



INSET CONTENT TOWARDS TEACHERS' PROFESSIONAL DEVELOPMENT IN THE 21ST CENTURY: GLOBAL CHALLENGES

Maria Tzotzou¹,
Maria Poulou,
Thanassis Karalis,
Amalia Ifanti

Department of Educational Sciences,
and Early Childhood Education,
University of Patras,
Greece

Abstract:

The present paper discusses whether INSET content includes new thematic fields in line with the European and supranational directions as a result of the global advancements towards teachers' efficient training and professional development in the 21st century. To this end, a review of the scholarly literature focusing on the official papers of supranational institutions has been carried out, along with an empirical study which investigates the extent to which INSET content has been updated to contribute to teachers' professional development. As regards the empirical study, the quantitative research method was selected to gather data via an online questionnaire answered by 290 in-service state-school primary teachers. The research questions examine whether INSET content (a) includes topics related to 21st-century socio-educational challenges, (b) addresses modern state-school issues, (c) responds to teachers' actual training needs, (d) satisfies teachers and/or needs revision. According to the research findings, INSET content seems to be out-of-date since modern educational topics deemed to be of crucial importance in the 21st-century education, such as global citizenship, human rights education, intercultural education and school bullying issues are included in teachers' in-service training only to a minimum extent. Quantitative data also reveal deficient investigation of teachers' training needs which results in a severe gap between INSET content and their actual training needs. Last but not least, findings raise implications for INSET content reform and update in order to focus on modern thematic fields as a prerequisite for teachers' professional development in the 21st century via the systematic investigation of both teachers' and schools' needs.

Keywords: INSET content, teachers' professional development, in-service training, 21st-century challenges, training needs, thematic fields/topics

¹Correspondence email: m.tzotzou@upatras.gr

1. Introduction

The 21st-century teachers need to be constantly open-eyed and aware of the new educational challenges and demands arising from the ongoing global developments in order to equip young people with knowledge and skills deemed to be necessary for their active integration into the globalized society (OECD/E.C., 2010· OECD, 2014, 2016b· UNESCO, 2014a). To this end, in-service training (INSET) content should be constantly revised to include updated thematic fields to provide teachers with the necessary training support in order to be able to fulfill their multifaceted, complicated and demanding role in the era of globalization (European Commission, 2002· European Commission/EACEA/Eurydice, 2015· OECD, 2015b, 2016b· OECD/E.C., 2010· Tzotzou & Poulou, 2023· Tzotzou *et al.*, 2021, 2024).

Traditionally, teachers' professional development has been associated with the improvement of learning results for the sake of improving students' performance and attainments as regards hard skills such as literacy or numeracy instead of the higher order thinking skills that can help students identify, evaluate, create, manage and apply knowledge that is relevant and necessary for them to take action in the 21st-century international landscape as global citizens (Bellibas & Gumus, 2016· Dede, 2010· Karagiorgi & Symeou, 2006· OECD, 2015b, 2016b· Sigurðardóttir, 2010· Szelei & Alves, 2018· UNESCO, 2014a). The present paper discusses INSET content laying emphasis on thematic fields prescribed by supranational organizations (European Commission, OECD, UNESCO, United Nations) and global trends as major modern issues for the 21st-century education, such as school bullying, human rights education, global citizenship, intercultural education (Carneiro & Draxler, 2008· DeNobile & Hogan, 2014· European Commission, 2002· European Commission/EACEA/Eurydice, 2015· Farrelly, O' Higgins Norman & O' Leary, 2017· Maastricht, 2002· OECD, 2015b, 2018· OECD/Asia Society, 2018· OECD/E.C, 2010· Rigby, 2007· Rosen *et al.*, 2017· Trinder, 2000· Tzotzou *et al.*, 2021· UNESCO, 2014a, 2014b, 2018· United Nations, 2016· Uzerli & Kerger, 2010). In other words, the present study focuses on INSET aspects related to shifting the research interest from professional development towards the achievement of short-term quantitative objectives to the achievement of long-term qualitative objectives which are deemed to be necessary conditions for the sustainability of the local and global community in the era of global citizenship (Andreotti, 2006· Caena, 2011· Council of Europe, 2017· European Commission, 2013· Guo, 2014· Ibrahim, 2005· Kivunja, 2015· Longview Foundation, 2008· Luksha *et al.*, 2018· Rapoport, 2015· Tzotzou *et al.*, 2021· UNESCO, 2014c, 2015b, 2018· Zhao, 2010).

It is also worth noting that the majority of previous similar studies have focused mostly on more traditional and rather standard topics (e.g. teaching methodology, curricula, education leadership) while only a minimum number of studies have included and investigated via their research tools modern training topics such as school bullying (Boulton, 2014· Lekunze & Strom, 2017), human rights education (Karagianni G., 2018· Pereira, 2013· Symeou *et al.*, 2009) and global citizenship (Ghosn-Chelala, 2020· Lagace *et*

al., 2016). That is why the present empirical study investigates the extent to which teachers have been trained in thematic fields related to crucial modern educational topics due to the ever-changing socio-educational context as well as whether teachers' training needs have been analyzed so far in relation to the 21st-century educational challenges.

2. Literature review

2.1 INSET content in the 21st century: global challenges

Scholarly literature has highlighted the necessity for INSET adjustment to new socio-educational data by recognizing and taking into serious consideration the dialectical relationship (interrelationship) between school and society; that is, the changes occurring in the school classroom reality along with the emerging new educational demands as a result of the global developments in the broader ever-changing socio-cultural context (Asimaki, 2005· Bjekić *et al.*, 2014· Giannopoulou, 2004· Ghosn-Chelala, 2020· Harju & Niemi, 2016· Karagianni G., 2018· Öztaşkin, 2010· Pang *et al.*, 2016· Pereira, 2013· Symeou *et al.*, 2009· Szelei & Alves, 2018· Tzotzou *et al.*, 2021). For instance, Asimaki's (2005) and Karagianni's (2018) quantitative studies illustrate the need for a constant INSET content reform and update due to the socio-economical developments which produce new pedagogical concerns, problems and needs (e.g. multicultural classrooms, need for immigrant and refugee students' inclusion and integration into school system, social racism and violence, digital revolution, etc.). Specifically, in the literature, there is a range of crucial modern thematic fields which are deemed to be necessary for teachers' in-service training nowadays, as follows:

- **Modern teaching approaches**

In the last decades, global pedagogical trends lay emphasis on learner-centered teaching methods in terms of active learning (e.g. case studies, project method, role play, brainstorming) to activate students' interest and participation in the learning process towards their holistic development (cognitive, social and psycho-emotional) by capitalizing on the digital technology which can facilitate learner-centered teaching approaches to achieve collaborative, cross-curricular and innovative learning (Good, Wiley & Florez, 2009· Javrh & Mozina, 2018· Tzotzou, 2016· UNICEF, 2010, 2017· WHO, 2020· Zembylas, 2004). The traditional role of school teachers has been outdated and fundamentally challenged to facilitate students' learning and create productive classroom environments in which students can experience and develop the real-life skills they need at present and in the future to enter the 21st-century workplace as global citizens, that is as active, responsible and thoughtful participants of the global ecosystem (OECD/Asia Society, 2018· Tzotzou *et al.*, 2021· UNESCO, 2015b, 2016a, 2016b). De facto, teachers' role, nowadays, includes much more than teaching in classrooms and has expanded to creating new learning environments as well as collaborating and networking with others, inside and outside the school and classroom boundaries, as active participants of the global educational ecosystem (Luksha *et al.*, 2018· Tzotzou *et al.*,

2021· UNESCO, 2015b). More specifically, the 21st-century teacher is challenged to shift from the teaching of core content knowledge and memorization skills to equipping students with real-life and real-world skills, such as innovative, collaborative, critical thinking and cross-cultural skills (Ananiadou & Claro, 2009; Kivunja, 2015· Tzotzou *et al.*, 2021). In this regard, it is essentially important to teach students 'how' to learn to equip them with 21st-century skills and global values, abandoning the traditional 'transmissive' model of teaching in which pre-digested knowledge is mechanically transmitted from an authoritative source to students (Dede, 2010· Luksha *et al.*, 2018· OECD, 2015b, 2016b· Teo, 2019· Tzotzou *et al.*, 2021). To this end, INSET content reform and updating are necessary to equip teachers with the appropriate theoretical knowledge and skills on modern teaching approaches, shifting the center of gravity from teaching to learning, from knowledge transmission and memorization to students' skills development and metacognition (European Commission/EACEA/Eurydice, 2015· OECD, 2018). Teachers' need to be trained in modern teaching approaches has already been recorded by other studies as well (Gantidou, 2004· Güneş *et al.*, 2011· Jan, 2017· Karagianni G., 2018· Kavak *et al.*, 2012· Sabri, 1997· Vlachou & Panitsides, 2017).

