in schools, which, while useful for collecting and organizing information about students, can limit the flexibility needed for authentic and personalized assessment due to their standardization and simplification, especially for students with disabilities. AI-enhanced registers could help define a wide range of student skills and performances, offering holistic and personalized feedback, inclusive from an educational perspective. This would enrich the evaluation process, promoting more comprehensive and meaningful learning and helping students develop a wider range of skills. Finally, the contribution advocates the need to initiate research to monitor the impact of AI-enhanced assessment practices on teaching and learning, promoting a conscious use of AI in primary schools through training, transparency, and accountability, and encouraging open dialogue among teachers, students, parents, and school staff.

**Keywords:** primary school; artificial intelligence; descriptive assessment

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## AI, LEARNING PROCESSES, AND INCLUSIVE DYNAMICS: PERSPECTIVES ON PERSONALIZATION WITH THE ASKLEA CHATBOT

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In the AIED (Artificial Intelligence in Education) field of research and application, AIEDs (Artificial Intelligence in Education) are investigating the possibility of promoting innovative educational contexts, evaluating the impact of AIs on the learning process and inclusive dynamics. Placed in a "third space" transcending the boundaries between real and virtual environments, such AIs can take the form of conversational chatbots, theoretically capable of using imagery, ways of expression, and concepts typical of the communicative functioning of people with various disabilities.

In the field of Special Pedagogy, the ICF (International Classification of Functioning, Disability and Health) takes the form of a classification system that aims to describe, in a standard and unified language, the health status of people in relation to various living environments. Through such a conceptual and lexical filter, a description of an individual's functioning with regard to bodily structures, activities (individual sphere) and participation (social sphere) is elaborated; all, with reference to the facilitating or hindering function that the physical, social and relational world may have on them (environmental factors).

Implementing such theoretical considerations in the application domain, it is possible to think of using such a codified description of the functioning of people with disabilities to customize AI that can both communicate like them and communicate with them.

Through a functional analysis of a model currently being tested, the chatbot "AskLEA," developed by the Italian company "Talent" in collaboration with the IRCIT Research Center, we will highlight possible ways of customizing some parameters of the device designed for everyone (role, context, tone, format, etc.) with reference to typical functioning of some forms of disabilities, through specific prompt engineering processes based on Natural Language Processing (NLP).

Such systems could find their privileged place in education both to provide models of functioning with which to interact for teachers and educators in training, and to stimulate deeper learning regarding disabilities in learners of various school grades, from an embodied perspective and within Hybrid Learning Spaces.

**Keywords:** artificial intelligence; virtual environments; inclusive education.

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*C.3. Digital innovation and artificial intelligence (AI): schools, teachers and students between real and virtual world*

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# A SYSTEMATIC REVIEW OF MEDIA LITERACY ASSESSMENT INSTRUMENTS IN SECONDARY EDUCATION: SYNTHESIS, EVALUATION, AND IMPLICATIONS

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Secondary education plays a crucial role in preparing students for the complex task of navigating the digital world (Ciccone, 2019). The ability to critically engage with information, misinformation, and various forms of digital communication is essential for successful participation in society (Hobbs, 2017). The optimal development of students' media literacy (ML) competence during educational trajectories, therefore, has been emphasized as fundamental by scholars (e.g., Bergstrom, Flynn & Craig, 2018; Potter, 2022) and international policymakers (e.g., Digicomp, 2022; UNESCO, 2021). Recognizing the crucial role of ML in education, valid measurement becomes pivotal for informed decisions and effective interventions to enhance the development of students' ML. Within the literature, various studies have addressed measurement, including the development and validation of instruments (e.g., Chen, Lin & Lee, 2018). However, the absence of a comprehensive overview of these instruments hinders the ability to identify best practices and implement effective strategies. To address this gap, this systematic review relies on a comprehensive analysis of peer-reviewed studies assessing ML between 2000–2023. The review is structured to achieve two core objectives. Firstly, it aims to create an overview of existing assessment instruments in the literature that are designed for, or applied in, education contexts. Secondly, it aims to identify essential characteristics of the instruments, such as the used definitions and indicators of ML, the assessment type, and the reliability and validity. Seventeen publications from the last 23 years were selected through a systematic search in three scientific databases. The key results indicate that there has been limited research conducted in the context of secondary education. Moreover, many instruments did not take the comprehensive picture of ML competence into account. This highlights the need for the construction and validation of instruments for the assessment of ML competence in secondary education. Finally, these findings will inform future research agendas.

**Keywords:** media Literacy; secondary education; assessment instruments

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## ASSESSING EFFECTIVENESS POTENTIAL OF INTERVENTIONS OF ONLINE HATE SPEECH PREVENTION PROGRAMMES

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In the rapidly evolving digital landscape, the proliferation of online platforms has provided young adolescents with diverse avenues for self-expression yet a concerning byproduct of this trend is the emergence of online hate speech (OHS) (Castaño-Pulgarín et al., 2021). Concurrently, there has been a surge in intervention programmes aimed at developing digital competences e.g., media literacy. This study examines an intervention programme developed by a Dutch organisation, aimed at addressing Online Hate Speech at a classroom level in secondary education within the Netherlands and provides advice for improvement. Although a previous qualitative effect study (Douwenga & Heyer, 2022) has indicated positive experiences among teachers and students, this study shows notable limitations in the documentation of the intervention. Former research indicates there is a risk of implementing ad hoc interventions that may not deliver expected results or lack scalability, posing a challenge to their long-term efficacy (van der Stappen & van Steenbergen, 2022). Ambiguity in the documentation and the absence of application of general methodological conditions for effectiveness potential (Baar et al., 2007), such as a target audience analysis and specifically formulated learning goals with aligned activities, show challenges in assessing the programme's effectiveness. Baar et al. (2007) could not only offer a methodology for this specific case study but also for all educators who wish to assess their own interventions regarding OHS or bullying in general. This case study presents the pressing need for research-based yet adaptable interventions of digital competences. Moreover, our case study also underscores the urgency of developing standardized, evidence-based strategies, rather than only relying on empirical evidence, to effectively design educational programmes. As digital environments continue to shape our socio-cultural landscape, the call for methodical and systematic approaches becomes increasingly crucial to foster a safer, more inclusive digital society through effective educational programmes.

**Keywords:** online hate speech; secondary education; digital competences

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## HOW DOES THE AUDIENCE IN HIGHER EDUCATION PERCEIVE PRESENTERS FROM STEREOTYPED GROUPS? A SURVEY

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The Honest Mirror software allows students to upload a video of themselves presenting and then obtain feedback on their presentation skills using an AI-generated evaluation based on postures and gestures (Sakkali et al., 2021). However, while based on scientific research (Schneider et al., 2017; van Ginkel et al., 2019), this feedback does not consider real-world situations in classrooms where presenters are subject to biased, stereotypical judgments based on their outer appearance. In this project, a study was conducted to identify biases entertained towards presenters in higher education.

A representative survey was conducted for Utrecht UaS, with 600 images and forty different presenters. The postures and gestures were selected based on the possibilities of the Honest Mirror software. A literature search showed that gender and migration background are the two most pressing stereotypes in the context of Higher Education. Hence, the survey showed pictures of twenty male and twenty female presenters, half of whom had, and half had no visual cues of a migration background. Each image was rated by ten respondents, who rated presenters on motivation (Chierchia et al., 2021), sentiment (Pang & Lee, 2008), and emotion (Ekman, 2016).

The results showed that stereotypes systematically influence how presenters are perceived. For example, turning the back to the audience is perceived as conflict avoidance for some groups but as disinterest for others. 'Delivered gestures' positively influence the audiences' perception, most strongly for males without a migration background.

Understanding the impact of stereotypes on evaluating presentation skills contributes to the quality of teacher education by providing future teachers with better feedback and developing their ability to give differentiated feedback to their future pupils. This study highlights the importance of acknowledging and addressing biases in presentation feedback systems.

**Keywords:** presentation skills; bias; higher education

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## AUGMENTED REALITY IN ENGINEERING EDUCATION: POSSIBLE TOOL TO REDUCE WORKLOAD FOR TEACHER EDUCATORS

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In the changing field of engineering, the development of competencies is becoming more crucial for professionals. Consequently, fostering engineering competencies in engineering students has become more important. However, because the teaching of these competencies require educators, it creates a strain on teachers. Acknowledging the need for more educators in all domains (Aubra et al., 2019), there is a rising need in making the education for these experts more efficient. Based on previous research, it has been proven that in the field of engineering, hands-on experience is of the essence, yet the comparison of immersive technology in this education versus classroom instruction has yet to be done (Sichterman et al., 2022).

Therefore, an experimental study has been conducted using Augmented Reality in comparison to on-paper learning. Students participating in this study were asked to solve a malfunction in a large air handling unit. The control condition had students learning from a paper instruction on how to solve this problem, while the experimental condition contains a three dimensional environment using the augmented reality glasses. Additionally, cognitive load, intrinsic motivation and students' perceptions towards the learning task and learning environment are included, seeing that these aspects are considered to be crucial intermediate variables in learning processes. After these exercises, the perceptions and cognitive load are measured using questionnaires. A post-test is conducted by having the students replicate these steps in a physical air handling unit under safety supervision.

By comparing the paper based learning with the digital augmented environment, this study aims to seek if there is significant differences in learning outcomes for engineering students. Therefore the results of this study are impactful for teacher education as the training for skill-development could possibly be made more efficient with the help of augmented reality to reduce strain on educators (Singh et al., 2019).

**Keywords:** augmented-reality; engineering education; education efficiency

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## FOSTERING PRESENTATION COMPETENCE WITH VIRTUAL REALITY: A SYNTHESIS OF LITERATURE AND A FUTURE RESEARCH AGENDA

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Presenting is a core competence for the higher-educated professional (Succi & Canovi, 2020). However, many graduates often lack effective presentation behaviors (Chan, 2011). Moreover, presenting is mentioned as one of students' main social fears (Raja, 2017). The development of presentation competence, therefore, is considered to be an essential objective in higher education. According to a systematic review, the provision of sufficient practice and feedback opportunities are essential (Van Ginkel et al., 2015). However, challenges in educational practice have been reported that prevent the optimal support. These issues concern, amongst others, the high pressure on teacher, time constraints in the curriculum and teacher shortages (Adubra et al., 2019).

To overcome such challenges, the potential of innovative technologies such as Virtual Reality (VR) for presentation competence development have been highlighted. VR offers the opportunity to practice a presentation in a virtual environment (e.g., a classroom) and receive personalized, computer-mediated feedback on non-verbal communication behaviors (such as eye contact and use of voice). From a scientific perspective, studies demonstrated that the practice of a presentation in VR and receiving the computer-mediated feedback was as effective as traditional teaching approaches (Van Ginkel et al., 2019). Additionally, a reduction in public speaking anxiety has been established (Van Ginkel & Sichterman, 2023). Moreover, besides the reported effectivity for students' presentation competence, the potential of VR for educational practice has been stressed, seeing that the technology supports time- and place independent learning.

A future research agenda has been constructed for optimally preparing the teachers of tomorrow. This involves further investigation in how such computer-mediated feedback has to be constructed in order to optimize learning processes in such VR presentation tasks. Moreover, while a reduction on presentation anxiety has been assessed, it is recommended for future studies to integrate effective feedback strategies supporting students with regulating their anxiety.

**Keywords:** presentation competence; virtual reality; higher education

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*C.3. Digital innovation and artificial intelligence (AI): schools, teachers and students between real and virtual world*

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## APPLYING ARTIFICIAL INTELLIGENCE IN TEACHER EDUCATION: INQUIRING INTO HUMAN VALUES OF TEACHERS AND STUDENTS WITH THE ETHICAL MATRIX

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AI has the potential of supporting teachers in decision-making based on students' data and by facilitating simulation-based learning environments. Adoption of AI could address educational challenges such as the high pressure on teachers and teacher shortages (Adubra et al., 2019). A potential AI application, that supports teachers, involves digital learning environments providing personalized, automated feedback on students' academic and communication performances (Van Ginkel et al., 2019). However, the implementation of such AI-driven learning environments also raises ethical concerns.

In this study, potential ethical implications of the AI-driven application 'Honest Mirror', which aims to foster students' presentation skills in higher education, are identified and explored. Following a Value Sensitive Design approach (Friedman & Hendry, 2019), potential harms and benefits, and their underlying values, are gathered in focus groups and interviews using the Ethical Matrix (Van der Stappen & Van Steenbergen, 2020). This instrument aims to gather, discuss and relate human values from the perspectives of varying stakeholders. Subsequently, specific design- and implementation principles are constructed based on the contents of the Ethical Matrix.

The preliminary results of this study reveal that both students and teachers perceive the following values as fundamental: autonomy, self-development, inclusion, self-confidence and responsibility. Perceived drawbacks include: lack of monitoring, privacy, learning new software and the nature of feedback. Based on these findings, the following principles for the optimization and the implementation of the application have been suggested: collaborate with stakeholders in teacher education from the design stage, validate feedback messages amongst users and study the effects of AI on learning processes and outcomes.

This study provides a foundation - from a conceptual and empirical perspective - for exploring human values when designing and implementing digital innovations for educational purposes. In particular, how teachers and students navigate ethical dimensions in an AI-integration context in higher education is highlighted.

**Keywords:** value sensitive design; human values; artificial intelligence

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# DIGITAL INNOVATION AND ARTIFICIAL INTELLIGENCE IN MUSEUM EDUCATION: PERSPECTIVES, DEBATES AND PSYCHOLOGICAL IMPLICATIONS

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The article explores the impact of digital innovation and Artificial Intelligence (AI) on museum education, analysing the involvement of schools, teachers and students in the transition between real and virtual worlds. Through a review of recent debates and studies, the analysis focuses on the new educational perspectives offered by the integration of Virtual Reality (VR) and Artificial Intelligence in museum contexts.

Museum education is constantly evolving, embracing advanced technologies to offer more engaging and fulfilling experiences. Virtual reality allows students to explore virtual museum environments, overcoming geographical and temporal obstacles. At the same time, Artificial Intelligence helps personalise learning, adapting it to the individual needs of students and offering innovative educational approaches.

The relationship between Virtual Reality and Artificial Intelligence is crucial in shaping the museum education of the future: the combination of these technologies opens new frontiers, allowing students to immerse themselves in historical, scientific or artistic contexts through interactive and personalised simulations. The article also analyses how AI can enrich museum experiences by providing intelligent insights and advanced educational support.

The discussion extends beyond the technological aspects, exploring also the psychological implications of this educational transformation. The effects on student motivation, information retention and the formation of skills such as critical thinking and problem solving are examined, reflecting on the necessary balance between the use of advanced technologies and the preservation of fundamental human elements in learning.

Digital innovation is increasingly redefining the landscape of museum education, partly thanks to Artificial Intelligence and Virtual Reality, offering new opportunities for learning, and it is essential to carefully consider the psychological aspects involved, ensuring a balance between technology and human elements to maximise educational effectiveness and ensure a lasting positive impact on participants.

**Keywords:** museum education; virtual reality; artificial intelligence

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## **Parallel session n. 3**

**Day 3** // Afternoon / Friday, 31st May 2024

### **C.4. Inclusion in teaching and learning processes and school improvement**

## TEACHER AGENCY FOR EQUITABLE JUSTICE – A CASE STUDY IN AN INCLUD-ED LEARNING COMMUNITY

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This study emerges in a framework marked out by the acknowledgement of educational inclusion as the means of realizing and promoting the right of all children and young people to an equitable education (Eurydice, 2020). In this sense, the recognition of the importance of teachers' agency in implementing sustainable changes and in assuring quality in education in school has become a core tenet in educational policies and in scholarly literature, often associated with social justice agendas (Zeichner, 2019; Ainscow, 2020).

Anchored in the idea that teachers can be true agents of change committed to equitable justice, and as part of a boarder team project (LC4Inclusion, PTDC/CED-EDG/4650/2021), doctoral research is being developed with the purpose of understanding how the principles of equitable justice are mobilized in teachers' professional agency involved in an INCLUD-ED learning community. Particularly, the intent is to characterize teachers' commitment to equitable justice in favor of educational inclusion at school; to clarify how teachers problematize equitable justice in a school context; and to analyze how teachers implement equitable justice in their educational action.

As conceptual support, we triangulated various theoretical perspectives of agency in general, and particularly of professional agency at work (Giddens, 2003; Archer, 2003; Emirbayer & Mische, 1998; Eteläpelto et al., 2013; Priestley et al., 2013, 2015; Goller & Paloniemi, 2022) with three theories of justice (Rawls, 2013; Sen, 2012; Nozick, 2011).

With this study we hope to provide a better understanding and clarification of the conception of justice as equity, based on the universal principle of equal opportunities; promote the view of teachers as active agents of equitable justice in the school structures where they are inserted; and identify areas of conceptual exploration of the concept of teacher agency within the framework of teacher education and development in view of equitable justice.

**Keywords:** teacher agency; equitable justice; educational inclusion

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## EDUCATION FOR GLOBAL CITIZENSHIP AND SOCIAL JUSTICE: A CASE STUDY ON TEACHER EDUCATORS' PERSPECTIVES

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In a globalised world, teachers should be prepared to foster their students' sense of responsibility and agency regarding societal issues and challenges. Accordingly, global citizenship education (GCE) stands out for its potential to contribute to a transformational agenda and social justice (Shultz, 2007; Tarozzi&Torres, 2016), one of the concerns being how GCE is reflected in the countries' curricula, school and teachers' practices (UNESCO, 2013). Similarly, how teacher education programmes are addressing GCE and social justice (JS) in the preparation of future teachers (Cohran-Smith, 2019; Tarozzi&Mallon, 2019) and how teacher educators' professional development in this scope, is a scholarly concern (Mairi et al.,2023).

The current paper presentation is set in the context of a doctoral research project (SFRH/BD/04942.2020), based on a case study of three pre-service teacher' education programmes in Portugal. Through content analysis (Schreier, 2013), this study delves into the discourses of twelve teacher educators, all of them involved in those programmes, collected through semi-structured interviews, with the purpose of (i) gathering their conceptions on GCE and JS; (ii) understanding the importance given to such topics in the programmes' curricula, and (iii) identifying the dynamics, enabling factors and constraints to the development of a curriculum guided by GCE and SJ.

The results suggest that teacher educators relate GCE and SJ with specific values and issues of sustainability, respect, diversity, inclusion, empathy, human rights, and duties; participation, cooperation and critical thinking competences, and teaching strategies (e.g. analysis of articles, key documents, children's literature and the implementation of educational projects, collaborative and interdisciplinary work, and the development of research, especially in the field of teacher education for sustainability). However, the problematization, practical implementation and evaluation of these processes are some of the challenges to overcome. These results will be discussed in the light of teacher educators' professional development and teacher preparation.

**Keywords:** pre-service teacher education; global citizenship and social justice education; case study.

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## INTERCULTURAL COMPETENCES OF SECONDARY SCHOOL TEACHERS. THE STATE OF THE ART ON GOOD PRACTICES TO PROMOTE A CULTURE OF EQUALITY

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Students with non-Italian citizenship, according to the latest data (MIUR, 2021) are about 10% of the total student population with a decrease, in recent years, in pre-school and first-cycle schools and an increase in upper secondary schools. While a few decades ago, multiculturalism in the classroom might have seemed an emergency, it is now a constant feature of schools not only in Italy, but throughout Europe. This implies an organisation, an educational and didactic planning, a teaching and management staff adequately trained to be able to welcome and teach in a multicultural context characterised by multiple cultural, linguistic and religious differences.

After an initial focus, also by pedagogical research, on teachers' competences in teaching Italian as L2, now, interest is directed more towards personal, reflective, communicative-relational competences (Fiorucci, 2020; Fiorucci & Stillo, 2029; Portera 2022, Agostinetto, 2022) that enable teachers to be more aware of stereotypes, often unconscious, that in fact limit the understanding of the needs of the Other and the acceptance of differences in a perspective of equality.

The contribution will report the first results of the ongoing research within the PRIN Project ""TASCLE: Training pathway Addressed to Support and Curricular teachers of secondary LEvel' schools"", with a focus on the documentation of the most effective educational and didactic practices implemented in secondary schools in Italy and Europe. The social inclusion of citizens from other countries starts from the school, which must guarantee forms of democracy and active participation of each member.