- **Differentiated teaching/learning**

The concept of differentiation is inherent in the school context given that every year teachers are asked to manage in a pedagogically appropriate way a number of students characterized by high heterogeneity as regards gender, learning profile, mental abilities, cognitive background and socio-cultural origin (European Commission, 2007). Differentiated teaching constitutes a human-centered pedagogical approach which can assure educational equality in a holistic way, providing equality of access, opportunities, learning objectives and results aiming at promoting democracy and social justice via respect and tolerance to otherness, especially in multicultural classrooms (Koutselini & Agathagelou, 2009· Tzotzou, 2016· Uzerli & Kerger, 2010). To this end, INSET content should include issues related to differentiated teaching and learning to help teachers effectively manage mixed-ability classes due to students' manifold heterogeneity with the aid of new technologies (European Commission, 2007). Previous studies have already recorded teachers' need to be trained in differentiated teaching (Bouguen, 2015· Gantidou, 2004· Harju & Niemi, 2016· Jan, 2017· Symeonidou & Phtiaka, 2009· Symeou *et al.*, 2009). Symeou *et al.* (2009) illustrate teachers' difficulties in applying differentiated teaching approaches in actual school practice to achieve the effective inclusion of all students, while Harju and Niemi (2016) feature the imperative need for teachers' training in this field in order to be able to modify their teaching methodology to respond to the individual needs of all students. Furthermore, Karagiannis' study (2018) points out the fact that the increasing number of students with different socio-cultural origins, learning difficulties and emotional disorders necessitates teachers' training in differentiated teaching issues.

- **Digital training**

In the era of digital revolution, INSET content should lay emphasis on teachers' digital education to equip them with the necessary digital skills to be able to use ICTs (Information and Communication Technologies) for their students' benefit by encouraging and guiding them to knowledge quest, assessment and consolidation (Ananiadou and Claro, 2009· OECD, 2016a· Tzotzou, 2017· UNESCO, 2015a). UNESCO (2003) stresses the major significance of teachers' training in ICTs as digital technology can facilitate all students' access to learning, assuring great learning benefits. For instance, the pedagogical use of digital and internet tools can facilitate communication and interaction with people of different national, cultural and racial origins, positively affecting students' intercultural awareness against any discrimination or xenophobe and racist ideologies (Tzotzou, 2018· UNESCO, 2014b). Teachers' training in digital citizenship issues is considered to be extremely needful as regards digital literacy, the formation of appropriate attitudes and behavior on the basis of principles and rules in internet use, security issues and privacy protection as well as the creative, responsible and secure use of internet in educational action (European Commission/EACEA/Eurydice, 2015· Tzotzou, 2017, 2018· UNESCO, 2015a). Several studies have recorded teachers' need to be trained in the pedagogical use of ICTs in order to succeed in their educational work and thus develop themselves as professionals (Asimaki, 2005· Bellibas & Gumus, 2016· Ghosn-Chelala, 2020· Güneş *et al.*, 2011· Harju & Niemi, 2016· Karagianni, 2018· Ninlawan, 2015· Öztaşkin, 2010· Tzotzou, 2020· Vlachou & Panitsides, 2017). Öztaşkin' study (2010) points out that INSET should equip teachers with the necessary knowledge and skills to enable them to adapt themselves to rapid technological developments by adjusting their methods and materials. Ghosn-Chelala (2020) underlines the fact that in the era of digital citizenship, the pedagogical integration of new technologies into the learning process can enrich teaching methodology to foster the global citizenship education vision with significant benefits both for students and teachers, contributing critically to their professional development.

- **Intercultural education**

Given that developed societies undergo a kind of internal transformation due to the inflow of a large number of immigrants and/or refugees, especially in the last decades, INSET content needs to be reformed according to the new 21st-century orientations prescribed by the intense multicultural social and educational context (Tzotzou, 2016· UNESCO, 2014a, 2014b). The modern sociopolitical data related to the outbreak of nationalism, xenophobia and racism feature the need for teachers' training in intercultural education with the aim of understanding and managing students' ethnocultural heterogeneity on the one hand and awareness of global citizenship and human rights issues on the other hand as a prerequisite for social sustainability, cohesion and solidarity in the 21st century (Tzotzou *et al.*, 2021· UNESCO, 2018). 'Learning to live with others' has been emphatically highlighted by UNESCO (2014a) as the most important pillar of modern education; hard to achieve but vital as it relates to the

awareness of multiculturalism via the knowledge of other cultures; the recognition and tolerance of their special characteristics; the value and degree of their interrelationship (Tzotzou, 2016· UNESCO, 2002). On the grounds that teachers nowadays have to cope with multicultural, intercultural and hypercultural challenges, the crucial issue of new cultural models on the basis of which new generations need to live and coexist harmonically proves to be of paramount importance and as a result, teachers need to be trained to be able to infuse young people with mutual respect to foreigners (Carneiro & Draxler, 2008· UNESCO, 2014b). 21st-century teachers need to be trained appropriately to develop intercultural awareness through contextualized training activities of professional development focusing on the prevention and confrontation of discrimination against xenophobia and racism in school contexts characterized by high ethnocultural heterogeneity (European Commission, 2007· UNESCO, 2014b). Several studies have illustrated teachers' need to cope with the educational challenges and demands emerging in multicultural classrooms, especially the last decades due to the globalization phenomenon (Acquah, Tandon & Lempinen, 2016· Asimaki, 2005· Asimaki *et al.*, 2018· Fine-Davis & Faas, 2014· Golub, 2014· Karagianni G., 2018· Symeou *et al.*, 2009· Szelei & Alves, 2018· Szelei *et al.*, 2020· Vlachou & Panitsides, 2017). For instance, Szelei *et al.* (2020), Acquah *et al.* (2016), Fine-Davis and Faas (2014) point out teachers' strong desire for the interconnection between their professional development and intercultural education while underlining the significance of teachers' recognizing and understanding cultural diversity. A similar study by Golub (2014) has recorded the outstanding learning benefits related to the development of both teachers' and students' intercultural awareness and competence.

- **School bullying and violence**

The role of education in preventing violence and extremist behaviors has been emphatically marked as a major priority by the global community (Maastricht, 2002· Trinder, 2000) while UNESCO (2009, 2011, 2016c) recognizes teachers' crucial role in preventing and confronting violence, victimization and bullying phenomena in schools contributing to the elimination of the reasons causing violent behaviors such as marginalization, inequalities and discriminations by raising students' systematic awareness. To this end, INSET content should include school bullying issues in order to help teachers develop their own awareness to be able to understand the multifaceted nature of the phenomenon to be able to act effectively by applying appropriate pedagogical techniques and interventions (Gradinger, Strohmeier & Spiel, 2017· Rosen, Scott & DeOrnellas, 2017). Teachers need appropriate training support to be able to foster students' socio-emotional skills via experiential pedagogical practices to cultivate mutual respect, empathy, solidarity and tolerance of otherness (Farrelly *et al.*, 2017· Rigby, 2007). Previous studies have stressed teachers' training as a prerequisite to the development of a school culture against school bullying phenomena (Cawagas, 2007· Eslea & Smith, 2000). Given that school bullying has been spread globally to a worrying degree in the last decades, teachers have a determinant role to play in conflict and violence

management especially and essentially as regards prevention (Boulton, 2014· De Luca *et al.*, 2019· Didaskalou & Millward, 2001· Psalti, 2012· Rigby, 2004· Sapouna, 2008). According to O' Moore (2000), Kokko and Porhola (2009), teachers' continuous training on bullying evidence, reasons and effects as well as on the ways of managing bullying incidents in general via the change of attitudes, behaviors and perceptions in actual school life promoting an anti-bullying school culture has proved to be a major necessity (Olweus, 2009).

- **Human rights education**

According to UNESCO (2014b), teachers' in-service training should include human rights education as a main thematic field in order to assure social sustainability in the global community. 21st-century teachers need to be trained in human rights on the one hand in order to be initially aware themselves of all-time great and fundamental values such as social justice, democracy, respect for diversity, equality, solidarity and peace; on the other hand, to be able to develop those skills allowing them to integrate appropriate learning activities into the educational process with the aim to raise young people's awareness in support of human rights education against anti-social phenomena of violence, racism, xenophobia and terrorism raging across the planet (OECD, 2018). Supranational organizations have constantly underlined the necessity to train teachers on human rights education issues in an attempt to promote understanding and respect for universal values through the development of attitudes, perceptions and behaviors which will contribute to humanity's prosperity. To this end, INSET content should provide teachers with the opportunity to know about and appreciate the principles and rules, values and mechanisms underpinning the protection of human rights (OECD, 2018· UNESCO, 2014b). Human rights should be an essential part of the lifelong process of teachers' professional development for the development of attitudes and competences necessary to enable them to encourage young people to contribute to the advocacy of a universal culture for human rights (OECD, 2018· UNESCO, 2018). However, it is worth noting that although UNESCO (2011, 2015b, 2017) stresses emphatically the need for a school practice based upon human rights, promoting the idea of the school of human rights via the cultivation of universal values (empathy, peace and social justice) so that 21st-century students will be able to live in a peaceful and sustainable global community (OECD/Asia Society, 2018· Tzotzou, 2016· UNESCO, 2014c, 2018), a limited number of studies refer to human rights education in relation to INSET content (Karagianni G., 2018· Pereira, 2013· Symeou *et al.*, 2009). For instance, Pereira's qualitative study (2013) on the critical review of teachers' in-service training in Portugal has recorded the social demand for INSET content focusing on issues of socio-educational nature which require democratic schools respecting all students' rights with the ultimate goal of the creation of a democratic society of citizens with high sense of social justice.

- **Global citizenship education**

UNESCO (2018) emphasizes the need for teachers' training support in their mediating and transformative role to prepare their students to become productive, moral and responsible citizens in a rapidly changing and increasingly interdependent world. Globally, the national educational systems charge teachers with the onus of forming responsible citizens to contribute to the nation's prosperity. Teachers are, therefore, challenged to promote citizenship education, laying emphasis on human rights via the understanding of basic principles and institutions, practicing critical thought, freedom of opinion and expression, as well as the commitment to individual and collective responsibility (Tzotzou *et al.*, 2021· UNESCO, 2014a). Citizenship education requires in-service teachers' continuous training towards understanding the significance of (a) forming reflective and open-minded citizens able to take part in decision-making for society and (b) cultivating social awareness through the acquisition of knowledge, values and skills deemed to be fundamental for the functioning of democratic institutions (Kahne & Middaugh, 2008· UNESCO, 2013). In particular, in the 21st-century globalized society, teachers need to be trained in issues related to the global dimension of citizenship to equip new generations with principles, values and knowledge, allowing their commitment to social action and responsibility for the insurance of global peace and prosperity (OECD, 2018). Global citizenship lies in awareness of the increasing global interconnection of people and nations, in understanding the necessity for global solidarity and collaboration, in readiness for participation in solving community problems at national and international levels, in recognizing and tolerating different cultures, habits and customs as well as in global respect to human rights and fundamental liberties (UNESCO, 2018· United Nations, 2016). In this respect, in-service training should prepare teachers for their transformative role, focusing on students' holistic development beyond the cognitive content to broaden and include socio-emotional and critical thinking skills towards their commitment to individual and collective responsibility but also their encouragement for active social action to enhance democracy, equality and moral practice (DeNobile & Hogan, 2014· OECD, 2018· UNESCO, 2018). It is worth noting, however that the majority of previous empirical studies on teachers' in-service training have not investigated whether INSET content includes the thematic field of global citizenship education, and only two studies by Ghosn-Chelala (2020) and Lagace *et al.* (2016) stress the need to provide in-service training on global citizenship issues.

- **Educational innovations**

The promotion of educational innovations constitutes a major priority for educational systems globally in the 21st century given that, according to the European Commission (2010) and the European strategy entitled "Europe 2020" in order to achieve sustainable development for all people, emphasis should be placed on the role of innovation in combination with digital technology (European Commission, 2010, 2012· Fullan, 2013· OECD/E.C., 2010· Tzotzou, 2016, 2018). In a constantly and rapidly changing context characterizing the era of globalization, teachers are asked to revise out-of-date

educational practices through the application of educational innovations deemed to be necessary for the transformation of teaching, learning and school education in general in order to respond to students' expectations and needs to become creative and active citizens in the 21st century (Cachia *et al.*, 2010· UNESCO, 2018). That is why INSET content needs to promote innovative educational methods and strategies via the use of digital tools, the development of soft skills (problem-solving, decision-making, collaborative skills) as well as the change of pedagogical beliefs, creating open pedagogical approaches which enhance learning (Bocconi, Kampylis & Punie, 2012· Council of Europe, 2019· Hargreaves, 2000· Jan, 2017· UNESCO, 2014c, 2016a). Teachers' in-service training in educational innovations is necessary to bring changes in their perceptions, beliefs and practices towards innovative teaching approaches with new technologies and is considered to be a major factor for their professional development (European Commission/EACEA/Eurydice, 2015· Fullan, 2001· Jan, 2017). Previous empirical data have already stressed teachers' need to take training in educational innovations (Jan, 2017· Karagianni G., 2018· Ninlawan, 2015· Pereira, 2013· Vlachou & Panitsides, 2017). According to Pereira (2013), INSET content cannot disregard the modern social demand for new innovative school practices which will activate the necessary socio-educational transformation in the 21st century.

2.2 Towards a needs-oriented INSET content in the 21st century

According to literature, INSET content should be designed on the basis of teachers' needs analysis which constitutes a major factor for their effective professional development in the 21st century (Roesken, 2011· Sowder, 2007· Tzotzou, 2020). Teachers' professional needs should be taken into consideration in relation to their specific school and work context (Commission of the E.C., 2007); that is INSET content needs to be relevant to teachers' actual professional work and practice-oriented contributing directly to their professional practice as well as to be adapted to their actual needs characterized by high quality (Commission of the E.C./Commission Staff Working Paper, 2008· Tzotzou, 2020). In the 21st century, teachers' professional development requires the periodical re-examination of teachers' needs in order to provide them with appropriate training programs for their continuous professional development in thematic fields compatible with the 21st-century challenges (Commission of the E.C./Commission Staff Working Paper, 2008). Teachers' needs analysis, along with the working conditions in specific school contexts is deemed to be another significant factor for their professional development (Uzerli & Kerger, 2010). According to Day (2000), teachers' needs assessment should be up for constant negotiation and co-determination among the interested parties, given that teachers' training needs have a dynamic nature and change over the course of time. In this regard, teachers should be provided with the opportunity to participate actively in the INSET design, while trainers should provide them with the appropriate training opportunities closely associated with their actual needs. To the best understanding of teachers' needs, Roesken (2011) suggests focusing on their views, beliefs, expectations and experience as well as on their goals and hopes regarding their

professional development while Guskey (2003) points out that teachers' professional development needs to be designed, implemented and assessed over the adequacy and compatibility with teachers' specific needs in specific working environments. The necessity for teachers' needs analysis has been highlighted by a significant number of previous empirical studies (Altun & Gök, 2010· Bellibas & Gumus, 2016· Cossa & Uamusse, 2015· Griva, 2005· Güneş *et al.*, 2011· Harju & Niemi, 2016· Karagiorgi & Symeou, 2005· Karagianni E., 2012· Karagiorgi & Charalambous, 2006· Karagiorgi & Symeou, 2006, 2007, 2008· Katman & Tutkun, 2015· Khattak & Abbasi, 2010· Somers & Sikorova, 2002· Symeonidou & Phtiaka, 2009· Szelei *et al.*, 2020· Taşdemir, 2014· Voinea & Pălăşan, 2014).

3. Research methodology

3.1 Aim and research questions

The aim of this study, which forms a crucial part of a larger study in terms of doctoral research, was to examine whether INSET content in Greece contributes to teachers' professional development in the 21st century in light of the global challenges. To this end, four research questions were developed as follows:

- Q1. Does INSET content include topics related to 21st-century socio-educational challenges?
- Q2. Does INSET content address modern state-school issues?
- Q3. To what extent does INSET content respond to teachers' actual training needs?
- Q4. Are teachers satisfied with INSET content or do they suggest INSET content revision?

3.2 Research approach: data collection and analysis

The research strategy developed was a quantitative survey addressed to primary teachers-PE70 specialty working in state primary schools of a specific regional unit (Aetolia-Acarmania prefecture in Western Greece). The quantitative research approach was selected to achieve a large sample from dispersed schools of a specific region in Greece and to gather data in a fast, consistent, precise and reliable way minimizing any personal bias (Cohen, Manion & Morrison, 2008). The research tool was an online questionnaire constructed with the aid of the Google Forms application, which was first piloted to a convenience sample of 68 primary teachers-PE70 specialty of the specific region who volunteered to facilitate the research process. After the pilot phase, the questionnaire link was forwarded along with a cover letter to the target population. The online questionnaire included only close-ended questions such as 5th scale Likert-type questions to measure levels of degree (not at all, slightly, moderately, much, to a great extent), multiple questions providing respondents with multiple answer options, dichotomous questions (yes/no) and questions asking for participants' personal information (e.g. demographics). Quantitative data were analyzed via IBM SPSS 26 Statistics package in order to achieve descriptive statistics by measuring frequencies,

means (M) and standard deviations (SD) and to calculate the Cronbach Alpha coefficient as regards data reliability and validity, which overall was found >0.95 assuring that response values for each teacher-participant across a set of questions are consistent and thus, research variables have high consistency and reliability (Cohen, Manion & Morrison, 2008).

3.3 Participants

The target population of the study was made up of primary teachers-PE70 specialty working in state primary schools in Aetolia-Acarmania (Western Greece). The data were obtained from 290 in-service primary teachers of PE70 specialty working in state primary schools in the regional unit of Aetolia-Acarmania (Western Greece). The vast majority of the participants (200, 69%) were female, and 90 (31%) were male, while their average age was 44.1 years old. Regarding their academic qualifications, the sample consisted of highly qualified teachers as 125 (59.8%) held a master's degree, 33 (15.8%) were to complete their postgraduate studies, 4 (1.9%) held a doctorate and for 12 teachers (5.7%) their doctoral studies were in progress while 35 teachers (16.7%) held a second bachelor degree. The average teaching experience of the participants was 17.85 years, while the vast majority of them were permanent state-school teachers (226, 77.9%), and 64 (22.1%) were substitute teachers. As for their position, only 18 participants (6.2%) were school principals, and 12 respondents (4.1%) were vice principals.