**Keywords:** intercultural competences; reflexivity; transformative learning

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## LESSON-BASED DISCUSSION SUPPORT LEARNING TO TEACH MATHEMATICS: A CASE OF CHINESE ELEMENTARY TEACHER

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Professional learning community and curriculum standards are two policy initiatives to support teacher learning effectively worldwide (Tatto, 2007). Lesson-based discussions presumably mediate the two influences on teachers' learning to teach (Hiebert, Gallimore, & Stigler, 2002). Chinese teachers teach under the centralized curriculum system and contrived teaching organizations, where they frequently participate in lesson-based discussions (Wang & Paine, 2010). Thus, this study examines to what extent lesson-based discussions can help Chinese teachers learn to teach mathematics effectively in high, average-, and low-performed schools. The conception that teachers' understanding of content, pedagogical content, and curriculum is central to shaping their teaching quality (Shulman, 1987) guides the coding of the lesson-based discussions in this study. The theory that learners can learn more effectively when interacting with experienced others in the practice community (Wenger, 1996) guides the coding of the interaction processes in lesson-based discussions. Chinese elementary mathematics teachers in the study included 12 from a school where students showed top mathematics performance, seven from a school where students were only average-performers, and six from a school where students showed lower performances in the same school district. By coding and analyzing videotaped lesson-based discussions, the study revealed that participants in each lesson-based discussion could frequently relate content, teaching methods, and student learning with each other. They also explained and described their ideas specifically with those in high- and low-performed schools offering more frequent critiques and suggestions. They could also related the ideas, examples, and reasons frequently, while those in the high-performing school were more likely to do so. This study contributes to the literature on lesson-based discussion in China as pedagogical content knowledge-focused, reasoning with support, and willingness to offer suggestions (Han & Paine, 2010). It extends an understanding of the differences in such discussions across high-, average-, and low-performed schools.

**Keywords:** teacher learning; lesson-based discussions; chinese mathematics teachers

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# APPLICATION OF MARIA MONTESSORI'S EDUCATIONAL PRINCIPLES IN DEVELOPING THE SOCIAL COMPETENCE OF CHILDREN WITH DISABILITIES

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According to democratic provisions, the development of the Lithuanian education system is associated with the idea / creation/ of a dynamic, mobile, adaptable, open to change personality, the development and life of which would be determined by freedom, initiative, independence and creativity. The Montessori education system is one of the humanistic education systems in which education is based not on authority but on respect for the child's uniqueness /personality, and freedom. By acting children with disabilities discover and perceive themselves, acquiring knowledge, independence and the ability to take care of their life's (Chung al al., 2012). Based on the principles of freedom in discipline, equality, individuality, continuity of positive student activities, self-control of mistakes and school and family unity, Montessori school emphasizes the development of personal values, social communication and cooperation, and conflict resolution. Children with disabilities exhibit various levels of social competence depending on their personal characteristics (Bennetts, Bone, 2020; Saylor, 2018). The topic of this paper is the application of the principles of the Maria Montessori pedagogical system in developing the social competencies of children with disabilities. Research methods: analysis of scientific, pedagogical, psychological literature, a semi-structured interview, qualitative content analysis.

The study revealed that, in developing the social competence of children with disabilities, teachers apply the principles of freedom in discipline, equality, individuality, continuous activity of the student, self-control of mistakes, school and family unity typical of Maria Montessori's educational system. In developing the social competence of disabled children, teachers use individual, observation, activation and game methods as well as life practice exercises, sensory training, language didactics and world knowledge tools. The study revealed that the biggest advantage of applying Maria Montessori education principles in the development of social competence is the independence and freedom of children with disabilities taking into account the specifics of each child's development, sensitive periods.

**Keywords:** Maria Montessori education principles; social competence; children with disabilities

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## HELPING TO LEARN. WHAT ARE GOOD PRACTICES OF EDUCATIONAL INTERVENTION?

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The impact of Covid-19 produced a renewed debate surrounding the quality of teaching and invited us to reconsider the strategic role of the teaching profession in providing a quality education. Educational interventions that support the development of literacy competence represent a key direction of intervention (INVALSI, 2022; Mineo, Amendola, 2018; PISA, 2018), which also needs to be explored based upon a more in-depth knowledge of educational processes in context. In relation to these problems, the contributions aims to present the structure and initial results of a participatory research project (Damiano, 2013; Altet, 2019), aimed at designing teacher training plans that are increasingly suited to emerging socio-educational problems (Easterday, Rees Lewis. & Gerber, 2018). A reasoned sample of 'expert' teachers i from nursery school to the first two years of upper secondary school was constructed, motivated with respect to the objectives of the research-training (Zanniello, 2023) (2022-2023-2024). A self-compiled questionnaire was used to detect narrative reconstructions (oriented by a theoretical framework) of teaching interventions in response to specific problems identified in professional practice As of December 2023, the sample of respondents was made up of 69/99 teachers, the majority with over 20 years of service, resident in Lombardy and Piedmont (area of first and most intense diffusion of the project), mainly coming from primary and lower secondary schools. A first analysis seems to confirm the effectiveness of the tool with respect to the research objectives. A further data acquired concerns the recognition of the questionnaire as a support tool for the reflective reconstruction of practices in a form oriented by relevant theoretical keys of the literature. In light of the outcomes still under construction, the experience gained so far is encouraging to develop forms of alliance between researchers and teachers, urging both to experiment with innovative ways for building knowledge useful for increasing the quality of teaching.

**Keywords:** best practices in teaching; teacher education and training; participatory research.

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## INCLUSIVE APPROACHES IN ITALIAN EARLY CHILDHOOD EDUCATION AND CARE

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In Italy, special schools were suppressed in 1977; with the Law 1992/104, inclusive education in mainstream services was guaranteed for children with disabilities from birth. The Law 2015/107 established the ZeroSix Integrated System for services in Early Childhood Education and Care (ECEC) that comprise nursery schools (0-3-year-olds) and kindergartens (3-6-year-olds). The path towards inclusion of children with disabilities in Italian ECEC has shown differentiated paces (Bianquin & Bulgarelli, 2022; Chiappetta Cajola, 2015). Our aim is investigating inclusive concepts and practices (UNESCO, 2009) for children with disabilities in ECEC in Italy.

Data were collected through semi-structured interviews with 7 nursery school educators and 7 kindergarten teachers, with questions about the inclusion of children with disabilities into children's groups in mainstream settings. The interview was based on the Standards for inclusive education in ECEC formulated by the European Agency for Special Needs and Inclusive Education (2017), that proposed a model made of 8 aspects: (1) Overall welcoming atmosphere, (2) Inclusive social environment, (3) Child-centred approach, (4) Child-friendly physical environment, (5) Materials for all children, (6) Opportunities for communication for all, (7) Inclusive teaching and learning environment, (8) Family-friendly environment. Data were subjected to qualitative content analysis through ATLAS.ti run by two coders (Cohen's  $K = .81$ ).

Inclusion is related to the themes of child-centered approach, inclusive teaching and learning environment, family-friendly environment. The inclusion of children with disabilities is put into practice mainly through: personalized support for learning, activities built on children's interests, children's participation in group activities, parental involvement. The most critical issues concern: interactions among peers, access to additional support, accessible materials for all children, development of trustful relationships with families. Differences between inclusion concepts in nursery schools and kindergartens are discussed, also in light of the existing literature (Ginner Hau et al., 2022; Roberts & Callaghan, 2021; Sannipoli, 2021).

**Keywords:** inclusion; children with disabilities; theory & practice.

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## EXPLORING KEY EDUCATIONAL STAKEHOLDERS' EXPERIENCES OF A SCHOOL-TO-SCHOOL PROFESSIONAL LEARNING COMMUNITY (PLC) FOR DEVELOPING INCLUSIVE EDUCATION

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Inclusive education calls upon all schools to identify and address barriers to inequity by valuing diversity and enabling the participation of all children in the classroom (United Nations Educational, Scientific and Cultural Organisation (UNESCO), 2007; National Council Special Education (NCSE), 2011; Ainscow, 2020). However, one challenge when implementing inclusive education is that it can present differently in various contexts (schools) and when viewed from different perspectives (Liasidou, 2012). As a result, there are increased calls for forging effective relationships between special schools and mainstream settings (Tilstone, 1996; European Agency for Special Needs and Inclusive Education (EADSNIE), 2022). Indeed, an increased focus on collaborative professional learning could support the development of the 'common purpose,' 'collective responsibility,' and the 'shared commitment' necessary to achieve effective inclusive education (Booth and Ainscow, 2006; Pantic and Florian, 2015; Ainscow, 2020). Therefore, this research sought to explore whether collaboration between schools and professions could lead to the development of inclusive education.

The study brought together thirteen different Key Educational Stakeholders (KES) (five teachers, five SNAs and three principals) across three different categories of schools (special, disadvantaged and mainstream) within a Professional Learning Community (PLC) over four months. The researcher chose a PLC model of professional learning (Kennedy, 2014) as it allowed for voluntary, inclusive membership across professions and aimed to empower those involved to take the lead and challenge the status quo (Stoll, et al., 2006). The researcher used a qualitative multi-site case-study approach and data generation methods, including PLC transcriptions, researcher reflective journal, picture elicitation, participant reflections and semi-structured interviews. This helped the researcher gain a deeper perspective on participants' collaboration experiences for inclusive education (Yilmaz, 2013).

The research findings highlighted the potential of photo-elicitation in making inclusive education tangible by providing valuable insights into daily practices. Additionally, the study reinforced the significance of collaborative, sustained, and voluntary professional learning as critical factors in strengthening interprofessional relationships within schools. Furthermore, the inclusion of student and parental voices emerged as an essential aspect, as it informed both inquiry and professional learning in the context of inclusive education. The findings also drew attention to the influence of school context on the values, perspectives, and knowledge of inclusive education.

**Keywords:** inclusive Education; inter-professional collaboration; professional learning community; school-to-school collaboration

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# TRAUMATISING EXPERIENCES OF IRISH MAINSTREAM POST PRIMARY LEARNERS WHO HAVE BEEN GIVEN A DIAGNOSIS OF DEVELOPMENTAL CO-ORDINATION DISORDER (DCD) HIGHLIGHTING WORRYING LEVELS OF EXCLUSION

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This paper will explore the experiences of learners diagnosed with Developmental Co-ordination Disorder (DCD) who were enrolled in Irish mainstream post-primary schools. The principles of inclusive education call into question traditional views of disability based on categorisation and measuring difference (Amanze & Nkhoma, eds., 2020; Brussino, 2020; Tiernan, 2021). Yet there is compelling evidence that those working in schools view DCD from the medical model perspective (Kirby, 2004; Shyman, 2016; Hunt et al., 2021) within which DCD is characterised as a neurological disorder typically involving reduced motor proficiency, difficulties in the planning and co-ordination of movement, and cerebellar issues affecting balance, motor control and learning (Blank et al., 2019). DCD is an agreed European and American term (Blank et al., 2019), with dyspraxia being the preferred term in England (Barnett et al., 2015)

The aim of the research was to capture their perceptions and experiences of Irish educational provision at post-primary level. The Critical Disability Studies (CDS) view offered an alternative perspective on disability which moves away from labelling students. Adopting a phenomenological approach, in which human experiences are explored through participant descriptions of 'lived' experiences (Farrell, 2020). The research employed a CDS perspective to analyse and interpret the views of participants in order to make sense of their experiences, analyse what these tell us about the, policies, structures, practices and relations of power that exist currently in schools around the inclusion of learners assessed with DCD and chart a course towards improved and more equitable provision for these learners.

This paper will describe these experiences and the meaning that learners attributed to them, exploring their trauma and highlighting worrying levels of exclusion. The research used qualitative methods, semi-structured interviews followed by focus groups guided by conceptual frameworks (Gardiner, 2022).

It sheds light on the lived experiences of exclusion described by those who have experienced what it feels like to be a post-primary learner given a diagnosis of DCD. It uses these perspectives to identify how their access to, participation in and benefit from authentic inclusive education ought to be enriched.

**Keywords:** development co-ordination disorder (DCD); student voice; teenagers

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## ACTION COMPETENCE FOR CREATING AN INCLUSIVE AND PROFESSIONAL IDENTITY FOR NEWLY QUALIFIED TEACHERS

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The purpose of this study is to discuss the importance of implementing action competence in teacher education so that newly qualified teachers can develop an inclusive and professional identity. Teachers' competence is essential to promote adapted teaching and special education in schools, and therefore professional competence is necessary to meet a diverse group of students. There is an increasing need for professionalization and formalization of knowledge in higher education for teachers, and teacher education should prepare future teachers to handle complex challenges. The teaching profession is particularly demanding for newly qualified teachers, and many studies find that teaching is a stressful profession. However, there is little recent data on student teachers' experiences with the relevance of pedagogy.

The research question is as follows: How do students in teacher education experience that professionally oriented pedagogy is relevant for meeting a diverse group of pupils? In this study, we investigate how the subject of professional pedagogy contributes to students' experience of developing general and context-specific action competencies through concretizing their action competencies in practice.

Using 129 digital questionnaires answered by teacher school students, we analysed whether they consider this subject relevant to practice, and vice versa. The study indicates that most students experience that professionally oriented pedagogy is relevant for working with a diverse group of pupils where they are required to make decisions based on professional judgment. Even though some studies consider the lack of professional relevance in teaching as one of the main problems, most of the students believe that professional pedagogy should be mandatory in teacher education. Traditionally, it has been assumed that students first experience the usefulness of education when they are in an organized practice, while our study indicates that students miss the fact that the practice field operationalizes what they learn on campus.

**Keywords:** adapted learning; special education; diversity

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## CREATING OPPORTUNITIES BY LEARNING MUSIC?

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In the 21st century, research on disadvantaged children is a major focus of attention. These studies seek to explore the socio-economic situation of students and to find solutions to their challenges (Fejes – Józsa, 2005; Fisher et al., 2020; Hernandez et al., 2021; Varga, 2014). In my research, I approach this problem from the perspective of the arts, exploring the opportunities available to students. Previous research (Kárpáti, 2019; L. Ritók, 2010; Román-Caballero et al., 2022; Winston et al., 2022) confirms that arts activities contribute to the development of disadvantaged children, both in academic and non-academic areas.

In my current research, I am looking at schools and programmes that focus specifically on gifted education for disadvantaged children. Examples include the Symphony Programme, the Snétberger Music Talent Centre and the Rajkó-Talentum Elementary and Secondary School of Arts. In Hungary, since 2005, disadvantaged and severely disadvantaged children have been able to study for free in primary art schools, yet they are under-represented. They are, however, very willing to participate in the above-mentioned institutions. The research focuses on the reasons for and background to the success of these institutions, taking into account both professional and human factors.

My research used a qualitative method and involved semi-structured interviews with training managers, staff and teachers, and focus group interviews with students. I used MAXQDA qualitative data analysis software to objectively analyse the responses, allowing me to quantify the data. The results show that an understanding and attentive environment, as well as a special attitude and treatment, are decisive factors in the success of the institutions and the children. In addition, the use of specific methodology is key to children's development. Another important factor is that institutions not only support children's musical performance, but also prepare them for the various challenges of a musical career and life.

**Keywords:** disadvantage; social status; music learning

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## PEACE AMONG CULTURES: A JOURNEY OF A COMMUNITY THAT RE-ACKNOWLEDGES ITS PLURAL IDENTITIES TO FOSTER AN INTERCULTURAL AND INCLUSIVE APPROACH AMONG TEACHERS AND FAMILIES

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The identity journey of the school institution A. Manzoni in Reggio Emilia, Italy, highlights a reality, which, in terms of focusing on diversity and cross-cultural matters, has been able to inform new approaches and “sensitivity” to different cultures.

Beginning to trace the evolution of the concept of social inclusion in multicultural classrooms in Italy, from both a regulatory and values perspective, this work aims to demonstrate a potential opportunity for society as a whole to evolve in its complexity through policies, community agreements, and innovative educational projects that support students from diverse cultures and their families. The inclusion of newcomers and teachers’ perception of their role and possible involvement in school life and children’s education still need improvement, professional training and requires reflection, even at European level.

Thanks to the project Peace among cultures: an innovative teaching project the institute’s community of practice has started to hybridize with other subjects and professionals in the area, trying to recognize itself as an educating community; and deepen its own context. The two-year project, which built decisive interlocutions, among others, with the Department of Education and Human Sciences of the University of Modena and Reggio Emilia and the Reggio Children Foundation, responded to the teacher’s need for dialogue, aimed at questioning plural identities. The network thus made an implicit Community Pact and, thanks to a questionnaire addressed to all families, started to systematize shared values in an intercultural perspective and for the interreligious dialogue. Teachers and territory are trying to engage an asset-based work, in and beyond their multicultural classrooms and context, involving families and expressing the strength and complexity of what has been seen as an innovative model that re-orientates and directs formative and caring actions in school communities.

**Keywords:** cultures; school community; social inclusion.

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## **Parallel session n. 3**

**Day 3** // Afternoon / Friday, 31st May 2024

### **C.5. Teacher education and pedagogical perspective in uncertain times: history, theory, policies and practices (2)**



## SIGNATURE PEDAGOGIES FOR TEACHER EDUCATION

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Globally, education policy initiatives have identified teacher education as ripe for reform, and many countries face government-led reviews, revision to accreditation or certification processes, or mandated content frameworks. In this context of policy-led change, research suggests that teacher education can be subjected to the imposition of “official pedagogies” (Hordern and Brooks, 2023) which focus on the “instrumental trainability” of teachers. Within our own context of England, this has had a profound impact on teacher educators (Ellis, 2024), a consequence of which is a fundamental shift in the signature pedagogies for teacher education.

Lee Shulman argued that the preparation of professionals should be underpinned by a signature pedagogy which focussed on three fundamental elements of professional work, ‘to think, to perform, and to act with integrity’ (2005a: 52). Despite the popularity of this conception, Shulman himself argued that defining a signature pedagogy for teacher education is challenging. Indeed, Brooks, McIntyre and Mutton (2022) argue that approaches to teacher education are often partial – reflecting either a knowledge-first or a people-first approach which, when taken in isolation, can fail to address all three elements of a signature pedagogy. They argue that teacher education programmes need to move beyond current models and prioritize how new teachers can learn to think, to perform and to act with integrity.

In this paper, we explore what signature pedagogies for teacher education might look like. Drawing upon our experience of a range of international contexts and practices, we identify how signature pedagogies can be a useful mechanism to identify the surface, deep and implicit structures that communicate professional expectations of practice: how to think, to perform and act with integrity as a teacher. To conclude we ask to what extent such a conceptualization can help to understand and counter deficit narratives about teacher education found across European contexts.

**Keywords:** signature pedagogies; policy; teacher professionalism

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# THE INCLUSION OF TEACHER RESEARCH IN EUROPEAN UNION GOVERNANCE: THE CASE OF THE ERASMUS+ TEACHER ACADEMIES

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Building on several decades of Europeanisation in teacher education and teacher policy (Symeonidis, 2021), the European Commission launched the Erasmus+ Teacher Academies (ETAs) in 2021 as one of the Erasmus+ programme flagships within ongoing efforts to build the European Education Area by 2025. The ETAs involve the creation of networks focused on initial teacher education and professional development to inform national and European policies and support innovation. The initial ambition of creating 25 ETAs by 2025 has already been achieved.

The objective of this paper is to examine whether the ETAs reinforce a conception of teacher professionalism committed to inquiry-based approaches (Menter and Flores, 2021), renewed and integrated in a distinctive European model of governance. Building on exploratory studies of the ETAs (Galvin et al. 2024; Sorensen and Graf, forthcoming), and drawing on qualitative content analysis of documents and interviews with staff from organisations directly involved in the ETAs, this paper analyses the actual workings of the policy initiative and the wider implications in terms of European Union governance concerning the teaching profession.

First, the paper analyses how research generated by the ETAs could help to inform policymaking at different (local, national and European) levels, and the mobilisation and inclusion of teachers and teacher educators in these processes. Second, the paper discusses the extent to which the ETAs initiative signifies a 'democratising destabilisation' (Sabel and Zeitlin, 2008, 303), whereby policy processes are opened up to a widening array of stakeholders via decentralised policy spaces, informed by teaching professionals' review and constructive engagement with their own practices. In doing so, the paper critically inquires particularly into whether the workings of the ETAs contribute to 'learning from diversity' (Sabel and Zeitlin, 2010, 6) and the inclusion of bottom-up perspectives in EU policymaking on teacher education and professional development (Galvin et al. 2024).

**Keywords:** European Union; experimentalist governance; teacher research

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## PREPARING PRIMARY SCHOOL TEACHERS DURING ITEPS, FOCUS ON GCE. A COMPARATIVE STUDY

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In the contemporary educational landscape, the role of teachers and Teacher Education (TE) programs have been internationally scrutinized. This research investigates Initial Teacher Education Programs (ITEPs) in Italy and Ireland, focusing on prospective primary school teachers' perspectives and how these shape their future practices and attitudes before entering the school environment (Ciani, 2019). The study explores teachers' formative beliefs about their professional roles and their commitment to Global Citizenship Education (GCE) (Estellés and Fischman, 2021; Tarozzi and Mallon, 2019). Given GCE's multifaceted nature (Stein, 2015), the research seeks to understand its implementation in ITEPs and how it prepares teachers as global citizens in schools.

This qualitative exploratory study employs a multiple case study approach (Yin, 2018), comparing ITEPs in terms of university-based programs, the European Union context, and program duration. Data collection includes semi-structured interviews with 10-15 prospective teachers, 1-2 focus groups per context, and 6-8 interviews with tutor educators. These methods, along with observations of teacher training lectures employing reflective practices, aim to provide a comprehensive understanding of educational contexts and ITEP objectives (Ravitch and Carl, 2019).

The research is an in-depth examination of pre-service teacher preparation, particularly focusing on GCE understanding. It highlights the importance of pre-service teachers' beliefs and their preparation to address global challenges. The study emphasizes the indicative nature of its results rather than generalizability, serving as a valuable starting point for future research in this crucial area.

**Keywords:** ITE programs; multiple comparative studies; GCE

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## STUDENT PARTICIPATION IN LEARNING ASSESSMENT: THE CONTRIBUTION OF IN-SERVICE TEACHER TRAINING

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A sustainable education aimed at promoting lasting and meaningful learning in students from a lifelong perspective sees assessment for learning as a fundamental ingredient to foster active learning and the development of self-regulation and metacognition in students.

Educational research has collected robust evidence regarding the effectiveness of student involvement in learning assessment (Hattie, 2008) and self-assessment and peer assessment contribute to educational success through the support of self-regulation and self-efficacy (Hadji, 2017). However, these assessment strategies are not very common in schools, particularly among Italian teachers; according to the 2018 OECD-TALIS survey, less than 30% of teachers adopt self-assessment and peer assessment within the classroom, compared to the 42% resulting as the international average.

Students' participation in the assessment practices is poorly represented even in a recent survey conducted by INDIRE on professional development initiatives undertaken by primary and secondary teachers to improve their assessment literacy (Looney, 2018) between 2019 and 2022. According to the data collected using a CAWI questionnaire on a sample of approximately 400 schools, only 12% of the teachers consider students' peer and self-assessment as a relevant topic in professional development, even for teachers who are aimed to increase students' motivation and metacognitive skills. However, according to responders, professional development contributes to an increase of 23 percentage points in peer and self-assessment practices.

Regarding the formative use of feedback in assessment for learning, even when associated with peer assessment and self-assessment practices, the survey shows significant improvements (more than 30%) following training interventions on assessment practices: the higher the percentage of trained teachers in the institution, the greater the impact on the professional skills of teachers in using self-assessment and peer assessment tools.

Starting from this result, the contribution provides an in-depth analysis of schools (93 cases in total) that have adopted self and peer assessment after the professional development to identify the features of the intervention (target, trainer profiles, topics covered, learning strategies for teachers' professional development). The analysis aims to contribute to the identification of the conditions of effectiveness in supporting the diffusion of practices involving students in their own learning assessment.

**Keywords:** self assessment; peer assessment; teachers professional development

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## REFLECTING TOGETHER ONLINE AND OFFLINE: A SYSTEMATIC REVIEW ON THE NATURE OF SOCIAL INTERACTIONS AMONG STUDENT TEACHERS DURING REFLECTION ACTIVITIES

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Reflection is considered a critical goal in teacher education agendas, with a growing body of research exploring how to effectively encourage preservice teachers' engagement in reflection activities. During an era that highly values the collective construction of meanings and offers multiple online tools to support enriching interactions, socially mediated reflection activities (offline, online or blended) have emerged more consistently. Despite the promising potential of these activities, many researchers stress the lack of systematic study on the social nature of reflection, which in turn, results in lack of theory-informed decisions when designing relevant activities for student teachers. Acknowledging these concerns, the present study aimed to crystallize and comprehend the different types of social interactions that take place in preservice reflection activities. For this purpose, a systematic review was conducted researching a) the aims of the interactions and their underlying connection to social constructivism principles (Barak, 2017), b) the environments that support the interactions (face-to-face and/or online) and c) the group size of socially-mediated reflection activities presented in initial teacher education empirical research. Following the PRISMA 2009 guidelines for the identification and selection of relevant literature, the final sample of the review consisted of 98 publications. The analysis of the characteristics of the socially-mediated reflection activities described in the publications of the sample, indicates that the social processes in which student teachers are involved exhibit qualitatively important differences depending on the reflection path teacher educators choose i.e exploration, cognitive and emotional engagement, co-construction of meaning or feedback. For example, activities with an exploration orientation tended to take place in online environments with larger groups, whereas activities with a co-construction orientation included small groups in face-to-face settings. The findings of the study provide an insight into the methodological choices available to teacher educators for designing social reflection paths in different types of learning environments.

**Keywords:** teacher education; reflection; online communication

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*C.5. Teacher education and pedagogical perspective in uncertain times: history, theory, policies and practices (2)*

Tigelaar, D. E., Dolmans, D. H., Meijer, P. C., de Grave, W. S., & Van der Vleuten, C. P. (2008). *Teachers' interactions and their collaborative reflection processes during peer meetings*. *Advances in Health Sciences Education*, 13, 289-308.

# CRITICAL CONTEMPLATIVE PRAXIS IN INITIAL TEACHER EDUCATION IN UNCERTAIN TIMES: POSSIBILITIES FOR DEVELOPING ETHICAL SUBJECTIVITY IN PEDAGOGY AND PRAXIS

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In these uncertain times, education more broadly, including initial teacher education, faces considerable challenges from a combination of forces, ideological, material and political. Critical discourses suggest that advances and policies that prioritise productivity, performativity and economic viability, do so at the cost of what is most valuable to the public good (Sennett 2006), human relationships, care and wellbeing (Lynch 2022). The compromises in higher education consequent on performativity and productivity entail increasing speed (O'Neill 2014), and commitment to the demands of 'greedy institutions' that burn our 'souls as teachers', delegitimise 'self-care', and support the education 'anxiety machine' (Ball 2003, Hall 2020).

In this paper I suggest a 'critical contemplative praxis' as an antidote to this dehumanization. Drawing on the work of critical, care/justice scholars (Freire 1972, Noddings 2012), I put this in conversation with recent discourses from contemplative education (Ergas 2019), and propose a reconnection with the person and human subjectivity of the teacher educator for our ethical and caring praxis.

I use 'autoethnography' (Ritter and Ergas 2020) to narrate and critique my own developing critical contemplative pedagogy with final year ITE students and evaluate how this praxis is experienced (Ellis et al. 2011). This method makes possible an interrogation of a progressive shift in my professional praxis, risking giving up time from dialogic critical pedagogy and making space for contemplative approaches that require a more personal undertaking, and modelling this pedagogy with students.

This analysis of praxis suggests a need to embrace uncertainty and vulnerability (Kethchermans 2011, O'Brien 2021) and to encourage an embodied contemplative praxis alongside more traditional cognitive approaches. Biesta has considered 'the beautiful risk of education', in recounting this shift in my praxis, I conclude critical contemplative praxis has assisted my students to critique and let go of performativity, to more fully embrace their subjectivity in the risky human process that is education, and hopefully for their future students.

**Keywords:** critical; contemplative; praxis

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## TRUSTFUL FAMILY-SCHOOL PARTNERSHIPS IN INCLUSIVE EDUCATION FOR LEARNERS WITH SPECIAL NEEDS: IMPLICATIONS FOR TEACHER PROFESSIONAL DEVELOPMENT

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To address the unique needs of students with special educational needs and disabilities (SEND) in inclusive school settings, it is imperative that teachers and other educational professionals develop trustful partnerships with their families by showing respect, honesty, commitment, and by regularly communicating with them. Findings from our recent research with parents of adolescents with SEND on their perceptions of family-school collaboration during the COVID-19 pandemic in the context of the Swedish support system show that parents were least satisfied with teachers' knowledge of child's needs or teachers' skills to help their child succeed or to meet the child's individual needs at school. Moreover, the results revealed that parents' overall satisfaction with family-school collaboration positively correlated with the disability-related support dimension of family quality of life (FQOL) during the pandemic. These findings may point to inequity in education for students with SEND during that period in Sweden, indicating a school-centric thinking among school professionals in collaboration with parents of these students.

Drawn from the results of this study and from preliminary findings from interviews with 12 families of adolescents with SEND, the present paper discusses the importance of developing and sustaining positive family-school collaboration and its implication for professional development to meet needs of students with SEND and their families. It outlines how current curricula in pre-service teacher education and special education programs at Swedish universities could further develop and incorporate training modules based on seven principles of trusting family-school partnerships – communication, respect, equality, professional competence, advocacy, commitment, and trust (Turnbull et al., 2015).

**Keywords:** family-school collaboration; inclusion; special needs

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## THE DELIVERY PROJECT: DID E-LEARNING INFORM EDUCATIONAL RESEARCH WITH YOUTHS?

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The Covid- 19 pandemic resulted in Initial Teacher Education (ITE) institutions resorting to remote learning to train teachers. A recent OfSTED report (2021) indicated that “despite partnerships’ best efforts, research shows that as the trainees have had much reduced opportunity to teach in the classroom and therefore develop core knowledge and skills, such as behaviour management.” Currently a dearth of literature exists over the efficacy and confidence of student teachers who primarily used online teaching placements as impromptu alternative assessments, due to restricted access to Northern Ireland schools (McGill et al, 2021). Therefore, this paper presents the mixed methods case study findings of a post pandemic longitudinal study of PGCE Primary teachers who had been ITE students during 2020. Qualitative data from semi structured interviews conducted with the graduates, revealed a generation of teachers who although displayed a high confidence in embedding technological use, a follow-up survey highlighted minimal use of online learning platforms to engage parents and pupils in their current pedagogical practice. Focus group data with the parents who engaged with the PGCE student teachers also made comparisons of classroom online engagement now and during the Covid – 19 pandemic. Findings are concurrent with other research studies (Bacher-Hicks et al., 2023) that highlight the deficiencies of supporting learning in online teaching and learning. Parents reported that although they felt under prepared to transition to online learning during the pandemic, they felt the student teachers had provided very useful learning material that supporting learning at home. This study concludes with policy recommendations that highlights the importance of providing more robust mechanisms of teacher professional learning for the pandemic teaching graduates for missed learning and the paper also indicates how digital skills should be utilized more effectively to engage families given the expertise of Covid graduate teachers in providing online learning.

**Keywords:** teacher education; post-pandemic experiences; remote-learning

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## WHAT FACTORS ENCOURAGE TEACHERS TO REMAIN IN THE PROFESSION?

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The presence of qualified teachers is closely tied to achieving equitable and inclusive education (OECD 2019, Burroughs et al. 2019). Globally and nationally, teacher shortages remain a significant challenge, posing risks not only to the equity of education but also to teachers' professionalism and teaching effectiveness (Edwards, 2023). The difficulties in recruiting qualified teachers and the declining attractiveness of the profession are thus both national and international concerns (Alatalo, Hansson & Johansson, 2021). However, qualified teachers face common challenges, and small municipalities have special conditions and challenges (Bergstrand, 2022). Teachers are consistently under pressure to improve teaching effectiveness for enhanced student performance. Therefore, various measures are needed to strengthen the teaching profession and ensure equitable and inclusive education with qualified teachers.

The survey aims to examine municipalities in rural areas, in Sweden and other countries, and what factors encourage teachers to remain in the teaching profession? A survey gathers data at a particular point in time with the intention of describing of the nature of existing conditions (Cohen, Manion & Morrison, 2011). The Likert scale in the survey provides a range of responses to a given statement about attitudes with nominal variables. An example of attitudes is about well-being of physical, psychosocial, and organizational factors for a good working environment. The selection of municipalities includes a rural or sparsely populated municipality, a municipality that has a lower secondary school, and a municipality that does not have its own upper secondary school (i.e. the students go to upper secondary school in another municipality) (Bergstrand, 2022). The ambition is to try to handle the material based on ethical principles and in a responsible manner (Oliver, 2010; Vetenskapsrådet, 2017). This study will contribute knowledge about factors related to potential opportunities and challenges for teachers to remain in the profession in rural areas.

**Keywords:** attitude; rural areas; teacher profession

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## THE TEACHING EXPERIENCE OF ANTONIO MORVIDI IN LIBERAL AND FASCIST ITALY

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This research aims to reconstruct and narrate a socio-educational experience of Italy in the early decades of the Twentieth century through the life of Antonio Morvidi, a Tuscan teacher and educator. Born in Manciano (Grosseto) in 1871, Antonio Morvidi's experience began in his hometown, where he became a teacher in 1890, and continued in Sassari, where he was director of the city's elementary schools from 1905. His career ended abruptly in 1934, when he was fired by the Ministry of National Education for being an anti-fascist, despite the awards received, and returned to Manciano. Antonio Morvidi was an active figure of the first fifty years of the Twentieth century, a period full of important events and changes, in which the pedagogical debate was very important, involving different currents of thought, such as positivism and idealism, and then get to the dictates of the fascist school. Morvidi also taught in places of the province that were often forgotten, where poverty and illiteracy were common. The study of his work is therefore an opportunity to deepen the educational and social problems of Italy at the beginning of the century. After a thorough study of the texts on the history of the Italian school and periodicals on the subject, the research will focus on the study of the writings and personal documents of Antonio Morvidi, kept at the Biblioteca Comunale di Manciano. With this material it will be possible to reconstruct the teacher's experience, his idea of school, and society.

**Keywords:** pedagogy; school; society

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## IT'S EASIER TO TEACH THAN TO EDUCATE: CHALLENGES TEACHERS NEED TO FACE IN HETEROGENEOUS CLASSROOMS

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Who is responsible for what? When pedagogical questions arise in teaching and in education, neither the parents feel responsible, nor the teachers, nor the school management (Tettenborn, 2010). The growing number of children and students with behavioural, emotional, social and learning difficulties (BESD) year by year (Bíró, 2020; Demeter, 2017; Müller-Hoffmann, 2019) is challenging teachers to develop their skills and to learn new methods to alleviate or eliminate the problems these students are struggling with. Today's global education system is accustomed to having teachers who teach in inclusive classrooms. Therefore, the objective of this article is to determine how well-prepared teachers are to work with students with special needs, especially with students with BESD at a few Hungary-based schools. In this exploratory interview study we analysed semi-structured interviews with teachers of development (n=5) and semi-structured in-depth interviews with form-masters (n=9). The study focuses on the role that developmental teachers and teachers play in the school life of students with these difficulties and whether the parents of these students are more involved in their schooling than the parents of other students. The research aimed to get an overall view of the family background of BESD students and to explore what methods teachers use in their lessons when a child with special needs is in the class. The study also focused on the motivations of developmental teachers for their career choices, the different groups of parents who have BESD pupils and the stakeholders who play an important role in the lives of BESD children. Our main results could be useful to give an overview of the problems teachers deal with and the methodology they use, in order to broaden the effective pedagogical methodology and sensitise teachers in the future.

**Keywords:** students with BESD; teacher toolkits; teacher and teacher of development collaboration

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## TRAINING INNOVATIVE TEACHERS TO PROMOTE SCIENTIFIC LITERACY AND CRITICAL THINKING

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During the 2nd. Semester 2023, the Instrumentation for Chemistry Teaching discipline was developed to promote the training of innovative teachers, who know how to plan, manage and develop thematic projects, with self-confidence, creativity, innovation and autonomy. As well as knowing how to develop collaborative work, as a team, as a reflective professional and producer of knowledge, with a view to innovating and transforming educational environments, reorganizing curricula, practicing new pedagogical methodologies, to promote the development of a new teaching profile. Several activities were developed with the participation of 22 students to reflect on the teaching of Chemistry, in order to answer the following research question: How to develop Critical Thinking from the teaching of Science with an approach STSA? Initially, a teaching sequence "In the name of gold", with STSA guidance on Mining in Brazil, was experienced by the students. They reflected on the concept of dissolving materials in water and the consequences for the environment and human beings. We discussed methodological aspects of teaching to understand the relationships between theory and practice, with a view to training reflective and innovative teachers, who know how to promote Scientific Literacy. Several questions were studied, such as: how to develop higher order cognitive skills? How to develop critical thinking? How to develop the STSA approach? How to carry out assessments? A Didactic Sequences with STSA guidance to promote Scientific Literacy was requested. In groups, students planned Didactic Sequences covering different topics: agriculture and pesticides; healthy eating; Water consumption; disposal of batteries. Finally, to answer the research question, the construction of Conceptual Maps was requested. The conceptual maps created highlighted important relationships between the STSA, in addition to presenting coherent relationships with the studies carried out, pointing out appropriate proposals for the development of scientific literacy.

**Keywords:** innovative teachers; scientific literacy; critical thinking.

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## **Parallel session n. 3**

**Day 3** // Afternoon / Friday, 31st May 2024

### **C.6. Teaching and learning challenges and professional development (2)**



## STUDENTS' PERCEPTIONS ON THE EFFECTS OF AN INNOVATIVE FACULTY PROGRAM

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In the twenty-first century, higher education teacher-centered approach, focused on the transmission of knowledge, with emphasis on lectures, exams, a passive role of students is becoming increasingly outdated (Puranik, 2020). In today's world, successfully preparing students for their future careers, for facing challenges of real-life, innovative approaches to teaching and learning are necessary. In Italy, for long time, the traditional academic systems have influenced teaching and learning processes and preparing faculty for improving teaching practice had never been considered a necessity. The context of this study is the University of Padua that like other Italian universities maintains a traditional academic culture, visible through the dominant hierarchical relationship between instructors and students, the use of a transmission format of teaching, and a low level of interaction with students whose mostly important role is usually played during the final exam (Fedeli & Taylor 2016), and therefore through the practice of a summative evaluation. It is a teaching and learning process that reinforces the traditional perspective of teaching and learning for both teachers and students. With the aim to begin a process of teaching innovation and faculty community development, in 2016 the University of Padova initiated a faculty development program (FDP) on the base of core concepts of Active Learning and community of practice (Wenger, 1998). Therefore, the study sought to explore the impact of introducing innovative approaches to teaching at university through the analysis of 36,219 surveys aimed to investigate students' satisfaction relatively to organization of the courses and teaching methods, and level of program effectiveness in terms of examination pass rates and average grades obtained at the first attempt of students in the courses of the faculty who attended the FDP. Findings show that several programs demonstrated significance in terms of satisfaction and effectiveness in relationship to courses taught by trained faculty.

**Keywords:** teacher-centered approach; active learning; faculty development program

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## GUIDING STUDENTS FROM LOWER TO UPPER SECONDARY: A CHALLENGING AND SHARED TASK FOR FAMILIES AND SCHOOLS

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Within the Italian educational system, the transition from lower to upper secondary school constitutes a challenging task for many students; in this process teachers and parents play a strategic role. Teachers have the professional duty to help students make an informed choice, taking into consideration their skills and their aspirations. Sometimes however they don't feel up to it and can leave the task to the external experts.

Parents' attitudes can also be ambivalent: sometimes they have already built a plan for their children's future regardless of their school performance; in others, they think that this task is up to the school. In this situation of poor guidance students are often confused and struggle to identify the path best suited to them.

The purpose of this paper is to present the main findings of a survey aimed to highlight the process of decision-making related to upper secondary education from the perspective of parents. This empirical action is part of a broader project aimed to fight training failure in Varese (Lombardy).

A semi-structured online questionnaire was submitted to all parents of students attending lower secondary school in Varese in the last year (February–March 2023). Several areas were investigated: school choice; guidance efficacy (lower/upper secondary school); orienting advice; parents' needs and perceptions.

2741 students' parents took part in the survey; the questionnaire response rate is respectable, 30% (n=8803).