4. Research findings

Q1. Does INSET content include topics related to 21st-century socio-educational challenges?

According to the research findings (Table 1), the majority of the participants (189, 16.7%) answered that they have been trained in modern teaching methods/approaches and in the pedagogical implementation of ICTs and internet (177, 15.65%), while a smaller percentage (158, 13.97%) is recorded as regards 21st-century skills. Even smaller are the percentages regarding other INSET topics such as modern pedagogical issues (130, 11.49%) and differentiated teaching/learning (121, 10.7%) while modern INSET topics related to educational innovations (108, 9.5%), intercultural education (99, 8.8%) and school bullying (98, 8.7%) record percentages $<10\%$ and other crucial INSET topics such as human rights education (31, 2.74%) and global citizenship education (20, 1.77%) do not exceed 2.74%.

Table 1: INSET topics so far

In which of the following topics have you been trained so far?		
	Frequency	%
Modern teaching methods/approaches	189	16.7%
Modern pedagogical issues	130	11.5%
21 st -century skills	158	14.0%
Educational innovations	108	9.5%
Differentiated teaching/learning	121	10.7%
Intercultural education	99	8.8%
School bullying prevention and handling	98	8.7%
Pedagogical implementation of ICTs and internet	177	15.6%
Human rights education	31	2.7%
Global citizenship education	20	1.8%
Total	1131	100.0%

Q2. Does INSET content address modern state-school issues?

As regards the extent to which INSET content (a) focuses on specific school unit issues: more than half of the respondents answer 'slightly or not all' (55.2%), 31% answer 'moderately' while only a small minority (13.8%) answers 'much or to a great extent' (M=2.48, SD=0.927), (b) aims at the solution of issues/problems occurring in the school classroom: half of the participants (50.3%) answer 'slightly or not at all', 35.2% answer 'moderately' and only 14.4% answer 'much or to a great extent' (M=2.58, SD=0.927), (c) aims at the solution of intra-school issues/problems: more than half of the respondents answer 'slightly or not all' (51.3%), 35.9% answer 'moderately' and only a minority (12.8%) answers 'much or to a great extent' (M=2.53, SD=0.923), (d) takes into account the broader socio-cultural context: the majority of the participants answer 'slightly or not all' (48.9%), 35.9% answer 'moderately' and only 15.2% answer 'much or to a great extent' (M=2.54, SD=0.974), (e) takes into consideration the developments in the European/global context: one to two participants answer 'slightly or not at all' (51%), 32.8% answer 'moderately' and 16.2% 'much or to a great extent' (M=2.55, SD=1.005), (f) fosters the dialectical relationship between school and society: 54.8% answer 'slightly or not at all', 28.3% answer 'moderately' and a small percentage 16.9% answer 'much or to a great extent' (M=2.54, SD=0.970).

Table 2: INSET content in relation to modern state-school issues

To what extent does INSET content:										
	Not at all		Slightly		Moderately		Much		To a great extent	
	N	%	N	%	N	%	N	%	N	%
focus on specific school unit issues?	36	12.4%	124	42.8%	90	31.0%	34	11.7%	6	2.1%
aim at the solution of issues/problems occurring in the school classroom?	27	9.3%	119	41.0%	102	35.2%	32	11.0%	10	3.4%
aim at the solution of intra-school issues/problems?	32	11.0%	117	40.3%	104	35.9%	28	9.7%	9	3.1%
take into account the broader socio-cultural context?	43	14.8%	99	34.1%	104	35.9%	37	12.8%	7	2.4%
take into account the developments in the European/global context?	41	14.1%	107	36.9%	95	32.8%	36	12.4%	11	3.8%
foster the dialectical relationship between school and society?	33	11.4%	126	43.4%	82	28.3%	40	13.8%	9	3.1%

Meanwhile, as regards the extent to which INSET content addresses real school matters and problems that 21st-century teachers are challenged to handle (Table 3), the majority of the participants (39.3%) answer 'slightly or not at all', 37.6% answer 'moderately' and a minority of them (23.1%) answer 'much or to a great extent' (M=2.81, SD=0.954).

Table 3: INSET content in relation to 21st-century state-school issues

Does INSET content address real school matters and problems that 21 st -century teachers are challenged to handle?		
	Frequency	%
Not at all	20	6.9%
Slightly	94	32.4%
Moderately	109	37.6%
Much	56	19.3%
To a great extent	11	3.8%
Total	290	100.0%

Q3. To what extent does INSET content respond to teachers' actual training needs?

As Table 4 illustrates, half of the participants (148, 51%) answered that they have 'rarely or never' been asked about their training needs, 91 teachers (31.4%) answered 'sometimes' and a minority of the respondents (51, 17.5%) answer 'often or very often' (M=2.50, SD=1.069). Meanwhile, in another question asking whether teachers have participated in an official needs analysis survey carried out by the Ministry of Education or other supervised education entities, the vast majority of the respondents (235, 80%)

answered that they have never participated in such a survey and less than 20% answer positively (55, 19%).

Table 4: INSET content in relation to teachers' needs analysis

How many times have you been asked about your training needs in terms of INSET programs?		
	Frequency	%
Never	58	20.0%
Rarely	90	31.0%
Sometimes	91	31.4%
Often	41	14.1%
Very often	10	3.4%
Total	290	100.0%

Furthermore, as regards the extent to which INSET content responds to teachers' actual training needs (Table 5), the majority of the respondents (42.7%) answered 'slightly or not at all', 111 participants (38.3%) answered 'moderately' and a minority of them which does not exceed 19% answered 'much or to a great extent' (M=2.73, SD=0.879).

Table 5: INSET content in relation to teachers' training needs

Does INSET content respond to your actual training needs?		
	Frequency	%
Not at all	16	5.5%
Slightly	108	37.2%
Moderately	111	38.3%
Much	49	16.9%
To a great extent	6	2.1%
Total	290	100.0%

Q4. Are teachers satisfied with INSET content or do they suggest INSET content revision?

As regards teachers' degree of satisfaction with INSET content, as Table 6 shows that the majority of the participants (45.9%) are 'slightly or not at all' satisfied, 36.6% are 'moderately' satisfied, and a minority (17.6%) feel 'much or to a great extent' satisfied (M=2.66, SD=0.902).

Table 6: Teachers' satisfaction degree with INSET content

To what extent are you satisfied with INSET content?		
	Frequency	%
Not at all	22	7.6%
Slightly	111	38.3%
Moderately	106	36.6%
Much	45	15.5%
To a great extent	6	2.1%
Total	290	100.0%

As a consequence, the vast majority of the participants exceeding 97% (N=284, 97.2%) respond that INSET content needs to be revised in order to be compatible with the 21st-century educational challenges. Meanwhile, the striking majority of the respondents 94.5% (N=274) suggested the systematic investigation and analysis of their training needs and only 16 teachers answered negatively (5.5%) while another noticeable number of participants, 94.8% (N=275), answered that they need to have an active role in INSET designing matters such as content selection for in-service training purposes.

5. Discussion

Research findings reveal a severe deficit of updated INSET content given that modern educational topics such as differentiated teaching/learning, educational innovations, intercultural education and school bullying issues record percentages which do not exceed 10.7% while other crucial educational topics such as human rights education and global citizenship education do not exceed 2.74% which means that INSET content seems to be out-of-date although these issues are considered to be of major importance in the 21st-century education globally as already stressed in the literature (Guo, 2013, 2014· Holden & Hicks, 2007· Larsen & Faden, 2008· Longview Foundation, 2008· Loomis *et al.*, 2008· Luksha *et al.*, 2018· McLean & Cook, 2011· Pike, 2008· Rapoport, 2015· Townsend, 2011· UNESCO, 2013, 2016c, 2018).

Quantitative findings agree with the results of previous empirical studies which point out the need for focused training on intercultural education (Acquah *et al.*, 2016· Asimaki, 2005· Asimaki *et al.*, 2018· Fine-Davis & Faas, 2014· Golub, 2014· Karagianni G., 2018· Symeou *et al.*, 2009· Szelei & Alves, 2018· Szelei *et al.*, 2020· Vlachou & Panitsides, 2017). For instance, empirical studies by Golub (2014), Szelei and Alves (2018), Symeou *et al.* (2009) stress that INSET should place emphasis on the elimination of monocultural stereotypes and prejudices of the meta-modern society by activating teachers' first and then students' critical reflection as regards issues of multiculturalism and intercultural education towards the prevention and confrontation of social exclusion phenomena against cultural and social minorities. As for the understanding, prevention and confrontation of school bullying, the present findings are in accordance with other empirical results which record a deficiency of teachers' training support. Lekunze and Strom's (2017) qualitative study underlines the lack of training activities towards the understanding and confrontation of school bullying phenomena by high school teachers in actual school practice, while a great number of other scholars also point out the imperative necessity for teachers' training in school bullying issues (Berkowitz, 2014· Didaskalou *et al.*, 2009· Oldenburg *et al.*, 2016). For instance, Oldenburg *et al.* (2016) point out the deficient preparation of primary teachers in Holland to prevent and handle bullying phenomena, while other studies also verify the lack of appropriate teacher training towards developing skills which could enable them to handle violent and bullying behaviors in schools. That is why INSET content needs to be updated to foster

training topics related to human rights education towards establishing and promoting moral and humanistic values (Pereira, 2013; Symeou *et al.*, 2009; Tzotzou *et al.*, 2021).

Another INSET content deficit relates to differentiated instruction, as already stressed by several studies which underline the difficulty teachers face in managing students' manifold heterogeneity in mixed ability classes in an effective pedagogical way due to lack of knowledge and skills (Blozowich, 2001; Callahan *et al.*, 2003; Gantidou, 2004; Harju & Niemi, 2016; Koutselini, 2008; McAdamis, 2001; Symeonidou & Phtiaka, 2009; Symeou *et al.*, 2009). In the same vein, empirical studies have already recorded INSET deficiency in modern training topics such as global citizenship and educational innovations. Lagace *et al.* (2016), in their qualitative study via interviews with teachers in Canada, ascertain teachers' difficulties adapting to the globalized educational context due to the lack of the necessary support and training. Furthermore, qualitative findings derived from semi-structured interviews by Ghosn-Chelala (2020) illustrate that although teachers prioritize the promotion of the global citizenship education vision, there is deficient training support in this thematic area, which has been pinpointed by other studies as well (Tzotzou *et al.*, 2021; UNESCO, 2017; Zakharia, 2011). The need to foster teachers' training in educational innovations has also been underlined by several scholars in the literature (Bocconi, Kampylis & Punie, 2012; Jan, 2017; Karagianni G., 2018; Ninlawan, 2015; Pereira, 2013; Vlachou & Panitsides, 2017).

Quantitative findings also show that INSET content is designed in teachers' absentia, and as a result, it does not focus on their ever-changing needs related to the 21st-century school context. Findings reveal a severe deficiency in surveying and analyzing teachers' needs given that more than half of the participants (51%) have been asked 'rarely or never' about their training needs while a striking percentage, over 80%, have never participated in an official needs analysis research by the Ministry of Education or any other supervised educational entities. The deficient investigation of teachers' training needs results in a severe gap between INSET content and their actual training needs; thus, INSET content proves to be incompatible with the 21st-century school reality, which justifies the low percentage of teachers' satisfaction degree. Similarly, findings by a significant number of studies have also recorded the deficient investigation of teachers' training needs (Altun & Gök, 2010; Bellibas & Gumus, 2016; Cossa & Uamusse, 2015; Güneş T. *et al.*, 2011; Harju & Niemi, 2016; Karagiorgi & Charalambous, 2006; Karagiorgi & Symeou, 2006, 2007, 2008; Katman & Tutkun, 2015; Khattak & Abbasi, 2010; Somers & Sikorova, 2002; Symeonidou & Phtiaka, 2009; Szelei, Tinoca & Pinho, 2020; Taşdemir, 2014; Tzotzou, 2020; Voinea & Pălăşan, 2014) while other studies highlight teachers' expectation and need for an INSET based on their own needs; that is in immediate connection to educational practice by taking into consideration the specific needs of each school unit (Karagiorgi & Symeou, 2006, 2008; Somers & Sikorova, 2002; Szelei *et al.*, 2020; Tzotzou & Poulou, 2023; Tzotzou *et al.*, 2024). Last but not least, quantitative findings reveal the imperative need for a systematic investigation of both teachers' and schools' needs towards the necessary alignment of INSET content with the ever-changing school reality which undergoes the pressure of all the rapid transformations occurring in the

globalized socio-educational context as already highlighted in the literature (Bellibas & Gumus, 2016· Harju & Niemi, 2016· Tzotzou & Poulou, 2023· Tzotzou *et al.*, 2024).

6. Conclusion

Teachers' professional development in the 21st-century can be achieved via the constant reform and update of INSET content in order to focus on crucial thematic fields which can contribute to their knowledge and skills re-equipment in light of the global socio-educational trends and prescriptions put forward by supranational institutions. However, research findings reveal a severe gap between INSET content and teachers' actual training needs which results in their explicit dissatisfaction and, most importantly in INSET weakness in contributing to teachers' professional development in the 21st century via a process of alignment with the global educational challenges. Due to this gap, the present study prompts constant INSET content reform and update by laying emphasis on crucial modern topics compatible with the emerging socio-educational challenges in the era of globalization through the systematic investigation of both teachers' and schools' needs as well as teachers' active role in selecting and designing training topics towards the necessary alignment of INSET with the ever-changing school reality which inevitably undergoes the pressure of overwhelming global transformations.

Acknowledgements

This research did not receive any specific grant.

Conflict of Interest Statement

The authors declare no conflicts of interest.

About the Authors

Maria Tzotzou is state-school teacher and PhD Student at the University of Patras, Department of Educational Sciences and Early Childhood Education, Greece.

Email: m.tzotzou@upatras.gr

Maria Poulou (PhD) is Associate Professor at the University of Patras, Department of Educational Sciences and Early Childhood Education, Greece.

Email: mpoulou@upatras.gr

Thanassis Karalis (PhD) is Professor at the University of Patras, Department of Educational Sciences and Early Childhood Education, Greece.

Email: karalis@upatras.gr

Amalia Ifanti (PhD) is Professor at the University of Patras, Department of Educational Sciences and Early Childhood Education, Greece.

Email: ifanti@upatras.gr

References

- Acquah, E.O., Tandon, M., & Lempinen, S. (2016). Teacher diversity awareness in the context of changing demographics. *European Educational Research Journal*, 15(2), 218–235. <https://doi.org/10.1177/1474904115611676>
- Altrichter, H., Somekh, B., & Posch, P. (2001). *Teachers investigate their work* (3rd Edition). New York: Routledge.
- Altun, A., & Gök, B. (2010). Determining in-service training programs' characteristics given to teachers by conjoint analysis. *Procedia - Social and Behavioral Sciences*, 2(2), 1709-1714. <https://doi.org/10.1016/j.sbspro.2010.03.970>
- Ananiadou, K., & Claro, M. (2009). 21st Century skills and competences for new millennium learners in OECD countries. *OECD Education Working Papers*, No. 41. OECD Publishing. <https://doi.org/10.1787/218525261154>
- Andreotti, V. (2006). Soft Versus Critical Global Citizenship Education. *Policy and Practice: A Development Education Review*, 3, 40-51.
- Asimaki, A. (2005). Teachers' views about training contribution to their educational work. *Pedagogical Discourse*, 1, 75-90. [In Greek]
- Asimaki, A., Lagiou, A., Koustourakis, G., & Sakkoulis, D. (2018). Training Adequacy and Pedagogic Practices of Teachers in Reception Facilities for Refugee Education in Greece during the Economic Crisis: A Case Study. *Journal of Studies in Education*, 8(3), 79-97. <https://doi.org/10.5296/jse.v8i3.13396>
- Bellibas, M.S., & Gumus, E. (2016). Teachers' perceptions of the quantity and quality of professional development activities in Turkey. *Cogent Education*, 3(1), 1-15. <https://doi.org/10.1080/2331186X.2016.1172950>
- Berkowitz, R. (2014). Student and teacher responses to violence in school: The divergent views of bullies, victims, and bully-victims. *School Psychology International*, 35(5), 485-503. <https://doi.org/10.1177/0143034313511012>
- Bjekić, D., Vučetić, M., & Zlatić, L. (2014). Teacher Work Motivation Context of In-service Education Changes. *Procedia - Social and Behavioral Sciences*, 116, 557-562. <https://doi.org/10.1016/j.sbspro.2014.01.257>
- Blozowich, D.G. (2001). *Differentiated instruction in heterogeneously grouped sixth-grade classrooms* (Published thesis – EdD). Immaculata College.
- Bocconi, S., Kampylis, P.G., & Punie, Y. (2012). *Innovating learning: Key elements for developing creative classrooms in Europe*. Luxembourg: Publications Office of the European Union.
- Bouguen, A. (2015). Adjusting content to individual student needs: Further evidences from a teacher training program. *Economics of Education Review*, 50, 90-112. <https://doi.org/10.1016/j.econedurev.2015.12.004>
- Boulton, M.J. (2014). Teachers' self-efficacy, perceived effectiveness beliefs, and reported use of cognitive-behavioral approaches to bullying among pupils: effects of in-service training with the I DECIDE program. *Behavior therapy*, 45(3), 328–343. <https://doi.org/10.1016/j.beth.2013.12.004>