The results show that the guidance practices carried on by secondary school are generally appreciated from many parents. Parents, however, allow their children to make their own choices, giving more importance to their desires than to orienting advice coming from school.

By reflecting on the data collected, it is possible to analyze the roles and responsibilities of different stakeholders involved in the process and provide valuable advice to schools for improving orientation activities' efficacy.

**Keywords:** school guidance; research; parents

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## BLENDING MASSIVE OPEN ONLINE COURSES WITH UNIVERSITY COURSES: A STRATEGY FOR FOSTERING REFLECTIVE PRACTICE AMONG STUDENT-TEACHERS

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The use of Massive Open Online Courses (MOOCs) in higher education has evolved along with their benefits and concerns have been raised about how their use could support higher-order learning that befits university education, especially in the professional development of teachers. While there have been advancements in the research on MOOCs and reflective practice, there remains a significant gap in the literature on their combination (Bali, 2014; Yousef & Sumner, 2021), particularly in blended university courses. Therefore, the purpose of this single-case study (Yin, 2018) was to explore how reflective practice can be stimulated in a MOOC-based blended learning course, as well as how students perceive it. Through the lens of the conversational framework (Laurillard, 2013), document and content analyses were conducted on curricular documents and student self-reports of a cohort of 2021/2022 second-year master's students (n = 51) enrolled in a blended course at the University of Padova, Italy. Findings showed that the course design, the MOOC itself, and the affordances of the FutureLearn platform encouraged reflection among the participants. Within the MOOC, students found articles, videos, and discussions highly stimulating for reflective activities and meaningful learning experiences. In light of MOOCs' asynchronous, self-paced format, this study builds on previous research on how they can foster reflection and reflective practice among students, affording them autonomy over the time, space, and pace of their learning. Moreover, the research aligns with studies that suggest that allowing students more time for reflection and facilitating a personalized, gradual approach to reflective activities can positively impact their learning experiences (Ganly, 2018). Ultimately, the results underline the importance of integrating reflective activities into MOOC-based blended courses, enabling students to engage in critical thinking, develop communication skills, and gain new perspectives.

**Keywords:** reflection; conversational framework; MOOC-based blended learning

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## “FROM KANSAS TO OZ” – “KANSAS TO OZ” – AN EXPLORATION OF POST-PRIMARY TEACHERS’ KNOWLEDGE OF TRANSITION FROM PRIMARY TO POST-PRIMARY IN IRELAND

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This doctoral research study examines the transition from primary to post-primary education through the lens of post-primary teachers in Ireland. With a focus on understanding teachers’ knowledge of transition, practices, and the policy landscape, the study explores the extent and sources of their knowledge on transition from Initial Teacher Education to CPD opportunities. The exploratory mixed methods approach involved interviews with 26 post-primary students and 30 educators, followed by a national survey with 475 responses. It highlights the challenges faced by post-primary teachers in understanding the transition process.

Findings uncover a discrepancy between teachers’ conceptualisation of transition as a continuous process and their practical “fresh start” approach in classrooms, influenced by their roles and age. The effectiveness of the Irish Education Passport, intended for sharing student information between primary and post-primary schools, faces dissemination challenges, while sources of knowledge on transition is more influenced by family and friends than CPD.

The research also describes a new framework called the ‘Three Ts of Transition’ – Transition of Learning (ToL), Transition for Learning (TfL), and Transition as Learning (TaL) that emerged from undertaking this study. This model aims to bridge theoretical frameworks with practical solutions, fostering a reflective perspective on transition. Study recommendations also include improving the Education Passport format and dissemination, enhancing curriculum and pedagogical continuity at a local level, advocating for cross-sector professional development, and developing a framework guide for schools to shape transition policy.

**Keywords:** transition; primary to post-primary; teachers’ knowledge

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## THE INFLUENCE OF TEACHER DIGITAL COMPETENCE IN THE USE OF DIGITAL TECHNOLOGY. A PLS-SEM MODEL

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According to the European Commission (2013), teachers mostly use digital technology (DT) to plan learning activities (preparing tasks, selecting resources to be used in class, etc.), while they rarely use DT to communicate with families and evaluate students. Recent studies confirm this tendency (Romero-Tena et al., 2020; Suárez-Rodríguez et al., 2018). An aspect directly related to the use of DT is Teacher Digital Competence (TDC). According to Lázaro-Cantabrana et al. (2019), it encompasses a set of capabilities, abilities and attitudes that allow an effective implementation of DT into their professional practice. However, up to date, few studies measured this relationship. This quantitative study aims to propose a model that measures the influence of TDC on the use of DT, considering school perspective, teaching experience and teachers' age. Data is collected from a non-probabilistic sample of 1399 primary and secondary teachers in Spain. Two valid and reliable questionnaires are used to measure all the variables. To test the hypotheses, a structural equation model is applied with the partial least squares method (PLS-SEM), adequate for studying complex models (Hair et al., 2019). Results show that TDC is the most significant predictor of the use of DT, more than center's views on DT. Pedagogical, curricular and personal aspects of this competence predict a better planning, implementation, and assessment of educational activities. In contrast, ethical and relational aspects of TDC do not guarantee a better use of DT. Teaching experience acts as a moderator between TDC and TD, except for planning. Teachers' age is a predictor of TDC level: the younger the teacher, the higher TDC. This inverse relationship has been found in previous studies (Portillo et al., 2020) and might be related to Prensky's (2001) theory of digital natives. This study will help to design of in-service teacher training programs that can be adapted to teachers' needs, going beyond the current situation where most of the in-service teacher training is focused on technical aspects or specific tools.

**Keywords:** teacher digital competence; in-service teacher training; digital technology

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## INTERNSHIPS IN THE GLOBAL SOUTH

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Internships as practical placement in the global South are increasing in primary and secondary teaching education in Norway. Therefore, encouraging these experiences of practicum in the global south after they transition to professional teachers is crucial injury. This paper is part of a larger research project entitled Long-Term Effects of International Practicum for Student Teachers. The study aims to investigate how teachers' previous experiences, gained through international practicum, influence their professional identity and practice of global knowledge (f. ex., Wilson, 1993; Mansilla & Gardner, 2007; Bourn 2018). Wilson (1993) describes it as gaining global perspectives and developing professional self and new relationships through cross-cultural experiences.

The research question guiding this study is as follows: How do experienced teachers perceive the relevance of their international practicum experiences in shaping their profession as teachers? The theoretical framework of the study revolves around the concept of global consciousness and its three interconnected sub-areas, namely, global sensitivity, global understanding, and self-representation (Mansilla & Gardner, 2007; Helleve, 2019).

The empirical material consists of in-depth interviews with five experienced teachers who participated in international practicums during their student-teacher education. In this research, we collaborate with four other higher education institutions in Norway with the same interview guide. Our study employs a phenomenographic approach (Helleve, 2019). Through an abductive analysis of the material, the study underscores the significance of teachers' prior international experiences in their professional work and personal lives.

The results reveal that international practicum experiences impact student teachers' personal development and professional practice. It indicates that the students' global sensitivity and understanding dominate their global consciousness which entails overshadowing their global self-representation. The student teachers' global consciousness is based upon their experience of cross-cultural practicum, where they reflect upon their professional growth. Lastly, the implications for teachers' professional identity development by this global consciousness in their teacher education will be discussed.

**Keywords:** international practicum; teaching profession; global consciousness

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## ART AND DESIGN EDUCATION IN SCOTLAND: A PROFESSIONAL LEARNING CONUNDRUM

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In 2022, research was undertaken to determine how primary teachers experienced and delivered art and design education in Scotland (Robb, 2023). Research on art and design education in the United Kingdom is primarily focused on England; this is problematic because education in Scotland is devolved to the Scottish Government and therefore the curriculum, the structure of teacher education and the nature of professional learning is different. The research project therefore began to address an important gap in the literature and provided an insight into art and design education in Scottish primary schools.

Data were gathered in the form of an online survey distributed through social media channels. 110 teachers across Scotland, predominantly from state schools, responded. Key findings indicated that the majority of teachers believed that the teaching of art in primary schools was the responsibility of the classroom teacher. They also indicated that while confidence levels to teach single art lessons was relatively high, these levels began to dip once the focus was on planning and delivering a programme of work in art and design. Of significant interest however were the teachers' thoughts and perceptions regarding professional learning, confidence levels and how they felt these should be addressed in the future to ensure that art and design education was delivered in primary classrooms. Questions arose for the researcher regarding teachers' views on what constituted meaningful professional learning and how these needs can be met by government, academic and cultural organisations. This paper will explore these questions further drawing on the findings and examining them in relation to professional development and art education leadership models.

**Keywords:** art and design education; professional learning; teacher self-efficacy

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## IN-SERVICE TEACHERS TRAINING AND EDUCATIONAL RESEARCH. TOWARDS A NEW SCHOOL CULTURE

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The paper addresses the issue of in-service teacher training in Italian secondary schools. The theoretical framework is the “reflective professional” paradigm (Pinelli & Caputo, 2020; Schön, 1987, 1993) with a specific focus on the concrete experience of individual teachers and the role of their intrinsic motivations.

The paper draws on some observations from interviews on educational inclusion with secondary school teachers in Bologna (Rompianesi, manuscript in preparation). The data were interpreted in relation to other empirical material derived from a multi-year action-research project in secondary schools in the Emilia region (Pinelli & Caputo, 2021). In some interviews, we detected a “self-training dynamism”, particularly among teachers facing educational challenges posed by students with migrant backgrounds and other students with learning difficulties. That dynamism was evident in teachers who were proactive in taking care of those students, but it did not emerge when educational responsibilities were delegated solely to specifically trained teachers or were collectively avoided. Some informants expressed a sense of loneliness and isolation in their work with students with learning difficulties. Conversely, some informants referred to the value of a “community of practices” (Wenger, 2006). This professional community, particularly during critical situations such as the pandemic, was often associated with positive educational and teaching experiences, where shared resources and expertise were especially valuable.

Recognizing teachers’ concrete classroom experiences and their inherent challenges, we propose initial and in-service training paths focused on developing reflective communities to support teachers’ educational work. These training paths take the shape of collaborative educational research with schools and teachers (Caputo, 2010, 2022; Damiano, 2006) and aim to foster a school culture that encourages new personal and collegial practices of educational co-responsibility.

**Keywords:** teachers’ training; school culture; community of practices.

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## PROFESSIONAL TEACHING AND GLOBAL AWARENESS

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This presentation is part of Teacher in a globalized world. The long-term impact of international practicum on teacher's professional development, a national project including five Universities/Teacher education institutions in Norway, where we analyse long term effect of student mobility from Norway to Global South. In our research we are interested in long term effects of student mobility through qualitative semi-structured interviews with teachers with minimum of five years teaching practice after their study and teaching practice abroad. Researchers from all five Universities have developed joint key questions and conducted interviews with at least five teachers each. Despite the same methodological design, the Universities differ in how student mobility is organised in length of stay, countries and if the mobility is part of a subject or not.

At Western Norway University of Applied Sciences teacher students have since 2008 had the privilege to study Global Knowledge, a 30 ECTS subject, as part of their teacher education. The subject consists of theories and practical preparations before a three Month stay in Zambia, including teaching practice and fieldwork. Can they reframe their perspectives and develop global awareness in their teaching after student mobility? Earlier research and findings of international student mobility and teachers reframing of perspectives are mainly based on interviews and surveys shortly after the students have been abroad. In my study based on data from 5 teachers who stayed three months in Zambia as Global Knowledge students for at least five years ago, my research question is:

How do these five Norwegian teachers describe their professional development and global perspectives as teachers many years after a three-month stay in Zambia as part of the subject Global Knowledge?

Some of the preliminary key findings are intercultural communication skills, awareness of Norwegian values and norms, social justice and global awareness.

**Keywords:** global awareness; teachers; Norway

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## TRAINING AND BUILDING E-TEACHER EDUCATORS COMMUNITY OF PRACTICE

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The professional figure of the e-teacher educator is the specific declination of teacher trainers whose area of intervention is the training of teachers in the introduction and pedagogical use of digital tools. Professionals engaged in this activity are present throughout Europe under the push and explicit request of the actions contained in the European Action Plan for Digital Education (2021-2027). This contribution presents the training and support model for the continuous updating of e-teacher educators who are part of the Academy of the EPICT Italia Association, an association whose specific objectives include the support and development of a community of practice of e-teacher educator. The model was developed starting from a review of the literature in the sector, based on the syllabus of the EPICT "e-Teacher Educator" Certification (European Pedagogical ICT licence), on the basis of the needs identified by a research conducted on a group of 60 professionals in the sector.

The need for a public and formal certification of the professional figure, the presence of a reference organization that constitutes a place of growth and professional development led by stakeholders in the sector that simply provides e-teacher educators with elements of knowledge of the constantly evolving documents important in the sector at a national and international level, a community based on comparison between peers, a model and tools to maintain continuous dialogue with the teachers who are encountered in professional training experiences, are the most urgent needs of the e-teacher figure educator.

**Keywords:** e-teacher educators; community of practice; professional development of teacher educators

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## STRENGTHS IN FOCUS: INVESTIGATING TEACHER WELL-BEING THROUGH STRENGTHS USE

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Research with teachers often highlights the difficulties associated with the profession, focusing on teacher burnout, workload, and job stress (Haydon et al., 2018; Travers, 2017). Identifying factors to maintain mental health and effectiveness is essential due to teacher shortage and high turnover rates (Toropova et al., 2020). While existing organizational studies have unveiled positive correlations between strengths use with employee well-being and job engagement (Harzer and Ruch, 2012, 2013), self-esteem (Wood et al., 2011) and self-efficacy (van Woerkom et al., 2016), the strengths use among teachers still need to be explored.

Addressing this gap, our research pioneers an investigation into teachers' strengths use. Firstly, we examine the relationship between strengths use and well-being in a general sample of employees, subsequently extending our focus to a teacher sample. The first study involved 244 participants from a diverse adult working sample ( $M=39.42$ ), using measurements such as Strengths Use and Deficit Correction (Woerkom et al., 2016), Workplace Well-Being Questionnaire (Kun et al., 2017), Job Satisfaction Scale (Fényszárosi et al., 2018), and Short Perceived Stress Scale (Stauder & Konkoly Thege, 2006). Results indicated significant positive correlations of strengths use with workplace well-being ( $r=0.44-0.79$ ), job satisfaction ( $r=0.65$ ), and significant negative correlations with perceived stress at work ( $r=-0.4$ ). Results emphasize the pivotal role of strengths use in workplace well-being.

In the second study, 78 primary and secondary school teachers participated ( $M=46.75$ ), using the exact measurements as in Study 1. The findings affirmed the importance of strengths use, it showed a significant positive correlation with workplace well-being ( $r=0.29-0.58$ ), job satisfaction ( $r=0.72$ ), and a negative relation with perceived stress ( $r=-0.56$ ).

While these results highlight the role of strengths use and could provide a foundation for future well-being interventions, further studies are necessary for a comprehensive understanding of teacher strengths use.

**Keywords:** positive psychology; teacher wellbeing; strenghts use

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## ABDUCTIVE REASONING IN THE EDUCATIONAL PRACTICE

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Which kind of reasoning do we use during educational practice? The context of this work is the university teaching-learning process, when it has the object the student's experience during their internship. The study environment is within the Faculty of Educational Science at IUSVE.

Educational practice deals with the so-called "frequency one" phenomenon (always different in space and time) (Salvatore, Gennaro, Auletta et al., 2010). For this reason, is often difficult to relate to established knowledges in order to interpret new phenomena and to react to new situations. Abductive reasoning is oriented to formulate explanatory hypothesis of new phenomena (Magnani, 2023), and it is supposed to generate a new knowledge syntonic with the "frequency one" situations of the educational environment.

Aim of the study: to investigate on how abductive reasoning is perceived and used by undergraduate students in Educational Science during their internship.

The main epistemological perspective of our research, both in object and method definition, is dialogical perspective (Markova, 2016): human reality can be investigated through antinomies (Grossen, 2010). In our study the main antinomy explored concerns the tension between the unpredictability of the phenomenon and the predictability of the related reasoning process applied.

Self-reports have been used by students to collect data. All 63 involved students collected in a self-report a given educational intervention, performed during the internship. Data have been analysed by means of thematic analysis, and the coding is done by atlas.ti.

A first analysis shows that 73% of the students identified, more or less clearly, a model of reference. 24% students linked it with an explanatory hypothesis and 13% with the aim of the action.

**Keywords:** abductive reasoning; educational practice; internship

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## HOLISTIC TEACHER EDUCATION AS A SUPPORT FOR THE BILDUNG OF STUDENT TEACHERS

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School as a complex culture, increasingly affected by social and global phenomena, sheds light on the question of what kind of teachers and teacher education schools need. In this study, we outline a holistic orientation to teacher education that takes students' personal identity seriously. In our study, the holistic orientation to teacher education is based on the holistic conception of the human being by the Finnish philosopher Lauri Rauhala, in which situationality, or life situation, plays a significant role in the construction of identity. Identity, in turn, is seen to be formed by different I-positions, each with its own voice and purpose, according to the Dialogical Self Theory. The data for this qualitative case study consists of interviews with students who are not intending to become primary school teachers. The data reflect the central role of student teachers' personal identity and situationality in their teacher identity construction process. We argue that teacher education should support the process of bildung of student teachers, and in doing so, student teachers should be given the opportunity during their teacher education identify and critically examine beliefs arising from personal identity in order to understand how they limit and enable, for example, the exploration of phenomena in the world, deeper understanding and wisdom, critical thinking and dialogue with theory and practice.

**Keywords:** holistic teacher education, bildung, personal identity

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## **Parallel session n. 3**

**Day 3** // Afternoon / Friday, 31st May 2024

### **C.7. Teacher education and pedagogical perspective in uncertain times: history, theory, policies and practices (3)**



## DEVELOPING EDUCATION PROFESSIONALS' KNOWLEDGE, COMPETENCES, AND ATTITUDES TOWARDS RESEARCH-INFORMED PRACTICE THROUGH A MASTER'S PROGRAMME: A LONGITUDINAL STUDY

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In recent years, scholars and policymakers have promoted the use of research-informed practices in classrooms. This has included, in many contexts, a shift to master's-level studies as the minimum requirement for teachers (e.g., European Commission, 2018). The goal being to link education professionals to academia, and thus to develop their autonomy, innovation, and reflexivity (e.g., Dixon & Ward, 2015; Woor et al., 2020; Kowalczyk-Walędziak et al., 2020). These qualities and skills can offer a foundation for education professionals' research engagement. However, to date there has been limited inquiry into how this can impact their willingness to be research-informed in their future professional practice. Therefore, this longitudinal study explores the impact that participating in an intensive research training module (within a two-year master's programme at a Polish university) has on students' knowledge, competences, and attitudes towards research-informed practice (n=123). This module has three aspects: 1) methodology of social research (10 hrs); 2) quantitative research with statistics (25 hrs), and 3) qualitative research (25 hrs). In addition, students attended 60 hours of research seminars in preparation for their thesis. Their knowledge, competences, and attitudes regarding research-informed practice were measured on a 5-point Likert scale at three points: the beginning of their programme (T1), the end of their first year (T2), the end of their second year (T3). The results show that 67% of students evaluated their RIP knowledge, competences, and attitudes as 'modest' – throughout, with no significant change in these measures – from T1 to T3. Students even evaluated some items less favourably after their training than before (eg: 'using research by education practitioners increases the effectiveness of their pedagogical interventions'). The paper ends by discussing the implications of the findings for stakeholders and recommends improvements to master's curricula that may increase students' confidence in utilising research in their professional practice.

**Keywords:** master's level education; education professionals; research-informed practice

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## ELECTROACOUSTIC MUSIC AND INNOVATIVE EDUCATIONAL PROCESSES. FIRST STEPS FOR SYSTEMATIC LITERATURE REVIEWS

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Contemporary and Electroacoustic Music (EAM) have been regarded as extraordinary resources for education (Somigli, 2019). The literature, in continuity with the pioneering experiences of educational experimentation in the 1970s (Addressi, 2000), has highlighted their potential in an interdisciplinary perspective, for the construction of complexity-oriented knowledge (Pozzi, 2014), in continuity with technological development (Wolf, 2013). Thinking on the relevance given to STEAM education and to inclusive methodologies that integrate ICT, such as Universal Design for Learning, nothing could be more pertinent to deal with current pedagogical issues. Nevertheless, educational activities articulated around this subject concern a small portion of the documented practices (INDIRE, INTEF, EDUSCOL, OER).