- Cachia, R., Ferrari, A., Ala-Mutka, K., & Punie, Y. (2010). *Creative Learning and Innovative Teaching: Final Report on the Study on Creativity and Innovation in Education in the EU Member States*. EUR 24675 EN. Luxembourg (Luxembourg): Publications Office of the European Union, JRC62370.
- Caena, F. (2011). *Literature Review. Quality in Teachers' professional development*. Brussels: European Commission.
- Callahan, C., Tomlinson, C., Moon, T., Brighton, C., & Hertberg, H. (2003). *Feasibility of high end learning in the middle grades*. Charlottesville: University of Virginia, National Research Center on the Gifted and Talented.
- Carneiro, R., & Draxler, A. (2008). Education for the 21st Century: Lessons and Challenges. *European Journal of Education*, 43(2), 149–160. <https://doi.org/10.1111/j.1465-3435.2008.00348.x>
- Cawagas, V. (2007). Pedagogical principles in educating for a culture of peace. In S. H. Toh & V. Cawagas (Eds.) *Cultivating Wisdom, Harvesting Peace*. Brisbane, Queensland: Multi-Faith Centre, Griffith University.
- Cohen, L., Manion, L. & Morrison, K. (2008). *Research Methods in Education* (transl: S. Kyranakis). Athens: Metaichmio. [In Greek]
- Commission of the European Communities (2007). *Communication from the Commission to the Council and the European Parliament on Improving the Quality of Teacher Education*. COM (2007), 392 final. Brussels.
- Cossa, E., & Uamusse, A. (2015). Effects of an In-service Program on Biology and Chemistry Teachers' Perception of the Role of Laboratory Work. *Procedia - Social and Behavioral Sciences*, 16, 152-160. <https://doi.org/10.1016/j.sbspro.2014.12.656>
- Council of Europe (2017). *Learning to Live Together: a Shared Commitment to Democracy. General Report*. Conference on the Future of Citizenship and Human Rights Education in Europe, Strasbourg.
- Council of Europe (2019). *Digital Citizenship Education Handbook*. Strasbourg: Council of Europe.
- Day, C. (2000). Teachers in the twenty-first century: Time to renew the vision. *Teachers and Teaching: Theory and Practice*, 6(1), 101-115. <https://doi.org/10.1080/135406000114771>
- De Luca, L., Nocentini, A., & Menesini, E. (2019). The Teacher's Role in Preventing Bullying. *Front Psychol.*, 10, 1830. <https://doi.org/10.3389/fpsyg.2019.01830>
- Dede, C. (2010). Comparing frameworks for 21st century skills. In J. Bellanca, & R. Brandt (Eds.). *21st century skills: Rethinking how students learn* (pp. 51–76). Bloomington, Indiana: Solution Tree Press.
- DeNobile, J., & Hogan, E. (2014). Values education: what, how, why and what next? *Curriculum and leadership journal*, 12(1).
- Didaskalou, E., & Millward, A. (2001). Greek teachers' perspectives on behavior problems: implications for policy makers and practitioners. *European Journal of Special Needs Education*, 16(3), 289-299. <https://doi.org/10.1080/08856250110074427>

- Didaskalou, E., Andreou, E., & Vlachou, A. (2009). Bullying and Victimization in Children with Special Educational Needs: Implications for Inclusive Practices. *Interacções*, 5(13), 249-274.
- Eslea, M., & Smith, P. K. (2000). Pupil and parent attitudes towards bullying in primary schools. *European Journal of Psychology of Education*, 15(2), 207–219. <https://doi.org/10.1007/BF03173175>
- European Commission (2002). *European report on quality indicators of lifelong learning. Fifteen quality indicators*. Brussels: E.C.
- European Commission (2007). *Conclusions of the Council and of the Representatives of the Governments of the Member States, meeting within the Council, on improving the quality of teacher education*. Brussels: E.C.
- European Commission (2010). *A new impetus for European cooperation in Vocational Education and Training to support the Europe 2020 strategy*, COM (2010) 296 final. Brussels.
- European Commission (2012). *Education and Training Monitor 2012, Accompanying the document, Communication from the Commission Rethinking education: investing in skills for better socio-economic outcomes*, SWD (2012) 373 final. Brussels: E.C.
- European Commission (2013). *Supporting teacher competence development for better learning outcomes. Thematic Working Group of Teacher's Professional Development*. Brussels: European Commission.
- Farrelly, G., O'Higgins Norman, J., & O'Leary, M. (2017). Custodians of silences? School principal perspectives on the incidence and nature of homophobic bullying in primary schools in Ireland. *Irish Educational Studies*, 36(2), 151-167. <https://doi.org/10.1080/03323315.2016.1246258>
- Fine-Davis, M., & Faas, D. (2014). Equality and Diversity in the Classroom: A Comparison of Students' and Teachers' Attitudes in Six European Countries. *Social Indicators Research*, 119(3), 1319–1334. <https://doi.org/10.1007/s11205-013-0547-9>
- Fullan, M. (2001). *The New Meaning of Educational Change*. London: Routledge. <https://doi.org/10.4324/9780203986561>
- Fullan, M. (2013). Commentary: The new pedagogy: Students and teachers as learning partners. *LEARNing Landscapes*, 6(20), 23-29. <https://doi.org/10.36510/learnland.v6i2.601>
- Gantidou, E. (2004). *'Our Voices are Valuable': The Perceptions of Greek Primary English Teachers and the Advisor of Their In-service Education Provision*. (PhD Thesis, University of Exeter). Available at National Archive of PhD Theses of the National Documentation (ND 20756). [In Greek]
- Ghosn-Chelala, M. (2020). Global citizenship education in conflict-affected settings: Implications of teachers' views and contextual challenges for the Lebanese case. *Teaching and Teacher Education*, 93(4), 1–20. <https://doi.org/10.1016/j.tate.2020.103078>

- Giannopoulou, E. (2004). *Primary school teachers' training* (PhD Thesis, University of Ioannina, Greece). Available at National Archive of PhD Theses of the National Documentation Centre (ND 17765). [In Greek]
- Golub, A.Š. (2014). Effects of German language teacher professional development on pupils' learning outcomes in intercultural competence. *CEPS Journal: Center for Educational Policy Studies Journal*, 4(4), 75-98. <https://doi.org/10.26529/cepsj.186>
- Good, T.L., Wiley, C.R.H., & Florez, I.R. (2009). Effective Teaching: an Emerging Synthesis. In: Saha, L.J., Dworkin, A.G. (eds), *International Handbook of Research on Teachers and Teaching*. Springer International Handbooks of Education, Vol 21. Springer, Boston, MA. https://doi.org/10.1007/978-0-387-73317-3_51
- Gradinger, P., Strohmeier, D., & Spiel, C. (2017). Parents' and teachers' opinions on bullying and cyberbullying prevention: The relevance of their own children's or students' involvement. *Zeitschrift für Psychologie*, 225(1), 76–84. <https://doi.org/10.1027/2151-2604/a000278>
- Griva, E. (2005). *The issue of primary education E.L.T. teacher in service training: empirical research of training parameters and institutional structures* (PhD Thesis, University of Western Macedonia, Greece). Available at National Archive of PhD Theses of the National Documentation (ND 14297). [In Greek]
- Güneş, T., Demir, E., Hoplan, M., Çelikoğlu, M., & Güneş, O. (2011). The perceptions and needs of science and primary school teachers about in-service training. *Procedia - Social and Behavioral Sciences*, 15, 1102-1109.
- Guo, L. (2013). Translating global citizenship education into pedagogic practices in classroom settings. *Education Review*, 3(2), 8-9.
- Guo, L. (2014). Preparing teachers to educate for 21st century global citizenship: Envisioning and enacting. *Journal of Global Citizenship & Equity Education*, 4(1), 1-22.
- Guskey, T.R. (2003). Analyzing lists of the characteristics of effective professional development to promote visionary leadership. *NASP Bulletin*, 87(637), 38-54. <https://doi.org/10.1177%2F019263650308763702>
- Hargreaves, A. (2000). Four ages of professionalism and professional learning. *Teachers and Teaching*, 6(2), 151-182. <https://doi.org/10.1080/713698714>
- Harju, V., & Niemi, H. (2016). Newly Qualified Teachers' Needs of Support for Professional Competences in Four European Countries: Finland, the United Kingdom, Portugal, and Belgium. *CEPS Journal*, 6(3), 77-100.
- Holden, C., & Hicks, D. (2007). Making global connections: The knowledge, understanding and motivation of trainee teachers. *Teaching and Teacher Education*, 23(1), 13-23. <https://doi.org/10.1016/j.tate.2006.04.031>
- Ibrahim, T. (2005). Global citizenship education. Mainstreaming the curriculum? *Cambridge Journal of Education*, 35(2), 177-194. <https://doi.org/10.1080/03057640500146823>
- Jan, H. (2017). Teacher of 21st Century: Characteristics and Development. *Research on Humanities and Social Sciences*, 7(9), 50-54.