What are the reasons for this phenomenon? What does the scientific literature say?

There is still no clear answer on this issue. To fill this gap, it is deemed appropriate to conduct a systematic review (PRISMA, 2020) providing a comprehensive overview on the topic, highlighting a possible agenda for future research. Consulting Scholar and Scopus databases by keywords: electroacoustic music, pedagogy, education, teacher education, SLR, 119 english and italian-language titles were collected from leading journals of experimental music and pedagogy, from 1989 to 2023. Starting from the analysis of the titles and the abstracts, 55 publications were found to be relevant.

Although we are at the first step of the research, some general categories can already be identified, highlighting the relationship between music education and EAM: teacher education; instructional designs; curricular proposals; content oriented resources; inclusion; theoretical approaches; higher education. However, current knowledge does not allow tracking SLRs centered on the issue. Therefore, it is deemed essential to proceed with this literature review in order to identify specific thematic within the general areas. For a better understanding of the issues and to make an original contribution to research in the area of educational innovation.

**Keywords:** electroacoustic music; teacher education; systematic literature review

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*C.7. Teacher education and pedagogical perspective in uncertain times: history, theory, policies and practices (3)*

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## THE CRITICAL-CREATIVE SKILLS AND THEIR DEVELOPMENT IN SCHOOLS

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The development of transversal skills in schools is currently a widely debated and extensive topic, both internationally and nationally. In Italy, for example, the Senate is discussing bill C. 418 aimed at introducing, after adequate annual training for teachers, non-cognitive skills into the teaching method. These are central skills, especially in their critical-creative aspect (critical thinking, creative thinking, openness to experience, self-awareness, sense-making, entrepreneurship, etc.), both for personal realization and success, and for the critical and creative management of challenges (social, environmental, digital, technological, etc.) that new generations face.

These critical-creative skills have been systematized in recent decades within a wide range of diverse theoretical-conceptual models: life skills, soft skills, character skills, Learning Compass 2030 EntreComp, LifeComp, DigComp, etc. Despite the relevance and diffusion of these models and the strong (also legislative) push for the development of critical-creative skills in schools, they present two main areas of problematic aspects.

The first concerns the predominantly bio-naturalistic and/or economic epistemological frameworks of the models in which critical-creative skills are conceived, making them primarily functional to the socio-economic context rather than significant for the full human fulfillment of the individual. The second concerns the questionable effectiveness of the training activities currently conducted in schools for the exercise of such critical-creative skills and for their assessment.

Therefore, the contribution will work on problematizing the main models within which critical-creative skills are currently systematized, the epistemological frameworks that support them, and the training practices devised and implemented in the school context. Based on these foundations, the key elements of a paradigm supporting critical-creative skills will be outlined, which, although functional to the socio-economic context (within the bounds of ethical legitimacy), are primarily meaningful for the full human realization of the individual. Furthermore, the proposal for new project guidelines for teacher training on the promotion of critical-creative skills in schools will be put forward.

**Keywords:** critical-creative skills; transversal skills; teacher training

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## MAPPING THE TRAINING NEEDS OF TEACHERS IN ITALIAN SCHOOLS ON SELF-EVALUATION AND IMPROVEMENT: EVIDENCES FROM AN INVALSI TRAINING COURSE

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In Italy, the Presidential Decree 80/2013 introduced the National Evaluation System in the field of education and training. In the evaluation procedure, all Italian public and private schools of the first and second cycle, fill in a School Self-Evaluation Report (SER) and express a self-evaluation based on evidences from different sources (INVALSI, Ministry of Education and Merit, ISTAT, School Questionnaire). Subsequently, school identify the outcome priorities they intend to pursue in the three-year period, the related goals, the process objectives, hence the improvement actions. Indicators on Outcomes, many of which from the INVALSI tests, are therefore essential for self-evaluation and for planning improvement. Moreover, INVALSI data are used to verify whether the expected results have been achieved in the Social Reporting document at the end of the three-year period. In this frame, on behalf of the Ministry of Education and Merit, in the 2022/2023 academic year INVALSI launched an e-learning training for all the Italian school principals and teachers who are part of the internal evaluation teams. The aim was informing, training and supporting Italian schools in the aware and effective use of the tools of the National Evaluation System (self-evaluation report, improvement plan, social reporting document, three-year plan of the educational offer). During the training, 19 webinar had been done that involved all the Italian schools at regional level. During the meetings, a web-survey had been administered to all participants by using the software Mentimeter, with the aim to simultaneously know their experience and training needs. After collecting 7,287 replies, a qualitative data analysis started with the aim to identify specific areas of in-depth training for teachers. The paper, after introducing the National Evaluation System and describing the training, shows the results of the web-survey, mapping the training needs and underlying training priorities of teachers on self-evaluation and improvement.

**Keywords:** school self-evaluation; school improvement; teacher training

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## TO BE, OR NOT TO BE A VETERAN TEACHER - THEORETICAL CONSIDERATIONS FOR CONCEPTUALIZING VETERAN TEACHERS

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Many school systems struggle to fill vacant teaching positions as well as suffer from early teacher retention and increasing burn-out rates (OECD, 2018). While this raises questions about working conditions for teachers it also asks for a closer look at the individuals that hold/ held on to the profession despite ever changing times: veteran teacher.

They are the largest and still growing group of the teacher population in most European countries (OECD, 2009; Schmich, Itzlinger-Bruneforth, 2018). Despite their significance, they have long been overlooked by empirical research (Schaffer, 2021; Tang Choi, 2009; Day, 2009). Since this seems to be changing, the aim of this paper is to provide insight on two key problems, when conceptualizing empirical research with and about veteran teachers:

- 1) Who should be classified as a "veteran" is not (yet) decided.
- 2) Generalizations and (international) comparisons are often drawn, neglecting the contradictory understandings of "veteran teachers". This is specifically the case when applying results from an Anglo-American body of research to the German-speaking teaching tradition.

Drawing on an extensive literature review, various theoretical problems when conceptualizing veteran teachers from an international perspective will be discussed. The paper reflects on the widely used approach of defining veteran teachers based on their number of years of teaching experience, considering the international varieties of teacher training programs, retirement schemes and organizational differences of schools and school systems. It asks for a critical reflection of semantics given different historical traditions and connotations of the term "veteran" and finally suggests a more contextual conceptualization of veteran teachers as one group in one specific setting.

**Keywords:** veteran teacher; late-career teacher; professional development

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## PROFESSION OR CAREER? STUDENT TEACHERS' CAREER CHOICE MOTIVATION

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In Romania two main models of “teacher training” can be distinguished: the concurrent and the consecutive model. Due to the optional nature of “teacher training” (psycho-pedagogical module), it can be added to any degree course, making it unnecessary to make a final decision on the teaching profession upon entry. Our research aims to address the question: What criteria do teacher candidates use as a basis for deciding to become a “teacher”? Most of the literature on career choice and career persistence distinguishes between extrinsic and intrinsic motivations. The literature mainly emphasises the existence of intrinsic motivations as determinants of career choice and career persistence. Motivations for a career in teaching were measured using the FIT-Choice Scale (Factors Influencing Teaching Choice Scale – Richardson and Watt, 2006). The questionnaire consists of 58 items arranged along 18 factors (subscales): 12 factors related to motivation for the teaching career and 6 factors related to perceptions of the teaching career. The sample consisted of teacher students (N=210) from the Teacher Training Institute at Sapientia Hungarian University of Transylvania. In addition to the questionnaire survey among the students, I analysed the typologies based on the motivation letters submitted at the time of application for “admission”.

**Keywords:** teacher motivation; FIT-Choice Scale; profession

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## TENSIONS IN THE PATHWAYS OF TEACHER EDUCATORS IN FIVE EUROPEAN CONTEXTS

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The Teacher Educator Living Library (TELL) project is a series of podcasts aimed at exploring the diversity of teacher educators' work and journeys in teacher education. These podcasts revealed significant tensions in teacher educators' roles and career pathways. Data was drawn and analysed from 40 professionals across 5 European countries including England, Ireland, Portugal, Scotland and The Netherlands. Key tensions within the profession include policy demands, the Pracademic identity, serendipity and agency.

Challenges associated with occupational change for teacher educators, include uncertainty and shifts in identity. Conflicting demands and complexity in roles for the pracademic (Mynott and Zimmatore, 2022) also raise significant questions about the borderline identities, experiences and expectations of the profession and are all related to this study

The fields of ethnography, autobiographical and narrative inquiry use stories to provide deep narratives on experiences, people and identities. Purposive semi-structured interviews through podcasts, approached as narrative-biographical interviews (Kutsyuruba & Mendes 2023), guided study participants towards specific phenomena (Brinkmann & Kvale, 2015) in their professional life stories. Data analysis of the inquiry encompassed collaborative axial coding, to generate a construct mapping or theme mapping approach (Thomas, 2017). Five individuals from each context were selected for a focused examination in this paper.

Overarching challenges were found, the multiplicity of roles of a teacher educator included the 'organisation vs occupational' (Evetts, 2009) dilemma. Emotive reflection (Kelchtermans, 2009) of the autobiographical approach inferred a deeper conflict and the 'pracademic' was interrogated further as a finding. Pracademics are dual citizens (Panda, 2014), individuals who within their work and identity spans both practice-facing and academic-facing dimensions (Hollweck et al. 2021). Serendipity and Agency emerged also within the data which illuminated the unpredictability and uncertainty in the role of the Teacher Educator. This led researchers to consider if agency or serendipity were significant causes of an individual's trajectory in the profession.

**Keywords:** pracademic; serendipity and agency; career trajectory

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## THE POTENTIAL OF DATA IN SCHOOL EVALUATION: A COMPETENCE-BASED PERSPECTIVE

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In line with the international context (European Commission, 2021), in Italy there is a process of innovation of services to citizens and companies aimed at simplify procedures using digital technologies. Concerning the strategic use of resources, one of the challenges that the National Evaluation System of the Italian Schools is facing, is the management of the data produced by the system of evaluation, self-evaluation and external evaluation of schools. The aim is improving the educational and management processes of the school-system (Freddano & Pastore, 2018) and supporting the development of appropriate policy proposals.

The integration between different data offers a systemic reading of the complexity of reality and allows exploiting the heuristic value of the transformation of disordered data in a framework of intelligible knowledge and instrumental strategic decision (data-driven decision-making process, Ackoff, 1989). This translation process is not immediate, however, making it difficult to carry out evaluation activities regarding the reading and interpretation of data, as well as the use of tools within digital environments (Brown et al., 2015) as platforms.

The contribution discusses about the decision-making and educational aspects of the school evaluation process, focusing on the potential of the strategic use of data for the development of improvement proposals. The issue of data is addressed with a desk approach that reconstructs the framework of skills necessary for the evaluation process (Data & Digital Literacy). In detail, starting from an inquiry theoretical model of phases (Mandinach & Gummer, 2016), dimensions and skills, we propose the simulation of a process of reading and interpreting the INVALSI data contained within a Self-Evaluation Report, supported by the contribution deriving from the educational experiences. Results show a teacher competence-based model aims to underline what are the essential elements to carry out the evaluation process to match with a process of teacher participation.

**Keywords:** school evaluation; data literacy; digital literacy

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# STUDENT TEACHERS' REFLECTIONS ON ARTIFICIAL INTELLIGENCE TOOLS INTEGRATION IN INITIAL TEACHER EDUCATION

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Technological innovations have influenced educational contexts by nature and as teacher educators we cannot exclude ourselves from these innovations. Recent innovations in artificial intelligence (AI) have led teacher educators to seek ways to leverage AI tools into their course syllabi. From a reflective perspective, lived experiences of student teachers following integration of AI tools into teacher education programs and courses are considered valuable for the transformation of teacher education practices and future projections. This paper presents the reflections of student teachers on the AI tools integration into one of their courses in the initial teacher education program they pursued. Participants of the study were a cohort of senior student teachers in English language teaching department at a public university. Primary data were collected through 3-2-1 reflection strategy from the participants. The sections which involve implications for leveraging AI tools in English language teaching in student teachers' collaborative final reports were also used as another data set in the study after final evaluation of students' learning performance. The overall finding of the current study revealed that majority of the participant student teachers appear to be content with the integration of AI tools into the course. Another finding is that participant student teachers seemed to enhance their understanding of AI tools and leveraging them into their future professional contexts. In this session, an overall background of need for digital transformation in teacher education is presented first. Then the study setting is clarified within the national context of teacher education. Next, intervention of AI integration into the course content is explained. Following the research method explanation, the findings obtained from data analysis are presented, and specific implications for integration of AI tools into teacher education programs are shared.

**Keywords:** artificial intelligence; student teacher; reflection; translation as a learning method

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## PHYSICAL ACTIVITY TEACHING IN SCHOOL CONTEXTS FROM THE PEDAGOGICAL PERSPECTIVE OF PROMOTING COGNITIVE DEVELOPMENT, SCHOOL ACHIEVEMENT AND HEALTH IN YOUTH

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In the evolving landscape of educational research, the interconnections between physical education (PE), health, cognitive functions and academic achievement has garnered significant attention by the scientific community. This relationship seems to be mediated through enhanced angiogenesis, increased oxygen saturation and glucose delivery, improved cerebral blood flow, and increased neurotransmitter levels, that is determined by the practice of physical activity.

This contribute presents an integrated pedagogical perspective on how holistic education within PE can contribute to the development of cognitive functions (inhibition, working, memory, and cognitive flexibility), promoting educational outcomes and health in young people. Highlighting empirical evidence, the discussion moves beyond the conventional focus on physical fitness to encompass mental, social, and emotional well-being. This connection underscores the importance of PA not only for physical health but also as a crucial component of cognitive development and learning efficacy. In current research the qualitative (methodology, approach related with cognitive effort) and quantitative (intensity, frequency) characteristics of PE interventions, that more efficiently improve these areas of youth development, are the focus of pedagogical and didactics scientific interest.

In conclusion, there is a need for researchers to work collaboratively with educators, teachers, policymakers, to embrace a more integrated approach to health and education. By redefining the role of PE to reflect a holistic view of health, there is an opportunity to enhance the educational landscape, promoting a balanced development that aligns with the multifaceted needs of students. This perspective advocates for educational systems that not only aim for academic excellence but also nurture the physical, mental, and emotional well-being of learners, thereby contributing to the formation of well-rounded individuals equipped to navigate the complexities of the modern world.

**Keywords:** physical education; cognitive development; health

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*C.7. Teacher education and pedagogical perspective in uncertain times: history, theory, policies and practices (3)*

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## LEARNING MOMENTS AND COGNITIVE PRESENCE; A STUDY IN THE NATURE AND PROMISE OF INFORMAL SOCIAL LEARNING

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Learning is “the way in which individuals or groups acquire, interpret, reorganize, change or assimilate a related cluster of information, skills and feelings.” (Marsick & Watkins 1990 p4). The ways in which we learn can be both formal and informal with much informal learning taking place in the workplace, both consciously and unconsciously (Marsick & Watkins 1990). Continuous Professional Development (CPD) provides opportunities for teachers to upskill by developing new competencies, reskill to prepare for new roles and ensure that their pedagogical and subject knowledge and skills remain current. Professional occupations are made up of a “complex landscape of different communities of practice – involved not only in practising the occupation, but also in research, teaching, management, regulation, associations and many other relevant dimensions” (Wenger-Trayner et al 2014, p.15). As a teacher progresses through their career, they will be involved to a greater, or lesser, extent in many of these aspects of their occupation, engaging in different communities of learning. Social learning networks play a significant role in how teachers navigate these communities comprising the broad spectrum of formal, non-formal and informal learning opportunities they encounter.

In the context of Teacher CPD, informal learning is often facilitated through engaging in Communities of Inquiry (COI). The three interrelated key elements in a COI are teacher presence, social presence, and cognitive presence (Garrison, Anderson & Archer 2000). The focus on reflection, communication and social interaction will be a key factor in unlocking the potential of informal learning in the context of Teacher CPD. In this paper, I will explore some of the challenges and opportunities offered by this research problem, identify the nature of the problem and discuss how informal social learning offers a mechanism for exploring learning moments and cognitive presence.

**Keywords:** informal learning; social learning; learning moments

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## TEACHERS FOR A SUSTAINABLE FUTURE: HOW TEACHER TRAINING PREPARES STUDENTS FOR GLOBAL AND SUSTAINABILITY EDUCATION IN THE V4 COUNTRIES

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Both Education for Sustainable Development (ESD) and Global Education (GE) are placed at the centre of the UN's Sustainable Development Goals (SDGs) as a key enabler in SDG target 4.7, so pre-service teacher training was the first educational field on which their aspects began to gain ground. However, research shows that national education systems lack the comprehensive change needed to fulfil their central role and responsibility in contributing to sustainable development. A shift in education priorities and training practices press updating of strategic documents, strengthening cross-sectoral cooperation, both top-down and bottom-up changes, and more in-depth research, as well as NGOs and other stakeholders should be recognised as sources of expertise and partners for trainers and training centres. Considering these findings, the 'Teachers for a sustainable future' project ([www.teachers4sd.org](http://www.teachers4sd.org)) aims to empower various stakeholders of teacher education in order to enhance the representation and integration of ESD and GE within pre-service teacher training in the V4 countries. The project also incorporates a qualitative research based on approx. 50 in-depth interviews in 12 teacher training institutions throughout the V4 countries. Here, we present the main elements of the project, including networking facilitation, knowledge sharing among professionals, and advocacy work to address decision makers. Finally, we present the results and the lessons concluded from the semi-structured interviews conducted with the management and faculty members of Hungarian teacher training centres.

Results make it possible to formulate proposals for improving ESD and GE within teacher education either at the level of institutions, at national level, or at V4 level, as well as to draw conclusions regarding processes shaping the policies, practices, and profile of teacher training in an uncertain era of humanity.

The project is co-financed by the Governments of Czechia, Hungary, Poland and Slovakia through the International Visegrad Fund. The mission of the fund is to advance ideas for sustainable regional cooperation in Central Europe. The project is coordinated by the HAND Association of NGOs for Development and Humanitarian Aid.

**Keywords:** sustainability education; global education; teacher training

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## **Parallel session n. 3**

**Day 3** // Afternoon / Friday, 31st May 2024

### **C.8. Teaching and learning challenges and professional development (3)**

## THE USE OF ARTIFICIAL INTELLIGENCE IN INCLUSIVE LEARNING: AN EXPLORATORY INVESTIGATION

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There is a lot of excitement in the school world these months, especially among teachers, because of the use or non-use of artificial intelligence (AI) tools. Such tools are, without a doubt, capable of performing exceptional performances, such as the production of text, images, objective evidence and many other cognitive products typically produced by humans. Moreover, the technologies are now integrated into the informal and nonformal learning appendage with which we are all equipped, the smartphone, and therefore, like it or not, everyone finds themselves using them. Over the past decade, the international literature has highlighted the central role of digital technologies in supporting inclusive processes and, concomitantly, the need to promote strong digital competencies in education professionals.

The contribution intends to illustrate the research carried out within the Learning Technologies laboratories of the specialization courses for the support of pupils with disabilities, established in Italy in 2011 by the Ministry of Education.

The research, addressed to specializing teachers at the Universities of Sassari, Modena and Reggio Emilia and Trieste, sought to investigate the impact that AI can have in the areas of a:

- the design of materials to be used in the classroom;
- customization and the possibility of adapting methodologies to the different needs of students;
- the ways in which students' academic progress can be assessed;
- the possibility of offering tutoring to students to 'coach' them in learning.

To answer these questions, a questionnaire was administered to a sample of 490 trainees to survey their views on the use of AI as a support for students with disabilities and other special educational needs (BES) and inclusive processes. The results of this survey highlight the views of trainee teachers on the strengths and weaknesses of AI in the inclusive teaching and learning process and as a compensatory tool for students with Special Educational Needs. The research also helps to highlight the persistence of compensatory and individual-centered views (centered on the deficits of individual learners) on the part of teachers, to the detriment of emancipatory processes, individuals and contexts.

This survey aimed, therefore, to understand ideas and perceptions about the role of artificial intelligence in inclusive teaching/learning processes as a resource but also as a possible danger to inclusive development.