- Javrth, P., & Mozina, E. (2018). *The life skills approach in Europe. An Erasmus+ partners' project for the Life Skills in Europe.*
- Kahne, J., & Middaugh, E. (2008). *Democracy for some: The civic opportunity gap in high school.* CIRCLE Working Paper No. 59. College Park, MD: CIRCLE.
- Karagianni, E. (2012). *Teacher development and emotions: an ICT -based reflective/collaborative approach* (PhD Thesis, National and Kapodistrian University of Athens). Available at National Archive of PhD Theses of the National Documentation (ND 31746).
- Karagianni, G.K. (2018). *Teachers' education within the framework of lifelong learning.* (Masters Dissertation, University of the Aegean, Department of Pre-school Education and Educational Design), Rhodes, Greece. [In Greek]
- Karagiorgi, G., & Symeou, L. (2005). Teachers' Professional development in Cyprus: Needs and priorities in In-service Training. *Bulletin of Cypriot Association on Educational Management*, 17, 19-22. [In Greek]
- Karagiorgi, Y., & Charalambous, K. (2006). ICT in-service training and school practices: in search for the impact. *Journal of Education for Teaching*, 32(4), 395-411. <https://doi.org/10.1080/02607470600981995>
- Karagiorgi, Y., & Symeou, L. (2006). Teacher Professional Development in Focus: Reorganizing the Existing In-Service Training Scheme in Cyprus. *Paper presented at the Conference 'Recreating Linkages between Theory and Praxis in Educational Leadership, Commonwealth Council of Educational Administration and Management'*. Nicosia.
- Karagiorgi, Y., & Symeou, L. (2007). Teachers' in-service training needs in Cyprus, *European Journal of Teacher Education*, 30(2), 175-194. <https://doi.org/10.1080/02619760701275487>
- Karagiorgi, Y., & Symeou, L. (2008). Through the eyes of the teachers: revisiting in-service training practices in Cyprus. *Teacher Development*, 12(3), 247-259. <https://doi.org/10.1080/13664530802259305>
- Katman, A., & Tutkun, Ö. (2015). Teachers' Views Related to the Effectiveness of In-service Training Programs in Primary Schools. *Procedia - Social and Behavioral Sciences*, 174, 1878-1885. <https://doi.org/10.1016/j.sbspro.2015.01.851>
- Kavak, N., Yamak, Y., Bilici, S.C., Bozkurt, E., Darici, O., & Ozkaya, Y. (2012). The Evaluation of Primary and Secondary Teachers' Opinions about In-Service Teacher Training. *Procedia - Social and Behavioral Sciences*, 46, 3507-3511. <https://doi.org/10.1016/j.sbspro.2012.06.094>
- Khattak, Z.I., & Abbasi, M.G. (2010). Evaluation of the effectiveness of in-service teacher training courses of the CALL sub-committee of the ELTR project in Pakistan. *Procedia - Social and Behavioral Sciences*, 2(2), 4911-4917. <https://doi.org/10.1016/j.sbspro.2010.03.794>
- Kivunja, C. (2015). Exploring the Pedagogical Meaning and Implications of the 4Cs "Super Skills" for the 21st Century through Bruner's 5E Lenses of Knowledge Construction to Improve Pedagogies of the New Learning Paradigm. *Creative Education*, 6(2), 224-239. <http://dx.doi.org/10.4236/ce.2015.62021>

- Koutselini, M. (2008). Listening to students' voices for teaching in mixed ability classrooms: Presuppositions and considerations for differentiated instruction. *Learning and teaching*, 1(1), 17-30.
- Lagace, A., McCallum, G., Ingersoll, M., Hirschhorn, M., & Sears, A. (2016). Preparing Canadian teachers for the world. In M. Hirschhorn & J. Mueller (Eds.), *What should Canada's teachers know? Teacher capacities: Knowledge, beliefs and skills* (pp.19–47). Canadian Association for Teacher Education.
- Larsen, M.A., & Faden, L. (2008). Supporting the Growth of Global Citizenship Educators. *Brock Education Journal*, 17(1), 91-104. <https://doi.org/10.26522/brocked.v17i1.102>
- Lekunze, G.L., & Strom, B. (2017). Bullying and Victimisation Dynamics in High School: An Exploratory Case Study. *Journal of Teacher Education for Sustainability*, 19(1), 147-163. <https://doi.org/10.1515/jtes-2017-0010>
- Longview Foundation (2008). *Teacher preparation for the global age: The imperative for change*. Longview Foundation.
- Loomis, S., Rodriguez, J., & Tillman, R. (2008). Developing into similarity: global teacher education in the twenty-first century, *European Journal of Teacher Education*, 31(3), 233-245. <https://doi.org/10.1080/02619760802208288>
- Luksha, P., Cubista, J., Laszlo, A., Popovich, M., & Ninenko, I. (2018). *Educational ecosystems for societal transformation (Global Education Futures report)*. GEF Press.
- Maastricht (2002). *Maastricht Global Education Declaration: European Strategy Framework for Increasing and Improving Global Education to 2015*. Europe-wide Global Education Congress.
- McAdamis, S. (2001). Teachers tailor their instruction to meet a variety of student needs. *Journal of Staff Development*, 22(2), 1-5.
- McLean, L., & Cook, S. (2011). Viability for sustainability: Two sides of the coin for global education in a faculty of education. *International Journal of Development Education and Global Learning*, 3(2), 39-56.
- Ninlawan, G. (2015). Factors Which Affect Teachers' Professional Development in Teaching Innovation and Educational Technology in the 21st Century under the Bureau of Special Education, Office of the Basic Education Commission. *Procedia - Social and Behavioral Sciences*. 197, 1732-1735. <https://doi.org/10.1016/j.sbspro.2015.07.228>
- O'Moore, M. (2000). *National Survey on Bullying in the Workplace*. Anti-Bullying Research Centre, Trinity College.
- OECD (2015b). *OECD Skills Outlook 2015: Youth, Skills and Employability*. Paris: OECD Publishing.
- OECD (2016a). *Skills for a Digital World: 2016 Ministerial Meeting on the Digital Economy Background Report*. OECD Digital Economy Papers, No. 250. Paris: OECD Publishing.
- OECD (2016b). *Getting Skills Right: Anticipating and Responding to Changing Skill Needs*. Paris: OECD Publishing.
- OECD (2018). *Preparing Our Youth for an Inclusive and Sustainable World: The OECD PISA Global Competence Framework*. Paris: OECD Publishing.

- OECD / Asia Society (2018). *Teaching for Global Competence in a Rapidly Changing World*. Asia Society: Center for Global Education. Paris: OECD Publishing.
- OECD/E.C. (2010). *Teachers' Professional Development. Europe in international comparison*. Luxembourg: Office for Official Publications of the E.U. Paris: OECD Publishing.
- OECD-EC (2014). *Matching Economic Migration with Labour Market Needs*. OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264216501-en>
- Oldenburg, B., Bosman, R., & Veenstra, R. (2016). Are elementary school teachers prepared to tackle bullying? A pilot study. *School Psychology International*, 37(1), 64-72. <https://doi.org/10.1177/0143034315623324>
- Olweus, D. (2009). *Bullying and violence in school* (Transl. Markozane, E.). Athens: Politeia. [In Greek]
- Öztaskin, Ö.B. (2010). Identifying the in-service training needs of the social studies teachers within the context of lifelong learning. *Procedia Social and Behavioral Sciences*, 2(2), 3036-3042. <https://doi.org/10.1016/j.sbspro.2010.03.460>
- Pang, N.S., Wang, T., & Leung, Z.L. (2016). Educational reforms and the practices of professional learning community in Hong Kong primary schools. *Asia Pacific Journal of Education*, 36(2), 231-247. <https://doi.org/10.1080/02188791.2016.1148852>
- Pereira, F. (2013). Concepts, policies and practices of teacher education: an analysis of studies on teacher education in Portugal. *Journal of Education for Teaching*, 39(5), 474-491. <https://doi.org/10.1080/02607476.2013.844957>
- Pike, G. (2008). Citizenship education in global context. *Brock Education Journal*, 17(1), 38-49, <https://doi.org/10.26522/brocked.v17i1.100>
- Psalti, A. (2012). Bullies, Victims, and Bully-Victims in Greek Schools: Research Data and Implications for Practice. *Hellenic Journal of Psychology*, 9(2), 132-157.
- Rapoport, A. (2015). Global aspects of citizenship education: Challenges and perspectives. In Maguth, B., & Hilburn, J. (Eds.), *The State of Global Education. Learning with the World and its People* (pp. 27-40). New York, NY: Routledge.
- Rigby, K. (2004). Addressing Bullying in Schools: Theoretical Perspectives and their Implications. *School Psychology International*, 25(3), 287-300. <https://doi.org/10.1177/0143034304046902>
- Rigby, K. (2007). *Bullying in Schools and What to Do about It* (Updated, Revised). Camberwell: ACER.
- Roesken, B. (2011). *Hidden Dimensions in the Professional Development of Mathematics Teachers*. SpringerLink. <https://doi.org/10.1007/978-94-6091-433-1>
- Rosen, L.H., Scott, S.R., & DeOrnellas, K. (2017). An overview of school bullying. In L. H. Rosen, K. DeOrnellas, & S. R. Scott (Eds.), *Bullying in schools: Perspectives from school staff, students, and parents* (pp. 1-22). Palgrave Macmillan/Springer Nature. https://doi.org/10.1057/978-1-137-59298-9_1
- Sabri, K.S. (1997). In-service teacher training programmes: the case of Palestine. *British Journal of In-service Education*, 23(1), 113-118. <https://doi.org/10.1080/13674589700200006>