**Keywords:** artificial Intelligence; inclusion; compensation vs autonomy

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## INFORMAL SUPPORT TEACHER NETWORKS: TRAINING AND SELF-TRAINING BETWEEN COMMUNITIES OF PRACTICE

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The connection between teacher training, both initial and in-service, and the quality of education has been extensively discussed, particularly since the enactment of Law 107/2015. The emphasis has primarily been on formal training, which, however, has proven inadequate in terms of both utilization and content. When examining the nature of teachers' knowledge and the dynamics within schools, the significance of informal training becomes evident. As knowledge derived from practice is often implicit, situated, and dynamic, communities of practice and informal exchanges among teachers play a crucial role in sharing and constructing this knowledge. This necessitates a reconsideration of the structure of educational institutions, the enhancement of intermediate functions of teachers, and the contemplation of new professional roles to support this restructuring. This paper aims to propose an investigative methodology that can assist pedagogical research in exploring informal digital networks among teachers as well.

**Keywords:** support teachers; informal networks; training

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## PERSPECTIVES ON EDUCATIONAL RESEARCH AMONG FUTURE HUMANITIES TEACHERS: AN EXPLORATIVE STUDY OF ATTITUDES

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A key objective supported by the international education community and European education policy is the integration of educational research into initial teacher education (Hall, 2009; Trinchero, 2013). The aim of this objective is to improve the quality of teaching and the promotion of a teaching culture based on reflective practice (Hemsley-Brown et al., 2003). However, the literature suggests that both in-service and pre-service teachers in university courses often express negative attitudes towards research, especially when it comes to using research in teaching (Papanastasiou, 2005).

Interesting differences between the various groups studied so far emerge from a more detailed analysis. For example, there are gender differences, with men having a more positive attitude towards research than women (Babalís et al., 2012). Differences can also be observed between those with a scientific background and those with a humanistic background (Seher, 2018), and postgraduate students seem to have a slightly more positive attitude than undergraduate students (Van Tran, 2023).

In this context, the focus of this exploratory study is on the attitudes of humanities students, future teachers, within a university course in educational research. The main aim is to deepen the understanding of how practical group work experiences, with a focus on conducting field research, can have a positive impact on students' attitudes towards educational research, even in the absence of any previous experience of other research courses.

The data, collected through self-administered questionnaires during the course, indicate that students involved in group work generally have better attitudes than their peers who do not participate in such activities and prefer to attend lectures without practice. These findings highlight the importance of integrating practical work opportunities into educational research courses in order to promote a positive research culture within teacher education.

**Keywords:** attitudes towards educational research; humanities students; initial teacher training

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## CLIMATE EDUCATION IN PRESCHOOL AND PRIMARY SCHOOL. TEACHERS FACING THE MOST SEVERE CHALLENGE OF THE 21ST CENTURY

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Environmental crisis and climate change are among the most serious confessions of humanity, and high prioritization of these topics should be reflected in the education sector plans (UNESCO, 2021a). Inclusion of climate issues into every curriculum, all disciplines, on every level of education, is crucial in addressing climate change (UNESCO, 2021b; Howard-Jones, Sands, Dillon, & Fenton-Jones, 2021) as education is an essential tool in counteracting climate change (United Nations, n.d.-b).

Integrating climate issues into the formal education system requires not only curricular changes but most importantly, teacher involvement. In our survey conducted last year, in the group of preschool and early childhood teachers we discovered that 85% of teachers acknowledge their role in modelling pupils' attitudes, and at once nearly 98% of them believe that climate education should start in preschool.

However, in the Polish national curriculum framework, climate education is treated marginally (A. Kozłowska, 2021), and many teachers are incorporating it into their curriculum using the right to supplement the national minimum with their topics. In addition, the new government elected in October 2023 promised decisive changes in this area.

The purpose of the study is to identify barriers to the implementation of climate education. As a research method, semi-structured group interviews and in-depth individual interviews were used, and 30 teachers from the Poznań agglomeration were invited to participate. As a theoretical reference Theory of Environmental Ethics and Social Learning Theory were used to emphasize the importance of teachers' influence on students during education (Trendell Nation, M., Feldman A., 2021).

As we learned from the pilot study, teachers' climate knowledge is unorganized, which, apart from the lack of teaching materials, marginal treatment of the topic in the national core curriculum, and teacher pre-service and in-service education programs, are the main anticipated barriers to introducing climate education. These are confirmed by other studies (EducationWeek, 2023).

**Keywords:** teachers; climate change education; barriers

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# NEW TEACHER STUDENTS LEARNING THROUGH CONTINUOUS ASSESSMENT AND PEER REVIEW

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Teacher education in Norway is a 5-year master's degree. New teacher students are required to learn to be students in an academic setting, learn about pedagogy, didactics, and subject contents, as well as acquire professional competencies through theory and in-school practice. The divide between theory and practice has been an area of concern for both qualified teachers, teacher students (Høgheim & Jenssen, 2022) and teacher educators (Kvernbekk, 2019).

In the subject of pedagogy, we have worked to develop and improve our teaching, through continuous assessment combined with peer review (Dysthe, 2001) as low-stake activities (Bjælde et al., 2017) to provide academic and professional tools to students. Students work with five assignments throughout the semester, delivering a portfolio as their final exam. Our goal is to offer an active student role as well as attention to the learning process and skills like writing, presenting and problem-solving (Bjælde et al., 2017). Throughout this work, students also use core professional competencies such as giving feedback, supervising, and cooperating with fellow students to learn about teaching and learning.

Our research question is:

How do first-year teacher students experience building professional and academic skills through continuous assessment combined with peer review?

To qualitatively answer this question, we have used a survey and two in-depth focus group interviews with students, through thematic analysis (Clarke & Braun, 2017).

Preliminary findings:

Students report continuous assessment combined with peer review as both useful and instructive, with a steep learning curve. The method "forces" them to work evenly with theory during their semester, delivering their texts for peer review. Reading other students' texts is reported as meaningful for the understanding of their writing, and consequently; develop their texts. Students express high insecurity connected both to letting students read their unfinished work and their ability to give useful feedback to others.

**Keywords:** teacher-students; learning process; academic skills

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## DIVERSITY CONSTRUCTIONS IN TWO SEPARATE EDUCATIONAL CONTEXTS

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The Norwegian educational system has a long tradition of inclusive and egalitarian early childhood education (ECE) and compulsory education (Blossing, Imsen, & Moos, 2014; Jensen, 2009). Both sectors' educational documents emphasise diversity as a core value that should permeate pedagogical practices (Ministry of Education and Research, 2017; 2019). However, research shows that professionals have different notions of diversity (see, e.g. Hauge, 2014; Haugen, 2021; Lund, 2021; Lunneblad, 2013; Seeberg, 2003).

Professions act upon knowledge and competence according to norms and values within a community (Gule, 2008). According to Gule (2008, p. 233), professional practice in a multicultural society, is to understand cultural differences and to evaluate the relevance of these through professional justifications.

In this study, we compare the diversity constructs of professionals in two educational sectors, through the following research questions:

How do professionals construct diversity? What are the differences and similarities in these constructs' and how do they relate to the core curriculum documents of the two sectors?

This qualitative study is based on two separate previous studies by Haugen (2021) and Lund (2021). In both studies, teachers/ECE teachers are interviewed on diversity-related topics. The findings from these studies are re-analysed, by comparing the constructs of diversity in the studies, focusing on differences and similarities. To analyse how the teachers argue and position themselves as educators and how they construct diversity, we use the perspective of Gule (2008).

Preliminary findings show several variations in the constructions; both find broad and narrow understandings. Some values are shared. The reasoning for these values, however, differs significantly. The schoolteachers' constructs are politically based (explicitly or implicitly). The ECE teachers hardly touch upon political matters. We discuss how these constructs reflect professional values and institutional differences, and what consequences these constructs may have for professional practice and inclusion.

**Keywords:** diversity, profession, educational policy

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## TRANSFER OF ACADEMIC KNOWLEDGE AND VOCATIONAL KNOWLEDGE AS CURRENT TREND IN TEACHER TRAINING FOR VOCATIONAL/ PROFESSIONAL SCHOOLS IN GERMANY

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Recent programs and additional funding by the German federal government concerning academic teacher training induced research on the transfer of academic knowledge into the practice at schools in Germany. The question of how the knowledge on didactics and educational sciences attained at university transfers into the actual practice in the classroom stood in the focus of research projects, projects concerning the development of teacher training and associated research (Buchholtz et al., 2019).

Theoretical reflections suggest that transfer of knowledge cannot be seen as a one way –process from academia into concrete action in the classroom. Instead, teachers as reflective practitioners (Schön 1983) relate and adapt their professional knowledge to the concrete demands of specific situations (Rothland, 2020, S. 274, concerning transfer theories in general: Hajian 2019).

Recent research shows, that in academic programs for teacher training for professional/ vocational schools and colleges the issue of transfer of academic knowledge shows specific characteristics. They highlight the relevance of vocational knowledge, often attained in work experience before academic teacher training, within the process of transfer of knowledge (Döppers 2022). Students in teacher training for professional schools base their professional identity on not only academic knowledge but also their work experiences and experiences based in their vocational training.

The presentation outlines the structures of teacher training for vocational/professional schools/ colleges in Germany and sums up central findings concerning the issue. It discusses findings within a research and development project concerning teacher training for professional schools at Justus Liebig University Giessen. Furthermore, it highlights the findings concerning the question of transfer of knowledge in teacher training for professional schools and presents a model on how to reflect and utilize professional knowledge within academic teacher training for professional schools.

**Keywords:** teacher training; knowledge transfer; professional knowledge

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# A LEARNING-DESIGN TO PROMOTE REFLECTION AND MEDIA SKILLS FOR PROFESSIONALISATION OF TEACHER STUDENTS

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The skill and the willingness to reflect on practical situations at school is seen as a crucial factor for teacher professionalisation. Reflection skills serve to combine theoretical and practical knowledge and are therefore relevant to solve challenging situations in school practice. In addition to reflection skills, media skills are also important for teacher professionalisation. Contemporary teaching requires the integration of digital media resources into learning processes as well as the promotion of media skills among pupils. The development of professional reflection and media skills is therefore an important aspect in the context of teacher training and corresponding learning opportunities should be offered.

Therefore, I would like to present my seminar concept at the conference. The concept aims to promote both reflection and digital media skills for teacher students in the master's degree programme of educational sciences at the University of Paderborn in Germany. The seminar is based on the inverted classroom concept and takes place weekly. A comprehensive moodle course was designed for the individual preparation of the students. The seminar focuses on promoting the ability to "Select, modify and create digital resources and materials for teaching and learning in a purposeful manner", that is part of the digital competence framework for teachers in North Rhine-Westphalia, Germany. Visualisations, podcasts and video are discussed as technological knowledge and selected aspects of the digital world as content knowledge. The importance of reflection processes for professionalisation and the ALACT-reflection model are discussed as part of an introductory seminar unit. In the further course students have the opportunity to reflect on their level of media-related professionalisation using the ALACT model.

For scientific evaluation the students' reflections on a case study are analyzed using qualitative content analysis.

**Keywords:** reflection; digitalization; professionalisation

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## COLLABORATIVE PEER OBSERVATION OF TEACHING AS A TOOL TO IMPROVE TEACHING COMPETENCIES AND PRACTICES

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Improving the quality of learning and teaching is a primary task and, equally, a challenge for university institutions, which can be addressed through the perspective of faculty development (Frenay & Saroyan, 2010; Chester, 2012). Peer Observation of Teaching (POT) can serve as an effective tool for this purpose, promoting aspects within the faculty such as personal reflection on teaching practices, identification of professional development needs, and the sharing and dissemination of best practices (Sullivan et al., 2012; Yiend et al., 2014; Fletcher, 2017; Hendry et al., 2021). The literature identifies three main models of POT: evaluative, developmental, and collaborative (Gosling, 2005). These models vary depending on who conducts the teaching observation and the purpose of the observation.

This study aims to describe the implementation of a collaborative POT model within two Italian university contexts, with a sample of voluntary faculty members organized into pairs. The group of teachers is characterized by heterogeneity in terms of their scientific-disciplinary background and academic position.

The peer observation program consists of four phases: pre-observation, peer observation, post-observation, and reflection (Martin & Double, 1998; Bell, 2001). The goal is to identify and examine the elements activated in this observational process, both at the individual and relational levels, and their implications in terms of learning and professional development. The methodology involves the collection and qualitative analysis of lecturers' perceptions through the administration of semi-structured interviews in two distinct phases: before participating in the program to understand needs and expectations, and at the end to investigate reflections on the experience and any changes in teaching approach. Thematic analysis of interview content (Braun & Clarke, 2006) will help identify the most significant elements in generating a process of reflection and learning, providing insights into the development of a POT program that can concretely impact teaching practices.

**Keywords:** peer observation of teaching; learning and teaching practices; professional development.

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# FACING TEACHING CHALLENGES OF THE 21ST CENTURY: COLLABORATING WITH TEACHERS TO SUPPORT ESD PEDAGOGIES

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Education for Sustainable Development (ESD) is a recent approach that is globally implemented in response to modern challenges such as climate change and social instability. At the same time ESD is “notoriously complex” (Boeve-de Pauw et al., 2022) presenting challenges for teachers as it requires a reconceptualizing of the goals of teaching. Drawing on research studies done at the primary levels, Murphy et al. (2020) suggested that there are barriers to implementing ESD which include a lack of pedagogical resources, the perception that the curriculum is too crowded, and a need for increased sustainability knowledge.

One way of supporting in-service teachers to face these challenges is through professional development (PD) opportunities. The Way2ESD project highlighted in the proposed contribution is specifically concerned with designing PD that makes ESD accessible to teachers as a pedagogical approach through collaborative structures that encourage relational, contextually-responsive approaches to our work with teachers. We have developed over time a space in which researchers and teachers co-design and co-teach professional learning opportunities for other teachers. The proposed presentation focuses on one specific step of this co-development process where a collaborating teacher implements co-generated ESD-related topics in her classroom. The research analyzes how this process leads to contextually-responsive content for the later co-taught PD workshop, while also offering PD opportunities for the collaborating teacher and researcher. Data to support this claim is collected through recorded planning and debriefing sessions of the Center team, through reflective journal entries from the collaborating teacher, and through an interview with the collaborating teacher.

Overall this presentation will explore how the collaborative structures of co-design and co-teaching allow for spaces for self-reflection and professional development for the collaborating teachers while co-designing PD workshops for other teachers.

**Keywords:** education for sustainable development; teacher professional development; co-development

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## STUDENTS' EXPERIENCE OF CASE-BASED TEACHING AS ELEMENTS IN PROFESSIONAL DEVELOPMENT

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This study is rooted in the implementation of a case-based teaching development project within the Special Educational Needs (SEN) subject in the third year of primary and lower upper secondary school teacher education. The aim of the project was to explore ways to bridge the gap between theory and practice (Kvernbekk, 2012) and to strengthen the relevance of teacher education for the complex challenges in the diversity of contemporary classrooms in Norway. In this project, we understand a case as a description or a narrative from an event or a series of events in a classroom or school, typically a challenging or critical incident suitable for reflection (Ulvik et al., 2020; Ulvik, Jensen, & Eide, 2021). We assume that through reflection on a case, student teachers will develop understanding of the complexity of complicated events (Loughran, 2002), while they will also develop understanding that in this complexity there are several possibilities for choice of action.

Data was collected through two online questionnaires (50 respondents) with several open qualitative questions, and two focus group interviews with 12 participating students. Our research question was: How do teacher students experience systematic case-based teaching as a preparation for complex and challenging incidents in the classroom? The analysis of this material follows the procedures in thematic analysis (Braun & Clarke, 2006, 2019).

We will present and discuss what the students view as important in this educational design, the role of reflection in this type of work, and how case-based teaching can contribute to their professional development.

**Keywords:** case; teacher education; professional development

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## TEACHERS' PROFESSIONAL DEVELOPMENT CHALLENGES WITHIN THE IMPLEMENTATION OF THE "NEW UKRAINIAN SCHOOL" REFORM: THE IMPACT OF WAR

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The educational sector in Ukraine has encountered significant difficulties for educators amid Russia's full-scale invasion and war. These challenges are characterized by unstable learning conditions, limited funding, and an emotionally volatile state affecting both children and teachers.

The aim of this paper - to analyze the peculiarities of the teachers professional development within the New Ukrainian School reform implementation, which is based on European values and Ukrainian soil, in uncertain wartime.

To realize this aim, we used the retrospective analysis and compare-pedagogical methods.

A new stage of the reform, basic secondary education, started in the 2022/2023 school year, coincided with a year of full-scale war. Therefore, teachers, beyond adapting to the new educational paradigm and considering the specifics of teaching in basic education, have been compelled to acquire specialized skills to effectively address the challenges posed by wartime conditions.

There is a need for their professional advancement, involving enhanced qualifications and methodological support tailored to the specifics of teaching in basic secondary school (competency-oriented approach, teaching integrated courses, adapting to the new State Standard for basic education).

The challenges of war also have brought forth an additional dimension – the imperative for specialized skills. Essential requirements for teachers' professional development include the capability to promptly offer psychosocial support (PSS), provide basic medical first aid, possess mine safety awareness, undergo trauma care training, and implement conflict-sensitive teaching. We identify that strengthening teachers' digital technology, emotional-ethical, and psychological competencies has become even more crucial.

As a result of this research, the importance of a comprehensive approach to teacher professional development is emphasized. Teachers have to navigate both educational transformations and wartime challenges, which highlight the need to equip teachers with a diverse set of skills to create effective learning environments in uncertain circumstances.

**Keywords:** case; teacher education; professional development

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# Poster section

**Day 3** // Thursday 30th / Friday, 31st May 2024

# THE PURPOSE OF SOCIAL MEDIA IN THE EVERYDAY LIFE OF A FUTURE TEACHER

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This era has brought about a paradigm shift in education. Technological progress has inspired this change in particular. It has led to changes in the learning process and learning environments. It is therefore becoming relevant to review the issues of teacher training. The purposeful use of social media technologies in the education system depends on the preparation of teachers: how to use and integrate these technologies, how to cope with the challenges posed by these technologies. A number of studies have been carried out on the purposes for which teachers use social media and how they apply it in their work. However, there are few studies on future teachers and they tend to focus on a particular social media (Twitter, Facebook, YouTube, Flickr, Skype, Wikis, blogs etc.). In this era, it is becoming important for a teacher to use sources that are credible in the educational process. Therefore, many media literacy studies focus on issues of information, data reliability and selection.

As a consequence, it is relevant to investigate the purpose of social media as perceived by future teachers. The research asked the following questions: for what purposes do future teachers use social media? how do they select social media to fulfil their purposes?

The data were collected using an open-ended survey and analysed using deductive content analysis. Based on the results of the study, it can be said that pre-service teachers use social media for the following purposes: from "passing the time" to information seeking, social interaction, relaxation, following others, for shopping, and for hobbies. Future teachers do not see social media as a resource that could help them become a more professional teacher. Future teachers select social media by controlling, comparing, using their hunches, rejecting, looking for evidence.

**Keywords:** social media; purpose of social media; future teachers; teacher education

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# EMPOWERING HEALTH-COMPETENT BEHAVIOUR AMONG LEARNERS WITH CHRONIC CONDITIONS IN VET-SETTINGS

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In vocational education and training, there has hardly been any consideration of young adults with chronic conditions as a target group as such. This can be observed not only in vocational education research practice but also in the structure of institutional settings. Simultaneously, around one in six minors in Germany lives with a chronic condition and, in addition to vocational competences, also has to acquire appropriate health literacy in order to adequately deal with their own condition in occupational contexts. However, in practice, this target group has significantly lower health literacy compared to their healthy peers. In the context of VET, this leads to the question of how individuals can be encouraged or supported in applying their specific competences in a targeted manner in occupational situations. This gives VET schools a key function as a central socialisation instance and intersection between the education and employment sectors. In this regard, a key focus is on facilitating people's specific health-related behaviours, i.e. performance.

The aim is to demonstrate why the empowerment of health literate behaviour (health literacy performance) of learners with chronic conditions needs to be taken as a relevant task VET. By using a typological approach, it is demonstrated how types of health literacy performance are expressed in educational and vocational contexts. This forms the basis for deriving implications on how to design school organisation in order to enable health literacy behaviour in an internally differentiated way.

To this purpose, a reconstructive research method based on biographical interviews with chronically ill young adults was used to distinguish different types of health-competent behaviour in education and occupational settings. By taking the requirements of the target group into account, the aim is to reflect on whether and to what extent an overarching benefit can be gained for a heterogeneous group of students.

**Keywords:** chronic conditions; health literacy; VET-schools

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# APPLICATION OF CRITICAL THINKING ON SOCIAL MEDIA: FUTURE TEACHERS' REAL SELF-ASSESSMENT AND SIGNIFICANT OF THE SKILLS

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Critical thinking (CrT) towards social media (SM) have become increasingly important in the post-truth era period, enabling responsible assessment of information content, recognizing problems of bias, prejudice, misleading interpretation and information reliability (Reid, Mang, 2023; Orhan, 2023 and etc.). CrT in social media is related not only to the development of relevant skills, but also to the understanding of the place of digital media technologies in society, which takes a place in the formal education institutions. The pedagogue's competence and abilities become essential, therefore it is very important how a teacher reflects himself as a user of the information in SM, which critical thinking skills are considered as a priority in ensuring the reliability of the information and how they evaluate an application of their personal critical thinking skills on SM (Castellví and etc., 2020). The research questions are: which CrT skills are identified as the most important by future teachers and how an application of personal CrT skills on SM are evaluated?

Quantitative research methodology was applied by using online questionnaire, which has been designed to help students (future teachers (N=218) to assess their performance as critical thinkers as well and the importance of these skills. The research is conducted in the context of Erasmus+ KA220-HED Cooperation partnerships in higher education project „Critical Thinking in the Information Society“ (CTIS).

The results of the study reveal that one of the most important areas of critical thinking for the future teachers is related to the understanding and analysis of arguments and ideas, when it is necessary to separate important information from not significant, as well as the evaluation of arguments and ideas, when it is necessary to solve problems and make informed decisions, to look at the situation from the different perspectives. The ability to understand what the information really means and the ability to distinguish important information in SM from irrelevant were the most valuable for the future teachers. Personal abilities to identify inconsistencies in other people's thinking, to understand logical connections between ideas and to ask important questions that help to raise doubts about certain assumptions and observations and to assess whether other people have correctly understood information (facts) had lower scores.

**Keywords:** critical thinking; social media; future teachers; self-assessment

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# THE IMPORTANCE OF PREPARING FOR TEACHING CHALLENGES AND INTERPROFESSIONAL COLLABORATION IN TEACHER TRAINING

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Theoretical conceptions of teachers' roles, tasks, and competencies have changed considerably over the last few decades. It is worth considering that teachers may have different responsibilities depending on the availability of pedagogical support staff in their school and the support they receive in the classroom (Blatchford et al. 2009; Masdeu Navarro 2015; OECD 2019; Csók & Pusztai 2022). This research examines the composition and tasks of the support team available to Hungarian teachers. The research question is whether their preservice training adequately prepared them to work effectively with their educational partners. In the qualitative research, we explored the experiences of teachers (N=50) working in schools in the most disadvantaged region of Hungary, where the proportion of low-SES pupils is the highest. Respondents were selected based on quotas determined by county, school type, school provider, and career path. One of the key findings of the interview research is that teachers need educational partners to combat many of the challenges they face. Firstly, teachers need the support of teaching assistants inside and outside the classroom (learning support, preparation of teaching materials, tutoring, childcare, and administrative tasks). The task division between teachers and pedagogical support staff has proven to be challenging in this collaboration. The novelty of our research is that its results exceed the claim that teachers are overloaded, and they highlight that the development of teamwork skills is an essential aspect of renewing the content and methodology of teacher education in Hungary. Our findings highlight the need to improve the content of teacher training, particularly in teacher role interpretation, clarification of teacher competence boundaries, and acquisition of inter-professional team skills within the school activity system.

**Keywords:** teacher challenges; pedagogical support staff; interprofessional collaboration

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## TEACHERS' PERCEPTIONS OF PROFESSIONAL DEVELOPMENT: A STUDY OF SCHOOLS TEACHERS IN LITHUANIA

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Targeted and consistent professional development for teachers must ensure a balance among the individual needs of the teacher, the educational institution and the national needs, and is a prerequisite for ensuring the quality of education, improving student learning outcomes and creating a supportive learning environment (Postholm, 2012).

The purpose of this study was to reveal the experience of Lithuanian primary and subject teachers in the development of their professional competences and to provide research-based ideas for its qualitative development. The research questions were: What does the development of competences in subject X mean for a teacher? How does a teacher identify his/her needs for competence development and plan his/her perspective on competence development? What encourages and what hinders teachers' professional development?

Focus group semi-structured interviews were used to collect data. 86 teachers working in different levels of general education in Lithuania reflected on their experiences in 13 group interviews. The data were analysed using thematic analysis (Creswell, Poth, 2018).

The study revealed teachers' objectives for professional development are diverse and focus on several perspectives: personal growth/self-development; acquisition of knowledge and skills to improve and/or change educational practice; maintenance and enhancement of professional motivation; and obtaining a certificate of competence development. As the study shows, teachers' engagement in learning is highly dependent on personal and contextual factors, and teachers' needs and expectations should be considered as the most important axis for effective competence development. The study revealed that professional development that is short-term, and is not targeted, planned and responsive to teachers' needs cannot lead to improved or changed teaching practice. Teachers are interested in and capable of developing their own continuous professional development, but they need support from education policy-makers and the school community to develop their professionalism and to feel empowered to respond better to educational change and to the needs of students.

**Keywords:** competence development; teachers; continuous professional development

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## PATTERNS OF STAFF EDUCATION IN ECEC (0-3)

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All countries have educational prerequisites to enter the ECEC profession. Despite a lack of consensus regarding the strength of the relationship between teacher qualification and the quality of the ECEC environment and child outcomes (Falenchuk et alii, 2017), staff education is a characteristic that is associated with high-quality childcare (Cadima et alii, 2020; Manning 2019)

Literature shows that higher levels of educational attainment are associated with higher quality staff-child interactions (OECD, 2020). Many studies confirm the association between staff studies beyond secondary school and better interactions between these staff and children under age 3, in particular to foster language development (Castle et al., 2016). A correlation was also found between eating behaviors learned by children and staff qualification level (Sissel H. Helland, 2023)

On the other hand, research points out that qualifications per se are not sufficient to determine the quality of ECEC provision (Nocita 2019). The content of the training – as well as the methodologies adopted for its delivery – also play a crucial role in increasing the professional competence of educators (Vandenbroeck et alii, 2016). The poster will compare four training models for the staff employed in the educational services for children aged 0-3, those of Germany, France, Italy and Spain, highlighting methods and contents more than just the level of qualification required.

**Keywords:** ECEC (0-3); staff education; patterns

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# ENHANCING THE EFFECTIVENESS OF PIANO LEARNING THROUGH THE DEVELOPMENT OF SELF-REGULATION LEARNING

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Self-regulated learning refers to a process that the learner can set appropriate learning goals and motivate himself or under the teacher's help to actively use learning strategies, and to achieve the learning objectives. It is not only a process of active participation, but also a lasting and stable capacity.

This paper combines the theory of self-regulation learning with piano learning, expounds the importance of self-regulation learning ability in piano learning, and proposes a training plan. According to the self-regulation learning theory, the psychological mechanism of piano learning self-regulation is studied, and the plan for cultivating students' piano self-regulation learning ability is put forward from the four aspects of students' cognition, motivation, behavior and learning situation, and piano students from 16 music schools are selected. An 8-week experiment was conducted. Innovatively integrates the feedback form of self-regulated learning into piano learning, and establishes a scoring standard according to the international piano performance evaluation rules. Independent T-test analysis was performed on the obtained results. The result is remarkable. It is expected that the training program of self-regulation learning ability in piano learning improves students' piano learning performance better than the ordinary piano learning mode. This research can improve the efficiency of piano learning and contribute to the promotion of piano education.

**Keywords:** piano learning; self-regulated learning; music education

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# INCLUSION IN SCIENCE TEACHING

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The beginning of the 21st century has marked not only by socioeconomic and political changes at the global level, but also by ecological and biological ones. These factors contributed to the migration of war-affected Middle Eastern residents, such as the economic migrants from Southeast and Eastern Europe into the EU. In general, traditional European pedagogy, schools and education are facing major challenges because of this. Today, the current pandemic (caused by the Covid-19 virus) causes the closure of school institutions worldwide, leading to the implementation of the so-called digital teaching (e-learning), internet and school TV (Raspored nastave, 2020; Bildungsserver, n.d). This form of substitute for a standard teaching includes natural sciences and mathematics.

This paper discusses inclusive and integrative teaching of natural sciences and mathematics in primary and secondary schools in Serbia and Germany today. In addition, it will perform the selected inclusive and integrative school experiments in the following teaching topics: groceries, fragrances and aromas (chemistry), disinfection (biology) and basic physical quantities and their measurement (physics and mathematics) (Lernenwerkstatt Schülerlabor, n.d; Skript zur Lehrbildung, 2010). Further, it will be introduced the curriculum of the natural sciences (physics, chemistry and biology) and mathematics within the special education of the students, the teacher's work (i.e., pedagogue, tutors, etc.), organization of inclusive teaching and school laboratories (Bildungspläne, n.d).

The primary aim of the paper is to provide an approach to teaching inclusive and integrative science for students with special needs and a migration background from kindergarten to high school.

Here it will be considered the application of inclusive and integrative teaching contents among students. In addition, it will determine the impact of these teaching contents on the learning of natural sciences (focus on approaching, processing, explaining and presenting natural phenomena) among students with developmental disabilities. To achieve this objective, modified school experiments and tasks will be implemented (based on the natural science curriculum for primary, vocational, and high schools), to adapt to students with special needs and migration backgrounds.

Globally, education is at a historic turning point. Especially, the science teaching is under great challenge. This is reflected negatively on the experimental part of teaching, where digital contents dominate. There is a need for science educators to design school lab activities, develop practical skills, as well as broader exploration of interdisciplinary and multidisciplinary contexts in science education. However, the importance of applications of science in daily life is manifested through creative, innovative and stimulating modern learning that is responsive to the needs of a 21st -century education.

**Keywords:** inclusion; students with special needs and migration background; science teaching

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# MULTICULTURALISM IN LATVIAN PEDAGOGICAL AGENDA: CAUTIOUS OPTIMISM OR UNCERTAINTY

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The paper examines the issues related to the politics of multiculturalism in the Latvian pedagogical agenda in the context of postcolonial discourse and against the background of the crisis of multiculturalism politics in general. Growing migration flows coupled with the processes of integration and globalisation have given rise to a number of threatening phenomena in European countries, such as the spread of xenophobia and the growing popularity of right-wing conservative organisations and parties. The implementation of multiculturalism in education has raised the whole range of questions for Latvia: what strategy of multiculturalism in education should be chosen; how to form a model of multicultural competence; how to find new approaches to promoting cultural literacy in tertiary education that are relevant for Latvia; and how to finally relate to the “other” in the multicultural space of modern human existence.

Having lost its independence during World War II and regained it only at the end of the 20th century, Latvia still bears the negative consequences of European internal colonialism. In postcolonial discourse, art, history, culture, and literature, based on their unique blend of critical spatial points, have formed a third area of creative hybridity and innovative ideas, where the “old” binary oppositions of “East – West” and “capitalism – socialism” no longer work. Therefore, new alternative spaces and other ways of thinking are sought to explain the complex manifestations of the human condition.

In this paper, the author highlights some of these conceptual ideas related to the notion of cultural literacy and shows the need for an updated model of cultural literacy in Latvia, which is still caught between Western European, not always optimistic, forecasts and Latvian society's uncertainty about the validity of the chosen educational strategies.

**Keywords:** multiculturalism; education; postcolonial discourse

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# KINESIOLOGISTS' AND COACHES' SELF-ASSESSMENT OF THEIR PEDAGOGICAL COMPETENCIES

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A kinesiologist and trainer is a participant in education; therefore, in addition to their kinesiology knowledge and skills, they must acquire pedagogical competencies that will contribute to the overall development of students and athletes. As a fundamental human right, education promises individual freedom and empowerment and brings important development benefits (Žnidarec Čučković and Ohnjec, 2017). Given that kinesiologists are participants in the educational system, they can be considered subjects of education that have a developmental and creative function (Lukaš and Mušanović, 2020). Young people are involved in various sports activities not only because of the offered sports program but also because of the relationship with the coach (Grk, 2010). That is why the level of pedagogical knowledge is necessary as a means to fulfill the prerequisites and lay the foundation for the further integral growth and development of the child. In order to determine the level of pedagogical competences, a self-reflection survey of kinesiologists and trainers was conducted. A total of 302 kinesiologists and trainers in the Republic of Croatia participated in the research. Their answers were processed by factor analysis in order to gain insight into the self-assessment of pedagogical competences and the structure of a pedagogically competent kinesiologist. By factor analysis of 26 manifest variables of pedagogical competence of kinesiologists and trainers, six factors were extracted. The results showed a high level of interest and motivation for working with children and athletes, which is a prerequisite for a pedagogically competent kinesiologist. The pedagogical competence of kinesiologists is negatively correlated with the insecurity and efficiency of kinesiologists in their work and their previously acquired knowledge. Self-reflection of kinesiologists and trainers is an important part of understanding and recognizing educational potential, but also room for improvement. In addition to knowledge of sports or the subject being taught, proper work with children and young athletes also requires knowledge of appropriate pedagogical practices.

**Keywords:** pedagogical practice; education; correlation; initial education

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## “I DON’T SEE COLOR”: FRENCH TEACHERS’ PERCEPTIONS OF EQUITABLE DISPOSITIONS IN PARISIAN CLASSROOMS

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In France, students from minoritized families—often with immigrant backgrounds—are frequently underrepresented in secondary education and tend to end up in lower-status social and economic systems (Boado, 2011; Murdoch, et al., 2014). While equity issues persist across education, France presents an interesting context due to its strong commitment to education (Misra, 2014) and a constitutional mandate emphasizing ‘égalité’ (Sabbagh & Peer, 2008). Teacher preparation has focused on increasing tolerance for immigrant populations to foster equitable teaching in France (Lysenko, Shtefan, & Kholodniak, 2020). Given the charge to French teachers to socialize immigrant students into a French national identity, what dispositions beyond ‘tolerance’ might be important for supporting these students?

Equitable teaching requires teachers to cultivate dispositional virtues defined as: “fundamental orientations to self, others, and society that affect how educators think and act” (Jensen et al., 2023, p. 299). Key dispositions supporting equitable practice encompass self-awareness, social-awareness, meekness, empathy, inclusion, and advocacy for students (Hill-Jackson & Lewis, 2010; Jensen et al., 2023; Mills & Ballantyne, 2010; Silverman, 2010; Warren, 2018). This qualitative study explores how seven French teachers in the Paris region talk about their own equity dispositions, their understanding of and perspectives toward students from immigrant backgrounds, as well as potential supports for developing equitable dispositions.

A main finding from teacher interviews was how these teachers de-emphasized race as a significant category of difference. Instead, teachers highlighted language abilities and socioeconomic status as more relevant indicators of differences and needs. They all explicitly detailed various ways they attended to difference as they accommodated their minoritized students. In contrast to U.S. views emphasizing the importance of acknowledging racial difference, these teachers embraced a color-blind orientation as an equity disposition that supported their teaching practices. This research contributes to understanding how teacher dispositions might influence practice across different contexts.

**Keywords:** equity; dispositions; immigrant students

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# DEVELOPMENT OF TEACHERS IN CHARGE OF STUDENTS WITH SPECIAL NEEDS: FOCUSING ON REGULAR PRIMARY SCHOOL CLASSROOMS IN JAPAN

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In Japan, as part of inclusive education, the number of students with special educational needs (SEN) in regular classes has been increasing. However, as the development of teachers for inclusive education remains in its infancy, many difficulties have been observed. Thus, this study examines the development process of teachers of students with SEN in regular primary school classrooms in Japan, especially in difficult situations. For this purpose, interviews were conducted with nine young and mid-career teachers with work experience ranging from 1 to 15 years. Based on a qualitative analysis using the modified grounded theory approach, the study generated 36 categories with 64 sub-categories. For each case mentioned by teacher, the process of identifying their developmental processes and providing the necessary support was integrated into teacher growth charts. According to the findings, the teachers increased their awareness and preparedness for inclusive education after being given the responsibility over students with SEN. Moreover, we identified some beliefs to be specific to Japanese teachers, such as 'a sense of mission', with the younger teachers mentioning the 'lack of leeway'. Subsequently, the teachers' reconsideration of such beliefs was an important factor in their development, which, in turn, had a positive impact on students with SEN and their parents. These findings imply that providing support for teachers in the early stages of inclusive education in Japan (e.g. preparatory training and vocational education) can be beneficial for their development and teaching performance.

**Keywords:** regular class; students with special education needs; teacher development

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# GENERATIVE AI-BASED CHATBOTS FOR ENGLISH LANGUAGE TEACHERS: TOWARDS BEST PRACTICE GUIDELINES FOR METHODOLOGY AND MATERIALS DESIGN

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The unprecedented technological developments which are characterising society cannot but affect education, and have been referred to as part of the "fourth education revolution" (Seldon, 2020). With the status of English as an international language, English language teaching and learning (ELT/L) is becoming an increasingly complex system, and the spread of generative-AI tools in the field is stimulating debate on whether this technology supports learning or actually makes it less effective, questioning whether teachers may be substituted or supported by AI in the classroom (Ramadanis & Xinogalos, 2023; Kohnke et al., 2023a; Kohnke et al., 2023b; Nash et al. 2023).

As educators, we need to delve into this issue and ask more pressing questions to understand how generative-AI chatbots can be used effectively in the English language classroom. Specifically:

How can generative-AI tools support teachers with lesson planning and methodology issues?

What are the benefits and risks of using generative-AI tools for this purpose?

This poster presentation illustrates the author's PhD research project aiming at investigating the experiences and perceptions of Italian upper secondary school teachers of English using AI-powered chatbots as 'assistants' for methodology queries, lesson planning and materials design. Relevant data on experiences will be gathered through ad hoc activities where participant teachers will be involved. Information about perceptions will be collected through reflective journals and semi-structured interviews, with the aim of devising best practice guidelines for the use of generative-AI chatbots in ELT/L, thus promoting AI literacy and raising awareness of the benefits and risks of AI-based tools.

In line with the conference themes, chatbot prompting, ethics, and teachers' attitudes towards the use of chatbots as supporting tools are discussed in the poster.

**Keywords:** generative-AI; english teaching; methodology

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## INTERPRETED INCLUSION OUTSIDE AND INSIDE SCHOOL. EXPERIENCES OF POPULAR EDUCATION

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Popular education has been a widespread practice in the European and non-European context that has fostered democratic processes, highlighting the relationship between participatory processes and forms of active citizenship, inclusion and social regeneration, and education and economic development.

Since the 1950s, some of these experiences have been labelled as “counter-schools”, according to their highly oppositional behaviour and radical criticism of the institutions (Orecchia, 1974; Tornesello, 2006; Catarci, 2013). They belong to an ongoing debate on the various forms of popular education, in order to contrast the phenomenon of illiteracy in Italy, which is still widely present.

Nowadays, such initiatives exist to “not to leave anyone behind”, and experiences of popular education have once again spread (Antonini, 2019; De Meo, Fiorucci, 2011; Stillo, Zizioli, 2021) to control the phenomenon of school dropout and new forms of educational poverty.

The common element of both past and present experiences is the effort to fight the injustices and exclusion processes (Mayo, Vittoria, 2017), and therefore countering forms of oppression (Torres, 1987).

From this perspective we raised the need to investigate this phenomenon with qualitative research tools, by choosing Rome as a privileged study laboratory. This has been useful also to consolidate the network between different schools which are active in territories and suburbs that are at higher risk of exclusion (Zizioli, Stillo, Franchi, 2024).

The poster shows the first outcomes of this research, which aims to systematize practices and capitalize experiences in order to rescue them from invisibility. In this way experiences can become a strategy to build a dialogue with public institutions, promote educational continuity between school and non-school, and underpin creation of educating communities.

**Keywords:** popular school; right of citizenship; empowerment

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## USING AUGMENTED REALITY PROTOTYPES FOR LEARNING MATH

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In the fast-paced world of technological progress, it is vital to update educational methods, even in the field of Mathematics Education.