- Sapouna, M. (2008). Bullying in Greek primary and secondary schools, *School Psychology International*, 29(2), 199-213. <https://doi.org/10.1177/0143034308090060>
- Sigurðardóttir, A.K. (2010). Professional Learning Community in Relation to School Effectiveness. *Scandinavian Journal of Educational Research*, 54(5), 395-412. <https://doi.org/10.1080/00313831.2010.508904>
- Somers, J., & Sikorova, E. (2002). The effectiveness of one in-service education of teachers' course for influencing teachers' practice. *Journal of In-Service Education*, 28(1), 95-114. <https://doi.org/10.1080/13674580200200173>
- Sowder, J.T. (2007). The mathematical education and development of teachers. In F. Lester (Ed.) *Second handbook of research on mathematics teaching and learning* (pp. 157-223). Charlotte, NC: Information Age Publishing.
- Symeonidou, S., & Phtiaka, H. (2009). Using teachers' prior knowledge, attitudes and beliefs to develop in-service teacher education courses for inclusion. *Teaching and Teacher Education*, 25, 543-550. <https://doi.org/10.1016/j.tate.2009.02.001>
- Symeou, L., Karagiorgi, Y., Roussounidou, E., & Kaloyirou, Ch. (2009). Roma and their education in Cyprus: reflections on INSETRom teacher training for Roma inclusion. *Intercultural Education*, 20(6), 511-521. doi:10.1080/14675980903448551
- Szelei, N., & Alves, I. (2018). The Missing Link: Teacher Learning for Diversity in an Area-based Initiative in Portugal. *Center for Educational Policy Studies Journal*, 8(3), 79-98.
- Szelei, N., Tinoca, L., & Pinho, A.S. (2020). Professional development for cultural diversity: the challenges of teacher learning in context. *Professional Development in Education*, 46(5), 780-796. <https://doi.org/10.1080/19415257.2019.1642233>
- Taşdemir, F. (2014). Analyzing the Attitudes of Teachers towards In-service Training According to Various Variables. *Procedia - Social and Behavioral Sciences*, 116, 884-887. <https://doi.org/10.1016/j.sbspro.2014.01.315>
- Teo, P. (2019). Teaching for the 21st century: A case for dialogic pedagogy. *Learning, Culture and Social Interaction*, 21, 170-178. <https://doi.org/10.1016/j.lcsi.2019.03.009>
- Townsend, T. (2011). Thinking and acting both locally and globally: new issues for teacher education. *Journal of Education for Teaching*, 37(2), 121-137. <https://doi.org/10.1080/02607476.2011.558263>
- Trinder, M. (2000). Bullying: A challenge for our society. *Victorian Parenting Centre News*, 3, 3-6.
- Tzotzou, M.D. (2016). Content and Process of the Major Training Programme for State EFL Teachers in Greece: A Critical Review. *Multilingual Academic Journal of Education and Social Sciences*, 4(1), 13-23. <http://dx.doi.org/10.6007/MAJESS/v4-i1/2045>
- Tzotzou, M.D. (2017). Developing an INSET course for state EFL teachers in Greece: A process-oriented teacher education proposal towards digital literacy. *Multilingual Academic Journal of Education and Social Sciences*, 5(1), 50-64. <http://dx.doi.org/10.6007/MAJESS/v5-i1/3018>

- Tzotzou, M.D. (2018). Integrating Web 2.0 technologies into EFL learning in the Greek state-school context: A mixed-method study. *Research Papers in Language Teaching and Learning*, 9(1), 32-55.
- Tzotzou M.D. (2020). State EFL teachers' training needs in Web 2.0 pedagogy. *Proceedings of the 7th Scientific Conference "Designing Teaching, Teachers' Training and Vocational Training for Educational Specialties" (ProfSpEdu2020)*, Vol. A, pp. 241-252, 17-18 January 2020, Music Library of Greece "Lilian Voudouri", Megaron- The Athens Concert Hall, Athens, Greece.
- Tzotzou, M., & Poulou, M. (2023). *In-service Training towards the Transformation of the State-school Teacher's Role in the 21st Century. A Case Study*. In Chiou, V., Geunis, L., Holz, O., Ertürk, N.O., Ratkowska-Pasikowska, J. & Shelton, F. (Eds.), *Proceedings of IPIE 2022 Conference 'Voices from the Classroom'* (pp. 202-215). Leuven, Belgium.
- Tzotzou, M., Poulou, M., Karalis, T., & Ifanti, A. (2021). Reflecting upon the Greek state-school teacher's changing role in the 21st century: an 'ecosystemic' approach. *Preschool & Primary Education*, 9(2), 126-155. <https://doi.org/10.12681/ppej.25834>
- Tzotzou, M., Poulou, M., Karalis, T., & Ifanti, A. (2024). Reflection as an INSET tool for teachers' professional development in the 21st century: a quantitative study. *European Journal of Education Studies*, 11(8), 165-183. <http://dx.doi.org/10.46827/ejes.v11i8.5452>
- UNESCO (2003). *Teacher professional development: an international review of the literature*. Paris: International Institute for Educational Planning.
- UNESCO/UIS (2006). *Global Education Digest 2006. Comparing Education Statistics across the World*. Montreal/Canada: UNESCO Institute for Statistics.
- UNESCO (2009). *Stopping violence in schools. A guide for teachers*. Paris: UNESCO.
- UNESCO (2011). *Media and Information Literacy. Curriculum for Teachers*. Paris: UNESCO.
- UNESCO (2013). *Global Citizenship Education: An Emerging Perspective*. An outcome document of the Technical Consultation on Global Citizenship Education, Seoul on 9-10 September 2013. Paris: UNESCO.
- UNESCO (2014a). *Global Citizenship Education. Preparing learners for the challenges of the twenty-first century*. Paris: UNESCO.
- UNESCO (2014b). *Teaching Respect for All*. Paris: UNESCO.
- UNESCO (2014c). *UNESCO Education Strategy 2014-2021*. Paris: UNESCO.
- UNESCO (2015a). *Fostering Digital Citizenship through Safe and Responsible Use of ICT*. Bangkok: UNESCO Bangkok.
- UNESCO (2015b). *Global Citizenship Education. Topics and Learning Objectives*. Paris: UNESCO.
- UNESCO (2016a). *Schools in Action, Global Citizens for Sustainable Development – A Guide for Teachers*. Paris: UNESCO.
- UNESCO (2016b). *Schools in Action, Global Citizens for Sustainable Development – A Guide for Students*. Paris: UNESCO.
- UNESCO (2016c). *Teacher's Guide on the Prevention of Violent Extremism*. Paris: UNESCO.

- UNESCO (2017). *Education for Sustainable Development Goals: Learning Objectives*. Paris: UNESCO.
- UNESCO (2018). *Preparing Teachers for Global Citizenship Education: A Template*. UNESCO Bangkok Office.
- United Nations (2016). *International Migration Report 2015*. New York: United Nations.
- Uzerli, U., & Kerger, L. (2010). The continuous Professional Development of teachers in EU member – states: New Policy Approaches, new visions. In ENTEP (2010), *The first ten years after Bologna*. University of Bucharest. Gassner, O. – Kerger, L. – Schratz, M. (ed.).
- Vlachou, A., & Panitsides, E. A. (2017). Training Needs Assessment of Primary Education Teachers in Intercultural Education Issues: A Quantitative Study. *Multilingual Academic Journal of Education and Social Sciences*, 5(1), 1–13. <http://dx.doi.org/10.6007/MAJESS/v5-i1/3020>
- Voinea, M., & Pălășan, T. (2014). Teachers' Professional Identity in the 21st Century Romania. *Procedia-Social and Behavioral Sciences*, 128, 361-365. <https://doi.org/10.1016/j.sbspro.2014.03.172>
- WHO-World Health Organization (2020). *Life skills education school handbook- Prevention of Noncommunicable Diseases: Approaches for Schools*.
- Zakharia, Z. (2011). *The role of education in peace building: Case Study-Lebanon*. New York: United Nations Children's Fund.
- Zembylas, M. (2004). Emotion Metaphors and Emotional Labor in Science Teaching. *Science Education*, 88(3), 301–324. <https://doi.org/10.1002/sce.10116>
- Zhao, Y. (2010). Preparing globally competent teachers: A New imperative for teacher education. *Journal of Teacher Education*, 61(5), 422-431. <https://doi.org/10.1177%2F0022487110375802>

Creative Commons licensing terms

Author(s) will retain the copyright of their published articles agreeing that a Creative Commons Attribution 4.0 International License (CC BY 4.0) terms will be applied to their work. Under the terms of this license, no permission is required from the author(s) or publisher for members of the community to copy, distribute, transmit or adapt the article content, providing a proper, prominent and unambiguous attribution to the authors in a manner that makes clear that the materials are being reused under permission of a Creative Commons License. Views, opinions and conclusions expressed in this research article are views, opinions and conclusions of the author(s). Open Access Publishing Group and European Journal of Education Studies shall not be responsible or answerable for any loss, damage or liability caused in relation to/arising out of conflicts of interest, copyright violations and inappropriate or inaccurate use of any kind content related or integrated into the research work. All the published works are meeting the Open Access Publishing requirements and can be freely accessed, shared, modified, distributed and used in educational, commercial and non-commercial purposes under a [Creative Commons Attribution 4.0 International License \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/).