Various studies regarding the use of Mixed Reality (MR) in Mathematics Education, have shown that the use of such an emerging technology can generate an increase in engagement and interest, and an improvement in visualization and spatial ability in the students (Bulut; Borromeo Ferri, 2023; Lei et al., 2018).

Within the TransEET project, Transforming Education with Emerging Technologies, the Department of Mathematics of the University of Turin, developed a Mixed Reality application called “Function Virtuality”. Function Virtuality is an application made in Unity that aims to enrich the learning experience by merging interactivity with a visually and auditorily engaging environment. This application allows students and enthusiasts to delve into the intricacies of function graphs set within a three-dimensional space that blurs the boundary between the physical and digital worlds. By using a headset, users can interact with and manipulate both parametric and non-parametric function graphs. They can adjust parameters and ranges, witnessing the immediate impact of these changes. The application enables users to extract each graph from the virtual environment and manipulate it—rotating, resizing, and recoloring it within the mixed-reality space.

This application is designed to facilitate a novel interaction with mathematical objects, enhancing the 3D visualization of surfaces with two variables. The adoption of this kind of technologies enables the development of innovative teaching strategies to tackle misconceptions related to the visualization of mathematical concepts (Trigueros et al., 2022).

A standout feature is the ability to synchronize graph movements with music, allowing users to see the mathematical representations dance to the rhythms and harmonies, making the learning process more engaging and enjoyable.

In a pilot study, we experimented with this application with a small group of university students with some activities designed to act as a bridge (Geraniou & Mavrikis, 2015) toward the resolution of traditional pen-and-paper tasks.

During the poster session, some preliminary insights from the class experiment will be presented. Function Virtuality offers a novel way to visualize and interact with mathematical concepts, making them more accessible and relatable. It is a step towards making mathematics more tangible and less abstract, encouraging exploration and discovery in a creative and immersive setting.

**Keywords:** augmented reality; mathematics education; learning

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## THE MEDIATING ROLE OF PROFESSIONAL HAPPINESS IN THE WORK OF A TEACHER

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Relevance. Different factors reflecting the values of a certain period, cultural stereotypes prevalent in society, ideologies of the scientific direction of education, social and educational ideologies, directly/indirectly determine the professional happiness of teachers. On the other hand, there are important links between professional happiness and attitudes of the school community, such as professional satisfaction/dissatisfaction, professional burnout, stable/unstable emotional state, respectively influencing the quality of work performed by teachers.

Research questions: what professional and schoolwork factors affect/do not affect Lithuanian teachers' subjective perception of happiness in their profession?

The aim is to reveal the connections between professional happiness and the quality of the teacher's professional activity.

Methodology. Analysis of scientific literature was selected for the theoretical explanation of the research problem as well as a quantitative research method was selected for the empirical research. The indicators in the scales (16) of the questionnaire made it possible to determine the correlations between professional happiness and many aspects of the professional activity of Lithuanian general education school teachers. The data obtained during the study were processed with SPSS 23.0 and MS Excel programs adapted for the Windows operating system. Descriptive and probability (factor and cluster analysis) statistics were used to process closed-ended responses. The survey included 1902 teachers.

The main results. It can be assumed that the teacher's subjective feeling of happiness is complexly related to the teacher's professional activity and its wider context. Conditionally the strongest correlates of the subjective perception of happiness in the population of Lithuanian teachers are risk of professional burnout, self-assessment of physical and mental health, professional motivation (external and internal), lack of locus of control, balance between work and personal life, professional self-regulation, and self-confidence in professional activities.

**Keywords:** professional happiness; teacher; quality of work

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## THE INTERNSHIP: AN OPPORTUNITY FOR TRAINING AND PEDAGOGICAL EXCHANGE

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Initial training for nursery and primary school teachers begins with the internship experience within the Primary Education Sciences degree course. The internship is a fundamental element and offers them the opportunity to apply the theoretical knowledge acquired in class in daily teaching practice. Within this training path, the figure of the welcoming teacher/tutor who accompanies the student in the school experience by providing constructive feedback and acting as a guide in teaching decisions helps students to develop a more in-depth understanding of the teaching profession. This role leads the teacher to leave his "comfort zone" by accepting the challenges proposed by the entry of the trainees. As Baldacci says «the teacher is not a teacher only by virtue of his experience (which, indeed, can crystallize routine practices that are the opposite of the research attitude). [...] the teacher can become a researcher by virtue of a certain training path, learning to adopt a highly thinking attitude and open to experimenting with hypotheses with respect to the problems of teaching practice. And in this way he can learn to learn intelligently from his own experience." (2022). This is what happens within the internship training courses of fourth and fifth year students of UNIMORE primary education sciences through a "pedagogical exchange" path, which sees the school enter the university and the university enter the school. This exchange starts from a common training path to support the teaching/learning processes that will develop in the activities proposed by the interns. This contamination allows the teachers of the educational institutions involved to grasp the innovative and training potential that the course of study offers them through "project-based" internship paths, giving rise to the desire to innovate the teaching methodologies in place through action research led by expert researchers.

**Keywords:** training; internship; teaching innovation

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# EXPLORING NOVICE TEACHERS' NEEDS IN STUDENT-CENTERED CLASSROOM BEHAVIOR MANAGEMENT

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One of the greatest challenges novice and experienced teachers face in their classrooms is managing student behavior (OECD, 2019). Effective communication skills are crucial for successful classroom behavior management (Emmer & Evertson, 2012). Specifically, student-centered classroom behavior management communication skills promote a safe and productive learning environment and lead to lower amount of challenging student behavior and greater student learning outcomes (Karasova & Nehyba, 2023). Our research explores the specific needs of novice teachers in student-centered classroom behavior management communication skills. Employing a qualitative research design, we conducted semi-structured interviews with eight novice teachers, guided by the research question: What are novice teachers' needs in student-centered classroom behavior management communication skills? Our findings reveal that while novice teachers recognize the value of student-centered communication and are willing to use it in their classrooms, they feel ill-equipped to implement such strategies in challenging classroom situations. This suggests a gap between novice teachers' theoretical understanding and practical application of the skills in the classrooms. The findings of this study emphasize the necessity for teacher education programs to concentrate more on practical aspects of classroom management in their courses, rather than just theoretical knowledge. Further, it emphasizes the importance of further professional development for novice teachers, specifically in classroom behavior management. The presentation will provide an overview of the theory behind student-centered classroom behavior management, explore the study's results, and propose actionable recommendations for both teacher education curricula and professional development programs.

**Keywords:** classroom management; novice teachers; student-centered

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# INTEGRATION OF THE SINCRONY METHOD IN PHYSICAL EDUCATION DURING SCHOOL AGE IN THE DIGITAL ERA

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## Introduction:

In a modern educational context marked by pervasive use of digital technology, this study explores the effectiveness of the Sincrony method in enhancing sustained attention and motor skills in pre-adolescent girls. Considering that intense digital exposure might impact attention and motor development, the Sincrony method is adopted as a tool for conscious motor pedagogical intervention, aligned with theories of psychomotricity and embodied cognition.

## Materials and Methods:

The research involved three homogeneous groups of girls, selected based on health criteria, ethnicity, and weekly hours of digital exposure. Over a 12-week period, the first group participated in structured movement sessions using the Sincrony method, which integrates physical activity with cognitive awareness through specific playful-motor exercises for both peripheral vision and centering. The second group engaged in coordinative playful-motor activities, while the third group served as a control without participation in integrative programs. Pre and post-intervention, all participants were assessed through the Trail Making Test (Parts A and B), Digit Span Test, standardized motor tests, and morphological-structural evaluations.

## Results and Conclusions:

The results showed a statistically significant improvement in sustained attention in the group trained with the Synchrony protocol, compared to the other groups. Both groups one and two showed tendencies for improvement in motor tests.

This study highlights the effectiveness of the Synchrony method in improving both sustained attention and motor skills in pre-adolescents heavily exposed to digital tools. The findings suggest that integrating conscious motor practices may be an effective strategy to mitigate potential negative effects of intensive digital technology exposure, promoting balanced cognitive and motor development in an integration of pedagogical theories, physical education, and the cognitive dimension of children in the digital era.

**Keywords:** sincrony method; sustained attention; motor development

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# HOW THE TEACHER TRAINING AND PROFESSIONAL DEVELOPMENT COULD IMPROVE THE STEM INNOVATION CHALLENGES ALSO FOR RECRUITMENT AND IN RETENTION

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The objective of this project was to compare international educational realities that have conducted researches to enhance the recruitment and retention of teachers across various school levels. International studies looked at the operational choices in the selection of teachers who in all contexts are believed should be able to explain and communicate with high effectiveness and passion. The entire training framework in a global context is cognizant of the significance of encountering charismatic new teachers capable of instilling in youngsters a desire for effective methodological innovations in keeping with traditional cultural traditions, not merely adherence to routine procedures. Therefore, teachers should be convinced that the time spent with their students in the classroom during laboratorial didactic experiences is of real significance to promote soft skills and cognitive skills, enhancing lesson time. In the selection of teachers, that is of priority importance especially in STEM disciplines, the choice of human resources not performers of pre-established organizational and standardized tasks, but educators with creativity, high passion and skills for communication and didactic research, aspiring teachers that can also be really valued for their personal training and professional specificity. It is shared that the best method is to recruit teachers with high educational STEM passion who are able to create an effective educational and training dialogue with their students. Fundamental is a solid cultural preparation in the area of competence, which depends on the seriousness of the results achieved in the training path prior to accessing the teacher's job and which should not be underestimated. Reductive multiple-choice tests have been overcome in many contexts for recruitment of teachers. Are considered very useful the selections implemented with an international model that favor the importance of articulated interviews of teachers integrated with some simulated lessons to identify real aptitudes for the profession: the good teacher is the result of reasoned reworkings of cultural, professional and didactic experiences skillfully conceived and coordinated over time, combined with passion and educational sensitivity, all important elements also to promote the retention of teachers in the same school, analyzing the better work conditions for teachers. As in the questions proposed and answers elaborated in European and UK groups of educators, the innovation in digital STEM education should be more than ever an operational challenge to actively involve young people who expect to be protagonists in interpreting reality, to understand and to analyze the historical phases, and to know the human resources that have determined the cultural and scientific evolution in different fields. Innovative, attractive teaching not through forced modernity, to keep up with the times in extracurricular projects, but above all to win the interest of students during curricular lessons, to remove operational liabilities, to give everyone the opportunity to understand the beauty of knowledge, of reasoning with awareness on facts and events, of producing new knowledge for oneself and for others.

**Keywords:** innovative teaching methodologies; STEM teaching and learning; teachers recruitment and training

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# VIDEOS AS PROFESSIONAL DEVELOPMENT TOOLS: A QUALITY LEAP IN TEACHING

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Teachers' professional vision is a fundamental competence that enables educators to notice, interpret, and effectively intervene in the complex dynamics of the classroom (Huang et al., 2021; Vantieghem et al., 2020). The concept of professional vision, originated by Goodwin in 1994, was later introduced into educational research by Sherin in 2001, emphasizing an evidence-based approach and the importance of critical reflection in this context (Grub et al., 2020; König et al., 2022). As the concept has evolved, it has been recognized as an essential component of teacher competence, integrating models such as learning to notice, reasoning, and the processes of perception, interpretation and decision-making and recently, the concept of visual expertise (Gentile & Tacconi, 2016; Gegenfurtner et al., 2020; 2022; Seidel & Stürmer, 2014; van Es & Sherin, 2021). These theoretical discussions underline the importance of refining professional vision for effective teaching by fostering a deeper understanding of classroom interactions and pedagogical strategies (Muhonen et al., 2023; Keskin et al., 2023). Studies have shown that the use of videos can significantly enhance this capability, providing teachers with a potent tool for self-assessment and professional development (Farrel et al., 2022; Weyers et al., 2024). By examining real-life teaching cases, teachers can reflect on their practices, identify strengths and areas for improvement, and implement innovative solutions to create a stimulating and accessible learning environment for all students. Therefore, the strategic use of instructional videos marks a significant advance in the development of teaching professionalism, highlighting the critical role of professional vision in enhancing instruction and learning in contemporary classrooms. This abstract proposes the implementation of a platform that embodies professional vision by serving as a key resource for teacher professional development, representing a significant evolution in teacher education and emphasizing the importance of innovative tools to enhance professional skills and improve teaching.

**Keywords:** professional vision; teacher education; video analysis

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# THE CONSTRUCTION OF THE CANON OF MONTESSORI EDUCATION BETWEEN HISTORY AND CULTURE

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The purpose of this research project is to examine the contents and programs of Montessori courses held in Italy in the first half of the 20th century, to analyze the historical and cultural constitution of what has been defined as the canon of Montessori education (Scocchera, 2000), with particular attention to the preparation of the Casa dei Bambini teachers.

With the term canon - from the Greek κανών -όνος stick, a ruler used by craftsmen in their work - we mean the foundations, the rules that have been delineated and handed down in the succession of training courses: "without prejudice to the personal variables of the trainers [...] knowledge of the method coincides with direct work with the children, with the analysis and exercise of the materials proposed to them, with the cultural curriculum discovered in their activities, with the observation of their needs that belong to life and its laws. And, finally, possible denials can only arise from within the very educational reality that one intends to judge" (Ibid, p.298).

The reconstruction of the time and manner of the establishment of this canon - and the verification of it - will proceed hand in hand with the investigation of the specificity of Montessori education, which had its places and was nourished by collaborations that were often extraneous to canonical teacher training and academic pedagogy. The research also aims to investigate and understand, through unpublished documents, how the canon was passed on after Maria Montessori died in 1952.

In tracing the evolution of the Montessori specificity, the account will be taken of the network of relationships that sustained the pedagogist in the organization and management of the courses, of the changing socio-historical and cultural contexts, and of their possible influence on the Montessori educational proposal.

**Keywords:** Montessori; Montessori teacher training; teachers.

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# MUSIC AS AN INCLUSIVE TOOL FOR PROMOTING A SUSTAINABLE CULTURE

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The primary focus of this research project conducted in a secondary school is to examine the outcomes of implementing Technology Enhanced Active Learning (TEAL), particularly using a wearable bio-feedback tool. The tool converts electrical variance of plants into musical notes, aiming to enhance students' connection with nature and promote pro-environmental behaviors. The participants were divided into control and experimental groups, with pre and post-implementation questionnaires shaping the discussion of results.

The intervention targets not only students with special educational needs but also the entire class, fostering active and personal participation through the inclusive nature of Orff music and instrumentation. The digital and musical instruments used make the intervention accessible to students and teachers without formal musical training.

Recent studies propose that integrating art, particularly music, into children's interaction with nature can heighten sensitivity to natural stimuli, fostering authentic relationships and eliciting prosocial and pro-environmental responses. Music, serving as a conduit for ecological literacy, can provoke biophilic responses. Research indicates that music creation involving nature enhances connection, emotional well-being, and creative reasoning. As the world witnesses increasing disconnection from nature, data suggests that children's music creation facilitates interactivity with nature, acting as a tool to connect humans with the natural world. Studies also reveal that making music outdoors in rural landscapes positively impacts creativity, expressiveness, and the inclination to experiment. Authors agree on the significance of developing a connection with nature during childhood. The research project explores the synergy of art and technology, investigating whether this amalgamation can establish meaningful connections with the natural environment through listening, production, and reflection experiences. Ultimately, the study delves into the potential of human artifacts, specifically the combination of art and technology, to cultivate profound connections with the natural world.

**Keywords:** nature; music; inclusion

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## NATURE CONNECTION AND MUSIC IN EARLY EDUCATION: INSIGHTS FROM THE CNS-CH SCALE AND TEAL METHODS

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This study explores the connection between music, technology, and nature through the analysis of results obtained from the CNS-ch scale (Connectedness to Nature). The measure of the personal relationship with nature is linked to the scores of students aged between 6 and 11 years old. Biophilia, understood as humans' innate affinity with nature (Barbiero & Berto, 2016), offers a fundamental perspective for understanding individual and collective well-being, as well as the regenerative potential of nature, and the imperative to preserve it. The use of technology enhanced active learning processes, known as TEAL, provides an innovative and inclusive context to integrate the connection with nature into educational processes, beyond the traditional protocols of environmental education intervention promoted in the Italian educational context. This study provides valuable insights for educators, education designers, special needs teachers and researchers interested in promoting more meaningful learning through the use of technologies capable of converting the electrical variance of plants into musical notes, on which children can improvise using percussion instruments or their voices. The aim is to assess children's perception of their connection with nature through the use of innovative teaching methodologies that leverage music as a propelling tool.

**Keywords:** nature; TEAL; education

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# TEACHING MOUNTAIN LITERATURE: PEDAGOGICAL ENTANGLEMENTS FOR AN ECOPELAGOGY

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In our ever-evolving Anthropocene era, grappling with new complexities is essential. This prompts the question: How can pedagogy navigate this intricate landscape effectively? Rather than offering a broad remedy, we propose a specific approach: teaching mountain literature as a conduit for a pedagogy of entanglement.

Firstly, why a 'pedagogy of entanglement'? Drawing from influential new materialist ideas such as Baradian concepts of 'intra-action' and 'entanglement,' or Bennett's notion of 'vibrant matter,' we highlight humans' profound entanglements within the world. Here, distinctions between human and non-human blur, urging educators to recognize and cultivate students' awareness of these intricate connections.

Secondly, why teach mountain literature? Grounded in material ecocriticism, this approach acknowledges 'entanglements' and the 'agency of matter' in an ecocentric framework. Mountain literature uniquely showcases ecosystem dynamics, elevating non-human elements like trees, animals, rocks, and water. By foregrounding these relationships, students gain insight into complex ecological interdependencies. Moreover, mountain literature fosters a sense of responsibility in navigating complexity. By immersing students in narratives where human narratives take a backseat, educators can inspire them to engage responsibly with entangled realities. Here, responsibility isn't merely an obligation but a 'response-ability'—the capacity to address complexity with awareness and action, as posited by Lévinas. In essence, teaching mountain literature could offer a potent pathway towards cultivating a pedagogy of entanglement. It empowers educators and students alike to embrace complexity, fostering a deeper understanding of interconnectedness and nurturing a sense of responsive engagement with the world.

**Keywords:** entanglement; pedagogy; mountain literature

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# TEACH4SOCIALGOOD: TEACHER TRAINING TO PROMOTE SOCIAL-EMOTIONAL AND MORAL INVOLVEMENT IN CYBERBULLYING

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## Pertinence and context

Teachers can contribute meaningfully to promoting a positive school climate and to prevent violent behavior among students, such as cyberbullying. However, they often struggle to recognize this type of aggression. Moreover, teachers frequently do not feel responsible for intervening in cyberbullying, or do not know how to deal with these situations or how to prevent them. Thus, there is a need to develop tailored teacher training to overcome these difficulties.

## Aims

A certified professional teacher training, Te@ch4SocialGood was developed based on needs assessment, and was implemented and tested in Portuguese public schools, as part of the project Te@ch4SocialGood: promoting prosociality in schools to prevent cyberbullying (PTDC/PSI-GER/1918/2020). The aim was to promote teachers' social-emotional and moral involvement in cyberbullying, which can provide a more proactive and pro-social behavior concerning this phenomenon. To achieve this goal, this intervention included digital tools along with other resources, namely the serious game Pro(f)Social, and the digital platform Te@ch4SocialGood.

## Description of the experience

Approximately 50 middle school teachers from 8 schools in the Lisbon metropolitan area participated in the Te@ch4SocialGood intervention during one school year. The intervention involved 12 on-site sessions with hypothetical cyberbullying situations, a serious game, a digital platform, social agents, and a cybersecurity component. Also, autonomous activities were proposed to teachers, including classroom tasks with their students related to cyberbullying. The main content of the training included identifying cyberbullying (e.g., definition, warning signs, protective and risk factors), moral involvement (e.g., moral disengagement mechanisms), social-emotional skills (i.e., empathy, emotion regulation, communication skills, conflict management), and prevention and intervention strategies focusing on a whole school community approach.

## Conclusions

The Te@ch4SocialGood training and respective resources contribute to provide the necessary knowledge and training for teachers on how to prevent and deal with cyberbullying. Also, it intends to develop their social-emotional skills and their moral involvement in these situations among students. The digital resources allow to develop alternative and novel tools to be integrated in professional teacher training that can be applied in future research-based intervention in cyberbullying.

**Keywords:** cyberbullying; teachers; moral involvement; social-emotional skills; digital tools

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